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Editors and Contributing Editors to the Canadian Fitness Safety Standards® 3rd ed.

**Editor:** Patricia Clark  
**Contributing Authors:** Patricia Clark

**Contributing Editors:**
- Paul Compton
- Diane Dodds
- Blake Ferris
- Bob Grisdale
- Beau Kent
- Andy Papadopoulos

**Editorial Assistant:**
- Richard Thomas
- Larry Wolfe
Preface

Development of Fitness Safety Standards in Canada

Injuries and possibly death are always a potential risk whenever people engage in exercise. In most instances, such injuries and fatalities can be averted when precautionary measures are in place. With the exception of spas and pools, there is no legislation that demands safety standards be met; however, the law does dictate that facility owners must provide due diligence with respect to offering a safe environment for their members.

Between 1980 and 1987 there were six deaths in fitness facilities that required a Coroner’s Inquest. Deaths occurred due to the following situations:
- a drowning in a pool
- a drowning in a whirlpool
- a bar bell fell on an individual in an unsupervised weight room
- heat prostration in sauna
- cardiac arrest with no staff qualified in CPR on site

In some instances these deaths could have been prevented; therefore on August 28th, 1987, an agreement was reached between the Ministry of Tourism and Recreation (MTR), now the Ministry of Health Promotion, and the Ontario Association of Sport Sciences (OASS), now the Ontario Association of Sport and Exercise Sciences (OASES). OASS was to establish a Fitness Safety Standards Committee (FSSC) to develop safety standards for the fitness industry so that the fitness community could conduct its activities in a safe and orderly environment.

At various stages during the deliberations, the FSSC considered related legal issues which are summarized in this book. The original report contained Standards, Guidelines and Recommendations for each of the major operating components of the fitness industry. The second revision to the Fitness Safety Standards was completed in 1997. The document was revised by OASES using the Delphi Technique; a process by which twenty-six experts in the field provided input into the validity of the information in the document and obtained consensus amongst the panel with respect to their suggested revisions. The Fitness Safety Standards document was then revised by OASES to reflect the opinions of the panel of experts.

The three levels of Standards, Guidelines and Recommendations were subsequently revised into Standards and Recommended Guidelines for each of the major operating components of the fitness industry.

2004

OASES created a new Fitness Safety Advisory Council (FSAC) who would be responsible for the process of this third review of the Standards and Recommended Guidelines. The Delphi Method was used again to ensure consensus within the industry; however, this review was conducted via the Internet with an on-line survey and forum that was posted on the OASES web site. This three-month process was controlled by five Moderators, who were chosen for their expertise in each of the areas. The Moderators were directed to obtain consensus based on the relevance and feasibility of each statement. They continued to revise the Standards and Recommended Guidelines until consensus was reached from over 300 registered participants across Canada. The Moderators then presented their recommendations to the Fitness Safety Advisory Council, who in turn presented their report for approval to the OASES Board of Directors. The final document was approved in August 2004.

OASES was successful in obtaining a four-year grant from the Ontario Trillium Foundation to conduct this third revision, and provide ongoing promotion for the new Standards. A web site was developed, www.CanadianFitnessMatters.ca which lists facilities across Canada, and highlights those that are in compliance with the Canadian Fitness Safety Standards© through the facility recognition program entitled Safety Matters©. More information on this program may be found in the section of this book entitled “Historical Review of the 2004 Canadian Fitness Safety Standards©”, and the facility recognition application form is copied in Forms Appendix B-1.

Through its work, the FSSC, FSAC and OASES have assumed a common law duty to all who will use the standards, that the Report has not been negligently prepared. The contents of the document are based on sound and verifiable scientific and technical data both from an historical and experience-related perspective. Every reasonable attempt has been made to assure the completeness and accuracy of the major sections up to the time of approval by the OASES Board of Directors.

Notwithstanding the care taken in the preparation of the report, FSSC, FSAC and OASES hereby claim that the document is based upon the scientific, technological, and professional opinions of the moment, and that it is not to be taken to be applicable and appropriate for an unlimited period of time. Accordingly, the Standards and Recommended Guidelines contained in this report were deemed to be applicable for not more than five years (i.e. January 2010).

The original document was submitted to the Ministry of Tourism and Recreation in February 1990 by:

Norman Gledhill, Ph. D.
Chair, Fitness and Safety Standards Committee
OASES

The second document was submitted to OASES Board of Directors in February 1997 by:

John Frittenburg
Consultant
OASES

Patricia Clark
Executive Director
OASES

Norm LaVoie, Ph.D.
Chair
Ontario Association of Sport and Exercise Sciences

The third document was submitted to OASES Board of Directors in August 2004 by:

Blake Ferris, Ed.D.
Chair, Fitness Safety Advisory Council
Ontario Association of Sport and Exercise Sciences

Tracy Gedies, Ed.D.
Chair
Ontario Association of Sport and Exercise Sciences

Reference

This third edition of the Canadian Fitness Safety Standards® Book represents an important continuation of a pioneering health protection initiative that began in 1987 between the Ontario Ministry of Tourism and Recreation and the Ontario Association of Sport and Exercise Sciences (OASES), then known as the Ontario Association of Sport Sciences. This 20-year process represents a successful and dedicated effort by OASES to promote exemplary safety practices within a widely diversified fitness industry.

The goal then, as now, was to create, promote and encourage voluntary compliance with ‘best practices’ or standards for enhancing fitness safety within a broadly oriented fitness services industry. Recognizing the importance of public safety and health protection within the fitness industry, the Ontario Trillium Foundation, in 2003, supported a four year OASES initiative to review and revise an earlier version of the fitness safety standards as well as to encourage greater awareness and compliance of them within a much more diversified fitness industry.

Standards of ‘best practice’ are still of vital importance to ensure that the health benefits associated with participation in fitness programs and services offered to the public are not threatened or compromised by exposure to unnecessary risks of accidental incidents, injuries, infections and other health related trauma. This reasoning has guided OASES and its Fitness Safety Advisory Council (FSAC) in fashioning the document that follows.

The entire process has involved a rigorous, open and thorough consultation with representatives of the Canadian fitness industry. The resulting Canadian Fitness Safety Standards® had to meet strict criteria for both relevance and feasibility before approval by the OASES Board of Directors.

The result has led to the creation of a unique fitness industry safety standards compliance recognition program called Safety Matters! Consumers can now look for and find clubs that comply with the standards described in this book. They can also browse an extensive online directory of Canadian fitness facilities and services from our innovative public website, www.canadianfitnessmatters.ca, in which fitness safety is prominently featured.

The highly interactive and industry-wide consultative process employed in the development of the Canadian Fitness Safety Standards® establishes an efficient and community-based method for future fitness safety standard reviews and updates. It is my sincere hope that the content of this book will serve the best safety interests of fitness consumers, fitness educators and industry service providers.

Blake F. Ferris, Ed.D.
Chair, OASES Fitness Safety Advisory Council
Past Chair, OASES
## Members of the 1997 Expert Panel

The panel was not to exceed thirty members, and they were to represent both “experts” and those working in the field (e.g. fitness directors). The following individuals participated in the “paper and pencil” exercise using the Delphi Method to gain consensus.

<table>
<thead>
<tr>
<th>Name</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bob Bowes</td>
<td>Ottawa</td>
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<tr>
<td>George Dickson</td>
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<td>Olga Labaj</td>
<td>Pickering</td>
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<td>Richard Thomas</td>
<td>Midland</td>
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<tr>
<td>Tony Brenner</td>
<td>London</td>
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<td>Rick Dominico</td>
<td>Unionville</td>
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<td>Cathy McNorgan</td>
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<td>Stephanie Todd</td>
<td>Hamilton</td>
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<tr>
<td>Laurie Burns</td>
<td>Georgetown</td>
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<tr>
<td>Blake Ferris</td>
<td>Ottawa</td>
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<tr>
<td>Don Paterson</td>
<td>London</td>
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<tr>
<td>Larry Vezina</td>
<td>Thunder Bay</td>
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<tr>
<td>John Campbell</td>
<td>Ottawa</td>
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<tr>
<td>Norm Cledhill</td>
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<tr>
<td>Greg Poole</td>
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<tr>
<td>Warren Watson</td>
<td>Markham</td>
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<td>Pierre Chartier</td>
<td>Ottawa</td>
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<td>John Griffin</td>
<td>Ottawa</td>
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<td>Allan Scott</td>
<td>Toronto</td>
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<td>Ron Weese</td>
<td>Aurora</td>
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<td>Doug Cowan</td>
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<td>Ruth Hanton</td>
<td>Toronto</td>
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<tr>
<td>Marc Stupp</td>
<td>Mississauga</td>
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<tr>
<td>Barb Dickson</td>
<td>Toronto</td>
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<tr>
<td>Jay Kell</td>
<td>North York</td>
</tr>
<tr>
<td>Cheryl Tensen</td>
<td>Toronto</td>
</tr>
</tbody>
</table>

## Members of the 2002 – 2006 Fitness Safety Advisory Committee (FSAC)

**Chair:** Blake Ferris, Ed.D.

**Ottawa**
- Employee Fitness Representatives
  - Cheryl Finn / Doug Weaver
- Fanshawe College, London
- Municipal Representative
  - Kevin Smith
- Town of Ajax, Ajax
- OASES Representative
  - Patricia Clark
- OASES Executive Director
  - Orangeville
- Police Fitness Personnel of Ontario Representatives
  - Marion Reeves
- Peel Police, Mississauga
- Gary Goguen
- Hamilton Police, Hamilton
- Private Fitness Club Representative
  - Allan Scott
- Cambridge Club
- Rehabilitation Representative
  - Cathy McNorgan
- Active Home Rehab / Health Fit Services
- Waterloo
- YMCA Representative
  - Cathaynn White / Ida Thomas
- YMCA Ontario
- Toronto

**Toronto**
- Community College Representative
  - Norm Naisbitt
- Fanshawe College
- Toronto

## Moderators for the 2004 Review

**Bob Bowes**
- Co-ordinator, Municipal Employee’s Active Living Club, City of Ottawa
- Toronto

**Paul Compton**
- Area Recreation Manager
- City of Vaughan
- Toronto

**Diane Dodds**
- Department of Recreation and Athletics
- Carleton University, Ottawa
- Toronto

**Bob Grisdale, DC**
- LifeMark Health, Ryerson University
- Toronto

**Professor Beau Kent**
- George Brown College
- Toronto

**Consultant:**
- Andrew Papadopoulos, MBA, CPHI(C)
- School of Occupational Public Health
- Ryerson University
- Toronto

## OASES Board of Directors 2002–2006

**Chair:** Tracy Gedies, Ed.D.

**Fanshawe College, London**
- Community College Representative
  - Doug Labreniere
- Loyalist College
  - Patricia Clark
- Orangeville
- Course Conductor Representative
  - JoAnn Rutledge
- Newmarket
- Employee Fitness Representative
  - Adrienne Sutton
- Tri Fit Inc.
  - Allan Scott
- Cambridge Club
- Toronto
- Municipal Fitness Representative
  - Warren Watson
- Centennial Fitness Centre
  - Ida Thomas
- Markham
- YMCA Representative
  - Glen Kenny, Ph.D.
- University of Ottawa
  - Ottawa
- YMCA Representative
  - Ida Thomas
- Toronto
The Fitness Safety Standards Advisory Council (FSAC) was established by OASES in 2002 to fulfill three broad goals:

1) To promote a greater awareness of, use of, and voluntary compliance with the Canadian Fitness Safety Standards©.
2) To create an on-going review mechanism to keep the Canadian Fitness Safety Standards© current.
3) To create a revenue generating mechanism which would allow OASES to continue to advocate and advance fitness safety standards and practices in the Province of Ontario.

These three goals have been achieved through the following methods:

1) On-going marketing and promotion of the revised standards in national fitness trade magazines, consumer magazines, newspapers, and the CanadianFitnessMatters.ca website.
2) The development of the on-line survey and forum on the OASES web site.
3) a) The creation of the CanadianFitnessMatters.ca website; Canada’s first on-line fitness facility directory.
   b) The creation of Safety Matters!, a program which recognizes facilities for their compliance with the Canadian Fitness Safety Standards©.

Notwithstanding the care taken in the preparation of this document, FSAC and OASES hereby claim that the report is based upon the scientific, technological, and professional opinions of the moment, and that it is not to be taken to be applicable and appropriate for an unlimited period of time. Accordingly, the Standards and Recommended Guidelines contained in this document are deemed to be applicable for not more than five years, (i.e. January 2010).
Canadian Fitness Safety Standards®
and Recommended Guidelines

Fitness Related Personnel

**Standard #1**
All fitness facility personnel and other fitness service providers shall be qualified in first aid and CPR.

**Standard #2**
Fitness personnel shall be certified in the area with which they are providing program services (e.g., fitness appraisal, personal training, aerobic classes, aqua fitness classes etc.)

**Recommended Guideline #1**
Where certification is not available, fitness personnel working with special exercising populations should participate in training programs specific to that population (e.g., pregnant women, seniors, people with disabilities).

**Recommended Guideline #2**
Training programs for fitness personnel should include information on participant screening, participant education and the risk of injury during physical activity.

**Recommended Guideline #3**
Training programs for fitness personnel should emphasize the important safety role of fitness personnel, in instruction, supervision and monitoring of high risk activities or areas.

Pre-Screening & Informed Consent

**Standard #3**
Fitness service providers shall provide or require a pre-activity screening procedure (e.g., PAR-Q or appropriate signs).

**Standard #4**
Facility operators and other fitness service providers shall inform participants of the risks inherent in physical activity participation and fitness facility use.

**Recommended Guideline #4**
Individuals planning to engage in physical activity should, at a minimum, be screened by the PAR-Q (physical activity readiness questionnaire) and/or the PAR Med-X (physical activity readiness medical exam).

**Recommended Guideline #5**
Fitness service providers should encourage new or renewing members/clients to complete an Informed Consent Agreement before engaging in the programs and services offered.

**Recommended Guideline #6**
When an individual is screened out by the PAR-Q from taking part in physical activity, medical clearance using the PAR Med-X should be obtained before he/she takes part in physical activity.

**Recommended Guideline #7**
Facility operators should post public signs which encourage participants to exercise caution if they are unfamiliar with either the activity to be undertaken, or their current level of fitness.

Special Exercising Populations

**Standard #5**
Fitness service providers shall recommend that pregnant women obtain medical advice regarding their participation in physical activity.

**Standard #6**
Fitness service providers shall recommend that individuals 70 years of age and over receive medical advice before initiating a physical activity program or increasing their physical activity.

**Standard #7**
Maximal testing of individuals who:
- a) are not accustomed to regular strenuous exercise,
- b) are males over 40 years of age, or
- c) are females over 50 years of age
shall be conducted under the supervision of either a physician or personnel with current appraisal certification and ACLS (Advanced Cardiac Life Support).

**Recommended Guideline #8**
For all other individuals (not identified in Standard #7), unsupervised maximal tests may be conducted, provided participants have, at a minimum, been screened for medical risks by the PAR-Q or a physician.
Standard #13
All fitness related environments and equipment shall be clean, well maintained, and free from hazards.

Standard #14
Access to a clean drinking water supply is required at or near all physical activity areas.

Standard #15
The number of participants in an exercise class is based on the square footage that allows each participant unrestricted and safe movement in various types of exercises. Participant numbers may also be defined by building code restrictions and/or fire code regulations.

Standard #16
All fitness testing equipment shall be checked, cleaned and calibrated as required.

Standard #17
Floors in wet areas shall have a non-slip surface with adequate drainage to prevent the pooling of water.

Standard #18
Whirlpools, spas and tubs shall comply with the Recommended Standards for the Operation of Public Spas (Ministry of Health & Long Term Care Act, June 2001).

Standard #19
Electrical panels shall be covered. Receptacles located in wet areas of a building and associated with the pool, such as a locker and change room, require ground fault circuit interrupters of the Class A type.

Standard #20
A fire alarm system shall be installed in a building as determined by building code requirements. (Ontario Building Code 3.2.4.1)* Portable fire extinguishers shall be installed in all buildings (Ontario Building Code 3.2.5.17).*

* or existing provincial/territorial code or regulations as applicable

Recommended Guideline #12
Staff are required to carry out ongoing inspection, reporting, and/or maintenance of all areas and equipment, as part of their day-to-day activities.
Recommended Guideline #13
The surface for all recreational areas should be appropriate for the intended use(s). They should be free from obstructions to participants, and if outdoors, properly graded for adequate drainage.

Recommended Guideline #14
Sport or recreational playing areas should be separated from roadways by a fence, wall or buffer zone, but should be accessible by emergency vehicles. Spectator areas should be a safe distance from playing surfaces so as to avoid collisions with participants.

Recommended Guideline #15
Adequate lighting, including emergency lighting, should exist throughout indoor and outdoor areas of the facilities.

Recommended Guideline #16
All sports court areas (e.g. floor surfaces, doors, playing fixtures, markings etc.) should comply with national sport governing body regulations and/or manufacturers safety regulations.

Recommended Guideline #17
Air temperature, water temperature, humidity, and air circulation in all indoor areas should be monitored and properly controlled.

Recommended Guideline #18
All squash, racquetball, and badminton participants should wear appropriate eye guards approved by the Canadian Standards Association.

Recommended Guideline #19
Group exercise floor areas should be constructed with materials (e.g. sprung wood, ballistic rubber overlay) that reduce the potential of repetitive impact injury.

Recommended Guideline #20
All equipment, (cardio, resistance machines, free weights, etc.) should be placed in a logical sequence to maximize efficient traffic flow and allow safe and effective use of the equipment.

Recommended Guideline #21
Direct supervision in high risk/injury areas (e.g. gymnasium and weight training areas) should be provided at all times by qualified personnel (e.g. certified in First Aid, CPR, strength conditioning).

Recommended Guideline #22
Participants (particularly beginners) should be provided with one or more instructional sessions by qualified staff in order to ensure they can use the exercise equipment safely.

Recommended Guideline #23
Signs are to be posted in weight lifting areas, with detailed instruction, pictures and safety precautions to guide participants in proper use of the equipment.

Recommended Guideline #24
To promote good hygiene and safety, participants are to wear appropriate footwear and apparel.

Recommended Guideline #25
Shower (wet) areas should not be directly connected to exercise areas (pools excluded).

Recommended Guideline #26
Activity areas that are typically unsupervised (e.g. squash courts) should be monitored hourly and/or have signs informing participants of appropriate precautions (e.g. protective eye equipment, proper footwear and clothing).
Development of the Original 1987 Ontario Fitness Safety Standards

The original Fitness Safety Standards Committee (FSSC) was established in 1987 to advise the Government of Ontario on matters pertaining to the development of safety standards for the fitness industry. The Ministry of Tourism and Recreation directed the Committee to specifically:

- represent a cross-section of the fitness service delivery community including both for-profit and not-for-profit agencies. In addition, there was to be two members from the Ministry, including one representative from the Fitness Section and one from the Community and Safety Initiatives Section of the Sports and Fitness Branch.
- coordinate the development of safety standards for the fitness industry including standards relating to equipment, training and experience required by professional staff working in the fitness industry, and operating standards that will ensure the safety of participants.
- investigate the nature and incidence of injuries in the fitness industry including the collection of research on the frequency, type and cause of injuries.
- recommend a means by which those individuals participating in fitness activities can be assured that reasonable care has been taken to ensure their safety and an indication of the acceptability of such recommendations by the fitness industry.

The FSSC attests that the above conditions were attended to properly.

During the development of the original standards, legal council was sought to respond to a variety of concerns. The FSSC had been advised that:

- whereas the constituencies which are represented on the FSSC were identified by the MTR as being representative of the fitness community, and
- whereas the members of the FSSC who represent the various constituencies were named by those constituencies and involved their constituency fully in establishing the safety standards, and
- whereas many other major fitness related groups were invited to become corresponding members and were sent periodic updates informing them of the work of the FSSC and requested to provide feedback on FSSC proposals, then it can be anticipated that the standards developed by the FSSC will be recognized as the acceptable standards of safety in matters concerning fitness related safety issues.

The FSSC held fourteen meetings to develop the contents of the final report. Between meetings the committee members were asked to contact members within their represented sector and provide feedback at the following meeting. A major research project was commissioned to determine the nature, incidence and severity of injuries that had occurred in fitness related activities. The final document contained twenty Standards, twenty-four Guidelines, and thirty-two Recommendations.

Full details of the historical development of the original Fitness Safety Standards Committee, the 1987 Standards document, and the research findings may be found in the Articles & Research Papers Appendix C-2.

2000 Fitness Safety Standards Expert Panel Review

Information on the Delphi Method was obtained from Olga Malott, a senior researcher at the Centre for Applied Health, at the University of Waterloo. She recommended that the number of panel members should not exceed thirty individuals. Participants were selected for their expertise, knowledge and experience relative to all major operating components of the Ontario fitness industry. Three surveys were mailed out to the panel members. The first survey asked for the most information while each subsequent version had fewer questions based on the consensus that had been reached previously. The three key elements in the process were:

1) Anonymity – the panel members did not know who was on the panel and the answers were based on their independent view of the presented issue.
2) Feedback – the panel members received a chart of the responses to the first questionnaire and could compare their ratings and rationales with that of the rest of the group.
3) Repetition – the panel members went through three rounds of questionnaires with each successive round narrowing the focus until there was agreement among the members on the key elements related to the issue under consideration.

Panelists were asked if the Standard, Guideline or Recommendation should:

- continue to receive its original emphasis
- be downgraded, or
- be upgraded

In each case, a 9-point scale was provided to allow members to effectively express their opinion. They also provided a written rationale for their decision on each statement.

The final document contained 17 Standards and 82 Recommended Guidelines, of which 43 of the Guidelines related to the fitness environment.
A survey, funded by the Ministry of Citizenship, Culture and Recreation (MCzCR), was conducted with the industry. The purpose was to obtain baseline data with respect to the industry’s awareness and compliance with the second edition of the Fitness Safety Standards and Recommended Guidelines.

A telephone survey was conducted with fitness practitioners across Ontario. The survey sample was taken across all sectors and all regions in the province. There were 340 successful surveys conducted between April 1 – 12, 2002. Fifty-two percent of the respondents were aware of the Standards. Compliance varied from forty percent to eighty-six percent, depending on the specific standard. There was no significant regional deviation in the results. The full summary of the survey may be found in the Articles and Research Papers Appendix C-3.

The results of that survey were used to justify a grant submission to the Ontario Trillium Foundation in 2002. The objective of the grant proposal was to increase both awareness and voluntary compliance with the Safety Standards. OASES was successful in receiving a four-year grant in the amount of $354,000 to review, revise and promote the new Standards.

The Fitness Safety Advisory Council (FSAC) agreed to revise the Standards and Recommended Guidelines using the Delphi Method. This Method had been used previously in 1999, when the second edition of the Fitness Safety Standards was reviewed. At that time, a panel of twenty-six experts participated in a “paper and pencil” process. Internet technology has made significant advancements since 1999, and the Council decided to develop an on-line survey and forum which allowed for input from fitness practitioners from across the country.

**Chronology of Events Leading to the 2004 Canadian Fitness Safety Standards**

<table>
<thead>
<tr>
<th>Date</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 2001</td>
<td>Initial meeting to discuss project</td>
</tr>
<tr>
<td>November 2001</td>
<td>Grant submission to MCzCR for baseline survey</td>
</tr>
<tr>
<td>January 2002</td>
<td>Creation of the Fitness Safety Advisory Council</td>
</tr>
<tr>
<td>April 2002</td>
<td>Baseline survey conducted for awareness and compliance of the 2nd ed. of the Safety Standards</td>
</tr>
<tr>
<td>May 2002</td>
<td>Grant submission to Ontario Trillium Foundation (OTF)</td>
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<tr>
<td>June 2003</td>
<td>Marketing strategy developed</td>
</tr>
<tr>
<td>March 2003</td>
<td>Four-year grant received from OTF in amount of $354,000</td>
</tr>
<tr>
<td>December 2003</td>
<td>Development of Facility Recognition process</td>
</tr>
<tr>
<td>January 2004</td>
<td>Tomahawk Technology received tender for development of the on-line forum</td>
</tr>
<tr>
<td>May 7-13, 2004</td>
<td>First live Survey and Forum open</td>
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<tr>
<td>May 25-28, 2004</td>
<td>Second live Survey and Forum open</td>
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<tr>
<td>June 3-12, 2004</td>
<td>Third live Survey and Forum open - consensus reached</td>
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<tr>
<td>June 22, 2004</td>
<td>Recommendations for revised Standards presented and approved by Forum Moderators</td>
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<tr>
<td>June 23, 2004</td>
<td>Moderator’s recommendations presented to Fitness Safety Advisory Council for approval</td>
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<td>August 2004</td>
<td>FSAC recommendations presented and approved by OASES Board of Directors</td>
</tr>
<tr>
<td>August 2004</td>
<td>New Canadian Fitness Safety Standards© launched with CanadianFitnessMatters.ca web site and Safety Matters! program</td>
</tr>
<tr>
<td>March 2007</td>
<td>Second awareness and compliance survey to be completed.</td>
</tr>
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</table>

**Safety Standards Awareness and Compliance in the Fitness Industry (2002)**

A survey, funded by the Ministry of Citizenship, Culture and Recreation (MCzCR), was conducted with the industry, the purpose was to obtain baseline data with respect to the industry’s awareness and compliance with the second edition of the Fitness Safety Standards and Recommended Guidelines.

A telephone survey was conducted with fitness practitioners across Ontario. The survey sample was taken across all sectors and all regions in the province. There were 340 successful surveys conducted between April 1 – 12, 2002. Fifty-two percent of the respondents were aware of the Standards. Compliance varied from forty percent to eighty-six percent, depending on the specific standard. There was no significant regional deviation in the results. The full summary of the survey may be found in the Articles and Research Papers Appendix C-3.

The results of that survey were used to justify a grant submission to the Ontario Trillium Foundation in 2002. The objective of the grant proposal was to increase both awareness and voluntary compliance with the Safety Standards. OASES was successful in receiving a four-year grant in the amount of $354,000 to review, revise and promote the new Standards.

**Choosing the Review and Revision Methodology (2004)**

The Fitness Safety Advisory Council (FSAC) agreed to revise the Standards and Recommended Guidelines using the Delphi Method. This Method had been used previously in 1999, when the second edition of the Fitness Safety Standards was reviewed. At that time, a panel of twenty-six experts participated in a “paper and pencil” process. Internet technology has made significant advancements since 1999, and the Council decided to develop an on-line survey and forum which allowed for input from fitness practitioners from across the country.

**Preamble**

The Fitness Safety Advisory Council (FSAC) was formed in 2002 as an ad hoc committee of the OASES Board of Directors. The mandate of the Council was:

1. To promote a greater awareness of, use of, and voluntary compliance with the Canadian Fitness Safety Standards©.
2. To create an on-going review mechanism to keep the Canadian Fitness Safety Standards© current.
3. To create a fitness safety revenue generating mechanism to allow OASES to continue its intention to advocate and advance fitness safety standards and practices in the Province of Ontario.

To achieve the mandate of the Council, the following tasks were completed:

1. Conducted an industry base-line survey for awareness and compliance with the second edition of the Fitness Safety Standards, funded by the Ministry of Citizenship, Culture and Recreation (MCzCR).
2. Applied to, and received, a four-year grant from the Ontario Trillium Foundation.
4. Developed a thorough and transparent review process via an on-line survey and forum.
5. Recruited Forum Moderators.
6. Created a marketing strategy to increase awareness and compliance with the revised Canadian Fitness Safety Standards© through the development of www.canadianfitnessmatters.ca.
7. Developed and implemented a facility safety recognition program, known as Safety Matters!
8. Conducted a second survey to determine the increase of awareness and compliance with the Canadian Fitness Safety Standards© (to be completed in 2007).
The Delphi Method

We would like to acknowledge the assistance and advice that was provided by Dr. Murray Turoff, Hurlburt Professor of MIS, Information Systems Department at the New Jersey Institute of Technology (NJIT). Since 1974, Dr. Turoff has been involved in the development and evaluation of Computer Mediated Communication Systems and associated investigations of group processes using the Delphi and Group Decision Support systems. Dr. Turoff has been the designer of a significant number of successful Delphi studies and is responsible for the development of the Policy Delphi structure. He also developed the first Computerized Conferencing System.

Fitness Safety Standards Review Process Using the Delphi Method

The Delphi Method used in the 2004 Standards Review was a written communication process that employed a series of surveys (with discussions between surveys), to help arrive at a consensus decision within a group of interested stakeholders. The survey questions were tailored specifically to two principal criteria for reviewing each standard and recommended guideline. These criteria were:

1) relevance as a safety issue
2) feasibility as either a required “duty of care” or recommended industry practice.

The Delphi methodology also provided survey response options for keeping, changing, or retiring a standard, as well as provisions for creating new standards. A series of up to three surveys on each standard or recommended guideline allowed groups with a common interest to eventually arrive at consensus, or determine that more work was needed before consensus can be reached. For a detailed description of the Delphi Process go to:

http://www.is.njit.edu/pubs/delphibook/index.html#toc

Forum Moderators, with expertise in specific areas were recruited to facilitate the survey and forum process. The six areas for the survey and forum were:

• Fitness Related Personnel
• Emergency Procedures
• Communicable Diseases
• Fitness Environment
• Pre-screening and Informed Consent
• Special Exercising Populations

Four surveys were originally scheduled between May and June 2004, however consensus was reached with the stakeholders after three surveys were completed. At the close of the first survey there were 308 registered members in the survey database. The surveys received a varied number of responses ranging from one to over fifty replies. The results of the surveys and forum comments may be viewed at http://forum.oases.on.ca/users/login.stry. The login and user password are the same. Simply type in the word “Demo” in both fields, and the Forum Archives and Survey Results may be viewed.

The following questions were asked for each Standard. A sample of a survey questionnaire may be found in the Articles and Research Papers Appendix C-4.

1. How IMPORTANT/RELEVANT is the Standard as a fitness industry safety practice?
2. How FEASIBLE/WORKABLE is the Standard as a fitness industry safety practice?
3. NOW WHAT? Should the Standard be:
4. SUGGESTED CHANGES: What change(s) would you suggest for the Standard?
5. NEW PROPOSAL: If the Standard has prompted you to suggest a new, but closely related Standard or Recommended Guideline in this topic area, it would be to create:

Survey/Forum Respondent Demographics

With the exception of fitness suppliers, all occupational focus categories were represented in the survey and forum respondents.

The “Occupational Sectors” represented were as follows:

• Commercial
• Charitable
• Education
• Hospitality
• Martial arts
• Municipal
• Workplace

The “Occupational Focus” within each sector represented were as follows:

• Facility manager/administrator
• Program manager/administrator
• Fitness consultant/personal trainer/coach
• Fitness industry supplier
• Group fitness instructor
• Educator/researcher
• Allied health professionals

The majority of members participating in the on-line survey and forum were from Ontario; however, there was representation from both western and eastern Canada. There were numerous comments posted on the forum for members to read and respond to prior to the next round of survey questions. A consensus was reached where there was a minimum of 30 votes on a particular question, with 67% agreement on that question.

Following each survey and forum, the Moderators met with the FSAC Chairman, and the OASES Executive Director. Each Standard and Recommended Guideline was discussed, and based on the forum comments and the survey results it was determined which questions had reached consensus and which questions needed to be posted again and/or revised.
Makes Good Business Sense

Prudent operators are already providing safe fitness environments. They are meeting the safety needs of customers and staff while balancing economic and operational resources. Beyond meeting the moral commitment to provide a safe environment to consumers, they know that looking out for the welfare of their clients makes good business sense. By planning ahead and adopting a comprehensive safety target based on voluntary compliance, they will be better prepared to prevent injury, and the organization can benefit as well.

Meet Consumer Expectations

Consumer expectations are changing. The public expects more from fitness facilities and programs. The issue of safety is growing in importance in the minds of fitness consumers. With more and more public information available about how to choose a safe fitness facility or program, these expectations will only increase. Members are now concerned about staff qualifications, emergency procedures, the spread of communicable diseases, exercising in a safe and clean environment, and being screened for health risks.

Market Safety Strategy

An effective safety strategy can help to develop confidence and foster loyalty among clients and staff. By ensuring that the facility’s strategy is visible, and that the actions of the staff during an emergency are appropriate to the situation, the negative effect upon the victims and bystanders will be lessened. React appropriate, and goodwill will be fostered – a valuable tool in marketing the services of the facility to current and future clients. Act inappropriately and the facility and staff will stand to lose the confidence of the members.

Enhance Public Image

By establishing safety standards and developing a strategy that will help put these standards in place, the facility will stand apart from those that are not consumer focused. To assist with this promotion, a program entitled Safety Matters was designed to recognize facilities across Canada for their compliance with the Canadian Fitness Safety Standards©. Further information on this recognition program is within this document, and a facility application form may be found in the Forms Appendix B-1.

Meet Legal Responsibilities

The Canadian Fitness Safety Standards© are not legislated. However, in so much as they are current and reflect accurate safety measures needed to protect clients, staff and others, it is likely they will be used to gauge safety operating practices in legal proceedings. Liability can best be avoided by taking all practical precautions in the design and operation of a facility or program. The proactive approach of including safety in an overall operating strategy will better serve the customers, improve public image, protect clients, staff and guests from injury and in doing so meet legal and moral responsibilities.

(adapted from Fitness Safety Standards Workshop Workbook, 1990)
A Voluntary Approach to Increase Awareness and Compliance with the Standards

Two new products were developed by FSAC to encourage voluntary compliance with the new Canadian Fitness Safety Standards.

1) The New Web Site: CanadianFitnessMatters.ca

This web site houses a registry of over 10,000 fitness and health related facilities across Canada. It is Canada’s first online fitness facility directory. It is a shopping guide to fitness facilities, designed to help consumers make informed choices about important fitness matters.

It allows owners or directors to register their facility, free of charge, and provide information on the services and amenities that are offered at their facility. Once registered, the facility may then apply for recognition of compliance with the Canadian Fitness Safety Standards©, through the Safety Matters! program.

2) The New Facility Recognition Program: Safety Matters!

Safety Matters! is a program that recognizes facilities that are in compliance with the Canadian Fitness Safety Standards©. Facilities that are recognized for their compliance receive many benefits:
- Premium placement on the web site
- Safety recognition icon, designating the facility is recognized for their compliance
- A web link to their facility’s website
- A 50-word ad to promote their facility
- Certificate, poster and door decal promoting their recognition
- The preferred placement on the web site would look similar to this sample listing:

<table>
<thead>
<tr>
<th>Your Club</th>
<th>Someplace</th>
</tr>
</thead>
<tbody>
<tr>
<td>Website: <a href="http://www.yourclub.ca">www.yourclub.ca</a></td>
<td></td>
</tr>
<tr>
<td>Email: <a href="mailto:info@yourclub.ca">info@yourclub.ca</a></td>
<td></td>
</tr>
<tr>
<td>Your club is a 25,000 square foot family fitness and sports centre offering personal training, group fitness classes, basketball, tennis, weight, and cardio rooms and group programs. A retail store, “Smoothie” Bar, and babysitting services are on site. Annual memberships are available. Visit us for a tour of our facility.</td>
<td></td>
</tr>
<tr>
<td>Phone: 424-222-222</td>
<td></td>
</tr>
</tbody>
</table>

When consumers are shopping on CanadianFitnessMatters.ca for a fitness facility in their geographical area, those facilities that are recognized for their compliance with the Safety Standards will be at the top of page, with a large ad promoting their facility. Consumers will more than likely pursue membership at a “recognized” facility over one that is not compliant with the safety standards.

The Safety Matters! facility application form may be found in the Forms Appendix B-1. It is also available on the web site at www.CanadianFitnessMatters.ca.

Canadian Fitness Safety Standards© Facility Audit

Commitment is the first step in moving towards compliance. The owners/operators/directors and staff must be committed to the process and value the importance of providing a safe environment for their clients.

The Canadian Fitness Safety Standards© Facility Audit has been designed to help fitness service providers assist in determining how compliant a facility is with the Canadian Fitness Safety Standards©. The audit may be done by in-house staff or by a trained auditor.

This comprehensive tool lists the current twenty safety standards and twenty-six recommended guidelines. The audit process includes a full inspection of the facility identifying the degree of compliance to the Canadian Fitness Safety Standards© and Recommended Guidelines, with a rating as follows:
- 1) SM = Standard met
- 2) WT= Working towards standard
- 3) NP= No plans to practice standard
- 4) NA= Standard not applicable to facility

The auditor simply checks the appropriate box beside each standard as it relates to the facility, and then adds up the score at the end. The recommended guidelines are also included as a reference, but are not used when applying for the Safety Matters! facility recognition. When the audit is completed it will provide the staff with a starting point to work towards compliance.

A staff person may complete the audit process, however, if an auditor were hired, they would also be able to offer recommendations on how to achieve compliance where necessary.

The Facility Audit tool may be found in the Forms Appendix B-2.

A checklist brochure was developed to assist consumers in choosing a quality fitness facility. There are four sections in the checklist, which highlight specific qualities in a fitness facility, relating to that section. (i.e. facility, staff, programming, fees). The consumer may simply ask these questions to the staff member, and then determine which facility they wish to join. A sample of the checklist may be found on the web site at www.CanadianFitnessMatters.ca or in the Forms Appendix B-3, B-4 (French).

Consumer Education: How to Choose a Quality Fitness Facility

A checklist brochure was developed to assist consumers in choosing a quality fitness facility. There are four sections in the checklist, which highlight specific qualities in a fitness facility, relating to that section. (i.e. facility, staff, programming, fees). The consumer may simply ask these questions to the staff member, and then determine which facility they wish to join. A sample of the checklist may be found on the web site at www.CanadianFitnessMatters.ca or in the Forms Appendix B-3, B-4 (French).
The issue of certification has been discussed since the early 1900’s with respect to creating professionalism in the area of leisure services, as noted in an article by Markham-Starr in 2005. But what exactly does “professionalism” mean? Boone discusses the importance of understanding this term, and believes that professionals must have the following:

i) a code of ethics, by which they follow
ii) a commitment to life-long learning, fairness and truthfulness
iii) an attitude of respect and accountability, to clients, colleagues, and society.

In the early 1980’s there were many excellent models developed in North America for the training and certification of fitness related personnel by organizations such as:

• American College of Sports Medicine
• Canadian Society for Exercise Physiology
• National Strength and Conditioning Association
• YMCA and YWCA of Canada, and many more.

The certifications are very specific to some, but not all of the services that are required in the fitness industry. The criteria for entry into such programs are not consistent. Some require a university degree, and many do not. The knowledge and competences required to be awarded certification also varies considerably from one agency to another.

In the mid 1990’s, based on the work of the now defunct National Fitness Leadership Advisory Committee (NFLAC), there was a national standard for the basic fitness leader and specialty fitness leader. In the early 2000’s the committee re-formed under the name of National Fitness Leadership Alliance (NFLA). The organization is a group of provincial not-for profit organizations within Canada, who are dedicated to developing national certification standards for fitness leaders.

There has been an exponential growth of certifications developed over the past ten years in Canada and the United States. This is an issue for all professions, not just the fitness industry. We are not alone with our concerns of ensuring that quality certifications are being offered to fitness practitioners. The issues noted in an article entitled “Computer Criticisms” also relate to the fitness industry.

i) There is a tremendous growth in the number of related certifications.
ii) There is relative ease to obtain many of these certifications which has led to their “devaluation” in the minds of many people working in the field.
iii) Exams are available on the Internet, which may allow an individual to obtain a certification without the necessary knowledge or understanding.
iv) Some certification agencies have included practical tests.

References


Standards Are Relevant to a Variety of Facilities

One of the objectives in the all three of the review processes was to establish safety standards that would pertain to a variety of fitness related services. Examples of such facilities, services and programs are noted below, but are not limited to only those noted in the chart.

<table>
<thead>
<tr>
<th>Public/Private/Condominiums, Apartments &amp; Rentals</th>
<th>Educational Institutions</th>
<th>Community Facilities</th>
<th>Fitness Services &amp; Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial Centres, Corporate Fitness Centers, Dance Studios, Golf and Country Clubs, Hotels and Motels, Not-for-profit Agencies, Public Fitness Clubs, Private Fitness Clubs, Resorts and Spas, Sport Specific Studios (karate, tae kwon do, etc.)</td>
<td>Pre-Schools</td>
<td>Church Halls</td>
<td>Clinical Exercise Programs</td>
</tr>
<tr>
<td></td>
<td>Elementary Schools</td>
<td>Community Centres</td>
<td>Employee Fitness Programs</td>
</tr>
<tr>
<td></td>
<td>Secondary Schools</td>
<td>Rental Facilities</td>
<td>Holistic Health Offerings</td>
</tr>
<tr>
<td></td>
<td>Private Schools</td>
<td>Sr. Citizen Centres</td>
<td>Master’s Athletic Programs</td>
</tr>
<tr>
<td></td>
<td>Colleges &amp; Universities</td>
<td>Youth Clubs</td>
<td>Personal Fitness Consulting</td>
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<td></td>
<td>Pre-Natal and</td>
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<td></td>
<td></td>
<td></td>
<td>Post-Natal Classes</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Wellness Programs</td>
</tr>
</tbody>
</table>

Chapter 2

Fitness Related Personnel

Patricia Clark

Preamble

The issue of certification has been discussed since the early 1900’s with respect to creating professionalism in the area of leisure services, as noted in an article by Markham-Starr in 2005. But what exactly does “professionalism” mean? Boone discusses the importance of understanding this term, and believes that professionals must have the following:

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i) There is a tremendous growth in the number of related certifications.
ii) There is relative ease to obtain many of these certifications which has led to their “devaluation” in the minds of many people working in the field.
iii) Exams are available on the Internet, which may allow an individual to obtain a certification without the necessary knowledge or understanding.
iv) Some certification agencies have included practical tests.
v) Some organizations may simply raise their fees for certification, in an effort to reduce the number of re-writes, and increase their profit with each participant. McDougall wrote an article in Men’s Health Magazine in 2005, entitled “An Exercise in Insanity.” He discusses the issue that there are thousands of unqualified individuals working as personal trainers. He states that there have been many incidents where people have been hurt. But his point of the article is that there needs to be an awareness of what makes a good certification, and employers need to be aware of who they are hiring on as staff.

In an article in Fitness Business Canada in 2004, Clark suggests specific criteria that should be considered by a fitness practitioner when choosing an organization for their certification:

i) Program Quality
- Are there pre-requisites for the course?
- Is the exam process validated?

ii) Certifying Agency
- What is the history of the organization?
- Do they offer national or provincial certification?
- What are the qualifications of their instructors/trainers?
- Are they not-for-profit or for-profit?
- Do they administer both the training and certification?

iii) Certification Process
- Are the courses accessible?
- Are the costs reasonable?
- Do they provide insurance for members once certified, and if so, at what cost, and what coverage?
- Do they offer continuing education opportunities?
- Do they require recertification, and if so what is the process?

Nogradi wrote about the impact of certification for Parks and Recreation. The results from his survey of practitioners, breaks down the key elements in certification and the benefits associated with the certification process.

Valued Key Elements in a Certification Program:
- It is very important that the certification program include:
  - continued learning requirements
  - standards for acceptable performance and ethical practice
  - clearly stated primary purpose and mandate for the profession
  - work experience
  - academic achievement

It is quite important that the elements of a certification program include:
- competencies in terms of specialized knowledge, skills, and abilities
- clearly defined scope of practice
- objective measurement of competence
- penalties and sanctions for violating standards
- provisions for limiting entry to the profession to those certified

Valued Benefits associated with the Certification:
- It is quite important that the certification:
  - promotes successful performance on the part of the practitioner
  - guides employers regarding hiring practices
  - provides legal support
  - protects jobs for those who are certified

Of most importance however, the respondents to the survey wanted the certification to provide them with the recognition for their competence, achievement and effort.

With all the concerns and issues that have been raised about certification, has it been worth it and have we improved the industry? Humble, in his article “Certifiably Worth It,” comments that the “benefits of certification are endless,” and that all stakeholders must participate in the promotion of the certification process. The benefits of certification according to this author are:

i) to continue to learn in the profession with continuing education
ii) to professionally better oneself
iii) to increase employability
iv) to have the ability to interact with other professionals in the same field of interest.

The author continues to write that in addition to personal benefits, there is also an external benefit, which is that the “commitment to validate what we are doing through a certification program is critical to enhancing the profession.” But to achieve success it involves a unified effort by all stakeholders, who include supervisors, employees/practitioners, educators, and associations/agencies.

The sentiments of Humble are echoed by an article published by Anderson, where he believes that a collaborative effort is needed to define examination standards and the scope of practice, particularly in the area of personal trainers.

In 1995, Dubois wrote an article entitled “Certification: How to Spot the Real Thing.” He believes that employers need to educate themselves on the difference in the certifications available in their areas. Some certifications stay current and are well-respected requiring the individuals to have a high level of competence and skill in order to become certified with that agency. For a price, any one can become certified. Although certification adds credibility to any program, the employer must look at the certification required by the individual job, and then decide which certification will best fit those needs.

The literature clearly validates the need for the certification of fitness practitioners, the role of the employer when hiring certified staff, and the issues surrounding the variety of certifications available to practitioners. This complex issue still requires extensive national consultation and eventual consensus among various Canadian training agencies currently offering professional fitness certifications. For this reason, FSAC and OASES determined that it was neither feasible nor within their review mandate to set and apply a comprehensive certification criterion that defined a personnel selection safety standard applicable across the diverse range of services offered with the entire Canadian fitness industry. This is an industry-wide issue that the FSAC and OASES hopes will be resolved by the industry itself so that a strong safety standard can be offered in a future edition.

Fitness Business Canada annually publishes a list of Certification and/or Training Organizations in Canada, which includes information about each organization and the programs that they offer. The 2006 publication lists 61 organizations across Canada. This is by no means an exhaustive list of all organizations in Canada. The publication may be found in the Articles & Research Papers Appendix C-5.
Chapter 3

Pre-Screening and Informed Consent

Standard #1
All fitness facility personnel and other fitness service providers shall be qualified in First Aid and CPR.

Standard #2
Fitness personnel shall be certified in the area with which they are providing program services (e.g., fitness appraisal, personal training, aerobic classes, aqua fitness classes, etc.)

Recommended Guideline #1
Where certification is not available, fitness personnel working with special exercising populations should participate in training programs specific to that population (e.g., pregnant women, seniors, people with disabilities).

Recommended Guideline #2
Training programs for fitness personnel should include information on participant screening, participant education and the risk of injury during physical activity.

Recommended Guideline #3
Training programs for fitness personnel should emphasize the important safety role of fitness personnel in instruction, supervision and monitoring of high risk activities or areas.

References
Boone, T., Professionalism of Exercise Physiology online, American Society of Exercise Physiologists 18 (3), March 2005.
Clark, P., What certifications are needed to work in the fitness industry? Fitness Business Canada, 2004.
Humble, S., M. Taylor, Certifiably Worth It; the benefits of certification are endless: Parks and Recreation, Ashburn VA, Jan 38 (1) 34-39, 2003.
Markham-Starz, S., Early Efforts to Professionalize Leisure Services in Canada, Professionalizing Leisure Services, 2 (1), 15 – 16, 2005.
National Fitness Leadership Alliance brochure, 2006.

Blake Ferris, Ed. D.
Preamble
The Fitness Safety Advisory Council (FSAC) recognizes that regular participation in leisure time physical activity is a relatively safe behaviour for most people. Risks to health are minimal and benefits typically far exceed any harmful consequences when exercise is pursued within the skill and tolerance capacities of the average person. In fact, it could be argued that the risks of sedentary living are considerably greater than those associated with a regular and moderately active lifestyle. The relative safety of exercise and the considerable free choice people can employ when doing various types of physical activity implies a degree of personal responsibility in order to prevent injury.

Accidents can easily result from a careless or cavalier approach to participation. Indeed, an individual may accept personal risks that are beyond those that another person would safely tolerate. For example, a beginning skier who chooses to ski on a trail marked for those with advanced skills is exercising reasonable judgement. Similarly, one who has been sedentary for months or years is at increased risk to health when beginning an exercise program that is beyond the functional reserve permitted by the fitness of that person’s anatomy or physiology. Regrettably, some participants will be less knowledgeable and responsible than others when personal risk is at stake. Thus perceptions of common sense and moderation as well as personal safety practices can vary considerably among people.

Regardless of an individual’s responsibility, fitness service providers have an obligation to attempt to identify individuals who may be at a risk of injury for given types and amounts of physical activity. The Fitness Safety Advisory Council recommends that pre-activity screening is a necessary and reasonable first step in protecting the safety of consumers who intend to engage in formal individual/group fitness programs and other fitness related services offered by the industry. The use of pre-activity screening procedures can help to identify people who may need medical clearance before exercising as well as those who would benefit from direct supervision or more specialized classes or programs. For example, people whose ability to participate in physical activity is limited due to illness, dis-
ability, special medical condition, age, recent surgery, pregnancy and medication, would be considered at higher risk than those not so affected. By following such procedures, the risk of client injury should be minimal.

The following standards are meant for application in those situations where risk of participation in physical activity can be influenced by the general health and fitness of the participant. At the very least, they should be implemented by the administration of a simple questionnaire before admittance to a formal program of physical activity. As such, no diagnostic intent is implied – only the identification of potential conditions that could influence safe and enjoyable participation in physical activity.

Standards Related to Pre-Activity Screening

Two levels of pre-activity screening are proposed:

1. General screening to detect the presence of symptoms that warrant a medical evaluation before participation in activity.

2. Specific screening for clinical use by medical and allied medical practitioners for people who require special advice or precautions concerning their intention to undertake physical activity.

Two standardized forms are recommended for these two levels of screening. For general screening purposes, the Physical Activity Readiness Questionnaire, or PAR-Q, has been in use for over three decades. For more specific screening, the Physical Activity Readiness Medical Examination, or PAR Med-X, and the PAR Med-X for Pregnancy were developed to complement the original PAR-Q. They were designed to expedite physician referrals for those with positive response(s) to the PAR-Q and for those individuals who are pregnant and wish to exercise.

General Screening

The PAR-Q should be routinely administered by fitness service providers to individuals who:

- plan to have a physical fitness appraisal
- begin a membership in facilities offering physical activity/fitness programs or services
- enroll as non-members in individual or group physical activity/fitness programs or services that are appropriately matched to the functional fitness of the participant. A sample of the PAR-Q may be found in Forms Appendix B-5, B-6 (French version).

Specific Screening

It is the intention of the FSAC to encourage physicians to promote and prescribe physical activity as a legitimate, health enhancing behaviour. When indicated, physicians can encourage and guide their patients to engage in regular physical activity even though they may not have extensive medical training in exercise science. For example, courses in exercise physiology, exercise testing and prescription are not necessarily included in medical training programs.

The Physical Activity Readiness Medical Examination, or PAR Med-X, is one possible tool to assist physicians in assessing individuals at risk. Although it has never been tested on a physician population as to its validity and practicality, it is regarded by the FSAC as a reasonable guideline to consider.

Recognizing that physicians often require a variety of tools in making clinical judgments, the FSAC recommends that the PAR Med-X be widely available for physicians to use in situations where more specific pre-activity screening is indicated. This acknowledgement encourages a guideline for practice without restricting physicians from using other acceptable methods to evaluate the capacity of a person to engage safely in physical activity.

It is therefore recommended that the PAR Med-X be widely available to fitness service providers and encouraged for referral use by physicians in situations where specific, pre-activity screening is indicated either from a positive response to one or more PAR-Q questions or from other referral mechanisms. In addition, these safety standards and recommended guidelines for the screening of participants planning to engage in fitness related activities should be widely circulated to consumers, the fitness industry and medical and allied medical personnel. A sample of the PAR Med-X may be found in Forms Appendix B7, B8 (French version).

Informed Consent

The FSAC believes that consumers of the programs and services provided by the fitness industry be informed of the various risks associated with pursuing their choices. This information should be available to participants at any time upon request. For new clients enrolling for the first time in a program or service, it is recommended that a consent form be administered which incorporates the following principles:

1. Description of Event — The description should be a concise statement about the nature of the activity. For example, a weight-lifting club should set out the types of weights, machines, and types of instruction that are available; instructors if they are to be available, and any general policy that might exist with respect to that facility.

2. Risk Warning — This section should address some of the risks that might be inherent in the activity. Participants should be aware of the fact that rules and regulations will be posted in locations throughout the premises, and that instructors are available to assist if required.

3. Informed Consent — In this area the participants will acknowledge that they are aware of the nature of the activity and the risks involved. Notwithstanding the above, they agree, and have the ability to agree, to participate in the activity. This section would also indicate that they possess no known health reason for not participating in the activity.

In addition, the following considerations should be taken into account in constructing the Informed Consent Document:

- User friendly and easy to read and understand by the average person; informative but not cluttered with legal or medical jargon; short and simple.
- Ethical — does not intimidate the end-user nor require a voluntary surrender of that person’s basic rights; is responsible and realistic.
- Widely applicable — can easily be used as a model for clubs or community recreation facilities; adaptable by fitness consultants who independently offer programs or services to the public.
- User focused — clearly states the general responsibilities and risks inherent in one’s choice to participate in fitness oriented activities.
- Honest — specifies the intent and responsibility of the service provider and the potential limitations or capacities of the organization, staff and/or volunteers.
For those activities where risks specific to the activity can be detailed (e.g., SCUBA, martial arts, maximal exercise testing, etc.) it is recommended that these risks be made known to clients in advance of their first experience by writing an appropriate clause in the consent agreement. A sample of an informed consent agreement may be found in the Forms Appendix B-9. It may be used as a model from which to develop more specific consent documents for more widespread use in the Canadian fitness industry. It is important to point out that individual organizations should develop their own Informed Consent Documents specific to the activities they offer.

It is important to state that the adoption or use of this form should in no way absolve a fitness service provider or agency from their responsibility to identify the more common risks and related consequences associated with client participation at their facility.

The FSAC recognizes the administrative difficulties associated with presenting consent forms to clients every time they want to engage in an activity. Clearly, it is not administratively reasonable to do this for “pay as you play” customers who may not be members of a facility. The FSAC recommends that, as a standard, facility managers ensure that public signs are displayed that encourages new, casual and regular users to exercise caution if they are unfamiliar with either the activity or their current ability or fitness level. It is also advisable to have a sign-in system for all guests or a walk-in user that includes a paragraph at the top of each page in the sign-in log stating:

As a guest or casual user of this facility, I acknowledge and accept the risk of injury or medical problem that could arise from my participation in the programs and services provided or from any other use of the facilities. I also acknowledge that I have had the opportunity to undergo more detailed screening (the PAR-Q for example) for potential risks that I may knowingly or unknowingly have. I freely choose not to participate in such screening and hereby register with my full assumption of any such risks.

This Guest Sign-In Log form may also be found in Forms Appendix B-10.

Standard #3

Fitness service providers shall provide or require a pre-activity screening procedure (e.g., Par-Q or appropriate sign).

Standard #4

Facility operators and other fitness service providers shall inform participants of the risks inherent in physical activity participation and fitness facility use.

Recommended Guideline #4

Individuals planning to engage in physical activity should, at minimum, be screened by the Par-Q (Physical Activity Readiness questionnaire) and/or the Par Med-X (Physical Activity Readiness Medical Exam).

Recommended Guideline #5

Fitness service providers should encourage new or renewing members/clients to complete an Informed Consent Agreement before engaging in the programs and services offered.

Recommended Guideline #6

When an individual is screened out by the Par-Q from taking part in physical activity, medical clearance using the Par Med-X should be obtained before he/she takes part in physical activity.

Recommended Guideline #7

Facility operators should post public signs which encourage participants to exercise caution if they are unfamiliar with either the activity to be undertaken, or their current level of fitness.

References


Website Info: http://www.acsm.org/Store/Other/ACSMGuidelinesExTestingRx.html


Website Info: http://www.confmanager.com/main.cfm?cid=574&nid=5109


Website Information: http://www.humankinetics.com


Website Information: http://www.humankinetics.com

Shephard, R.J., “Can We Identify Those for Whom Exercise is Hazardous.” Sports Medicine, 1:75-86, 1984.

Many pregnant women would like to exercise, and healthy women with uncomplicated pregnancies should be able to exercise. Since the fetus and the mother’s exercising muscle may compete for blood flow and oxygen delivery, it is essential that enough maternal physical reserve exists to satisfy the needs of both. Thus, it is prudent for women in poor health, or with a history of obstetric problems to forgo strenuous exercise. In addition, in the absence of specialized guidelines regarding exercise during pregnancy, some physicians prefer that their patients take a very conservative approach to exercise.

A medical evaluation with specialized counseling pertaining to exercise during pregnancy is strongly recommended for pregnant women considering an exercise program. The PAR Med-X for Pregnancy was developed to address this need. Since there is no other screening device for pregnant women who wish to exercise, the FSAC recommends using the current version of the PAR Med-X for Pregnancy. A sample PAR-Med-X for Pregnancy may be found in the Forms Appendix B-11, B-12 (French version).

Older adults represent a large population with special needs for exercise participation. For example, beyond the age of 60 years, it appears that the maximal heart rate varies markedly and the use of age-predicted maximal heart rate may result in a predicted sub-maximal workload being maximal. Therefore, alternative methods should be explored for the evaluation of fitness and prediction of training intensities in the elderly (e.g., rate of self-paced walking).

Children up the age of 12, and youth between the ages of 13 and 18, are frequently subjected to activities which require maximal performance, yet very little information is available concerning their pre-exercise screening.

Use of maximal exercise tests to evaluate the fitness of apparently healthy individuals is generally not necessary. Although maximal tests are more accurate, they involve greater risks than submaximal tests.

Adapted from the original work of L. Wolfe, Ph.D.

Preamble
Many people need guidance to help prevent possible injuries related to exercise, and in particular strenuous exercise. There are certain groups such as pregnant women, older adults, and individuals involved in maximal testing, that are known to be a higher risk and require more intensive screening.

Pregnant Women
Women who are pregnant represent a unique population with special needs for exercise participation due to the following conditions:

i) Their low incidence of Coronary Artery Disease.
ii) The possibility of competition between exercising maternal muscle and the fetus for oxygen delivery, heat dissipation and glucose availability.

Moreover, conventional methods for fitness testing and exercise prescription may be invalid because of the considerable metabolic and cardio-respiratory adaptations that accompany pregnancy.

The information concerning exercise and pregnancy provided in this screening document is designed for expectant mothers, their physicians and their fitness professionals. It is based on the currently available scientific literature pertaining to exercise in pregnancy.
Adapted from the original work of R. Thomas, M.D.

Preamble

Inherent in the physical nature of the fitness revolution are the possibilities of an acute injury, the aggravation of a chronic problem, or even a life-threatening event. It is important, therefore, that appropriate procedures be in place to deal with potential emergencies. As well, within the fitness industry there are many non-physi- cal activity factors which could predispose people to a need for emergency care; for example whirlpool baths, saunas, tanning beds, and lounges serving alcoholic beverages. Because there are major differences among fitness environments, both in facility design, and in the type of fitness equip- ment employed, it is the responsibility of the owner, operator and/or employees of a fitness facility to be aware of the specific risks associated with their facility and equipment and to have plans in place to deal with emergency situations. Furthermore, with the ever-growing societal interest in exercise, many special needs groups are becoming involved in fitness activities and fitness personnel must be sensitive to the particular needs of these various groups.

The creation of a safe environment for fitness related activities is the legal re- sponsibility of the fitness facility operator and fitness personnel. However, although they must be knowledgeable about emergency procedures and equipment, it is not the intention to require these individuals to become emergency paramedics. Creating a safe environment can be done through organization, documenta- tion, education, appropriate equipment, and surveillance.

Organization

In any emergency situation, it is essential that an orderly progression of events be carried out to ensure that the victim obtains appropriate care as quickly as possible. For this to be done in an efficient and effective manner, any environment that offers fitness related activities should have in place an Emergency Action Plan (EAP).

Within the EAP, the roles of the individuals providing the basic care should be clearly defined. It is recognized that within different fitness environments, the number of these basic care providers may vary markedly. Therefore, the EAP must be tailored to the requirements of each individual facility. However, there are some common points that should be included in every EAP:

- There must be a “Charge Person” in control of the situation. This individual must take charge and assess the severity of the emergency. Depending on the
Documentation

In today’s society, proper documentation of an emergency event is the key to a successful defense against litigation where negligence is not involved. Furthermore, the possibility of preventing a serious injury or life-threatening event is enhanced by prior knowledge and documentation. Legally all documents must be maintained for a minimum of one year; however, it is recommended to keep all documents for a minimum of two years. Within the fitness environment documentation can be accomplished in a number of ways.

1) Medical Information Form: Pre-activity screening can be accomplished via the PAR-Q or the physician-completed PAR Med-X. However, there is also a need for a Medical Information Form, a sample of which may be found in the Forms Appendix B-13. This should be filled out by the participant prior to engaging in a fitness activity, and the form should be kept on record at the fitness facility. The form could be filled out at the same time as the PAR-Q. The fitness leader or consultant should review each participant’s Medical Information Form prior to the commencement of a fitness program. This would allow recognition of potential risks and/or limitations in certain fitness activities.

Another function of the Medical Information Form is to accompany the fitness participant to a doctor or hospital in an emergency situation. This would expedite the need for obtaining medical and biographical information. It is difficult to obtain this information when a patient is unable to communicate. It is important that all information on the Medical Information Form be kept up-to-date and confidential. The confidentiality of such information cannot be understated and must be handled with great discretion.

Based on the current privacy laws, it would be necessary to have permission from the client to release any medical information to a third party. Consent for the release of information to medical or paramedical personnel, in the case of a future emergency, should be obtained on the Medical Information Form, and signed by the client or member, as stated in section 4.3.1 of the Access to Information and Privacy Act – Principles Set Out In The National Standard Of Canada, Model Code For The Protection Of Personal Information, Can/Csa-Q600-96. The Information and Privacy Act in the Freedom of Information Act is under provincial jurisdiction. Please refer to the following web site to ensure compliance with local laws and commissions [http://www.justice.gc.ca/en/ps/atip/provte.html].

2) Incident Report Form: It is obviously also of great importance that all incidents, accidents or emergencies are documented. This information should be used in the ongoing evaluation of the emergency procedures and equipment. Again, the confidentiality of this information is important. A sample Incident/Accident Form may be found in the Forms Appendix B-14.

Education

All fitness personnel should have training in basic first aid and Cardiopulmonary Resuscitation (CPR), and there should always be one, or two (ideally) people present in a fitness facility who are certified in basic CPR. With the increasing participation in fitness activities, there has been an increase in soft tissue injuries and Sports Medicine Research has provided some insight into the prevention and treatment of such injuries. Knowledge of prevention strategies and basic initial care of these injuries must be part of the fitness personnel’s education.

The special needs of the groups such as the physically and intellectually challenged can also be addressed through education of fitness personnel. A list of organizations and resources that can be used to assist in the education of fitness personnel in the initial care and prevention of injuries and emergencies can be found in the Supplement Appendix A-2. This education process must be ongoing with constant updating and re-certification.

Equipment

There is a minimum amount of first aid equipment that is required in emergency and non-emergency situations for use by qualified individuals. A list of recommended and optional equipment for these situations can be found in the Supplement Appendix A-3. However, it should be pointed out that for some fitness venues, standards for equipment are already in place. For example around a pool, the Public Health Act stipulates what equipment is needed. Due to regional variations of ambulance response time, distance, and local conditions, the listed optional equipment may be useful.

The majority of the equipment has been chosen in order to give initial care for injuries related to a doctor or hospital in an emergency situation. This would expedite the need for obtaining medical and biographical information. It is difficult to obtain this information when a patient is unable to communicate. It is important that all information on the Medical Information Form be kept up-to-date and confidential. The confidentiality of such information cannot be understated and must be handled with great discretion.

Based on the current privacy laws, it would be necessary to have permission from the client to release any medical information to a third party. Consent for the release of information to medical or paramedical personnel, in the case of a future emergency, should be obtained on the Medical Information Form, and signed by the client or member, as stated in section 4.3.1 of the Access to Information and Privacy Act – Principles Set Out In The National Standard Of Canada, Model Code For The Protection Of Personal Information, Can/Csa-Q600-96. The Information and Privacy Act in the Freedom of Information Act is under provincial jurisdiction. Please refer to the following web site to ensure compliance with local laws and commissions [http://www.justice.gc.ca/en/ps/atip/provte.html].
The available use of Emergency Automatic Defibrillators (EAD) is ever increasing and is certainly recommended for public facilities. However, at the time of the third edition revisions, EADs were not necessarily “financially feasible” for all facilities, and therefore they were not included in the current standards and recommended guidelines.

Surveillance

Even though a system of standards for emergency procedures and equipment is in place, one cannot assume that it is working well. There has to be one or more agencies that monitor the situation at both the local and provincial levels. To facilitate the monitoring, standard reporting forms could be used in all fitness facilities. This would enable monitoring agencies to assess both positive and negative trends in the fitness industry.

**Standard #8**

Facilities and other environments in which fitness related activities are offered shall have in place an Emergency Action Plan which shall be practiced twice per year and reviewed with all new staff at the commencement of their employment.

**Standard #9**

All injuries, accidents or emergencies in fitness facilities and other fitness related environments shall be documented in writing and retained.

**Standard #10**

A designated compliment of First Aid equipment shall be readily available in fitness facilities and other fitness related environments.

**Standard #11**

Immediate access to in-house first aid services must be available from qualified personnel. Contact information for external medical services (e.g. ambulance, hospital emergency phone numbers) must also be posted and phones readily accessible in all high risk/injury areas (e.g. pools, fitness testing, and free weight areas).

**Recommended Guideline #10**

In combination with the Par-Q, the participants should have the option of completing a pre-exercise Medical Information Form to 1) recognize potential risks or limitations 2) advise EMS or hospital personnel when providing treatment.

**Recommended Guideline #11**

Safety signs indicating emergency procedures should be posted in all activity areas.
Given these changes it is not difficult to see how a sneeze at the gym can now be viewed in a very different context, by us all. It is advisable for fitness service providers to re-evaluate their role in the management of communicable diseases in their fitness facilities. This is because, by definition a “new normal”, changes the context of standards, guidelines and operating procedures.

Considering feedback from the fitness industry and experts in public health, the FSAC and OASES have set about to recommend the minimum steps necessary to maintain an acceptable communicable disease standard of “awareness, prevention and control” to meet the requirements of the new standard in this document. Recognizing that the challenge to meet minimal standards of competence acceptable under the current legislative and public health framework, also had to be realistic and economically feasible, we have outlined below a two-step level of awareness and control that could assist in prevention of further disease dissemination and therefore constitute a reasonable and minimum set of procedures to meet the new Standard.

First Step - Awareness

Personnel should be aware of general signs and symptoms of acute disease that indicate someone is ill and a possible source of infection. Personnel should be able to detect, in the facility environment, individuals who are obviously unwell or identify sources and sites of infectious agent transmission or operating procedures that could be a source of risk.

Straightforward signs and symptoms of illness which one can observe include individuals who are/or demonstrate:

- coughing/sneezing
- skin discoloration
- signs of distress that can be categorized as mild and manageable without need of intervention
- those who are unusually lethargic or make frequent trips to the washroom etc.,
- individuals who demonstrate signs of functional limitation up to and including disorientation and collapse.

In general, the transmission of infectious agents can be categorized into two general groupings:

1) the most common, via person-to-person contact (common source exposures such as sharing/touching) and airborne-droplet spread
2) the least common and more dangerous, through direct contact with blood and bodily fluids.

Clearly, the level and type of communicable diseases present in the fitness facility environment could be characterized by the more common non-enteric (non-bodily fluid exchange) methods such as airborne-droplet spread and sharing/touching amongst infectious individuals. Nevertheless, familiarity with both general methods of infectious agent transmission or operating procedures that could be a source of risk.


Revised by B. Grisdale, MSc., DC, A. Popadopoulos, MBA, CPHI(C)

Preamble

A communicable disease is a disease which may be transmitted directly or indirectly from one individual to another in the following ways:

- through contact with blood, urine, feces or other bodily fluids
- by air-borne droplets through coughing and sneezing or,
- via environments in which micro-organisms can thrive such as unsanitary locker rooms, and damp towels.

To safeguard the employees and clients of fitness facilities from the spread of communicable diseases, the FSAC recommends that individuals use a common sense approach in conducting their fitness activities. If an employee or client is suffering from an illness, they should excuse themselves from work or fitness activities.

Most communicable diseases are preventable. The practice of good hygiene (from the simple practice of hand washing to more intensive tasks such as cleaning facilities) is an important part of primary prevention. Due to the nature of the fitness facility environment and the proximity of fitness class participants to one another, some communicable diseases have the potential to spread unless appropriate procedures are followed by fitness facility employees. It is also important that adolescents, adults and older adults who are either participants or employees, have up-to-date immunization booster shots in accordance with recommended health practices set out by the Ministry of Health.

During the past five years, the issue of communicable diseases has presented a unique challenge to the delivery and consumption of public and private services. Operating procedures for communicable diseases have changed to the extent that a “new normal” now exists with regard to the duty and obligation on the part of service providers. Failure on the part of service providers to maintain adequate safeguards will undoubtedly have legal and monetary penalties to reflect the potentially devastating impact on public and individual health.
Standard Procedures for Infection Control

What follows is a review of standard guidelines and procedures with regard to infection control as provided by the Canadian Center for Occupational Health and Safety. [http://www.ccohs.ca/oshanswers/prevention/ppe/universa.html](http://www.ccohs.ca/oshanswers/prevention/ppe/universa.html). A modified set of procedures suitable to fitness facilities are highlighted in the boxed text.

Infectious diseases are caused by viruses, bacteria, parasites and fungi. These organisms can be spread from person to person through:

- blood and other body secretions
- droplets breathed, sneezed or coughed out of the nose or mouth
- skin-to-skin contact
- sexual contact.

Universal precautions are infection control guidelines designed to protect workers from exposure to diseases spread by blood and certain body fluids. The Laboratory Centre for Disease Control, Health Canada and the U.S. Centers for Disease Control have developed the strategy of “Universal Precautions” to prevent contact with blood and body fluids—(specifically semen, vaginal secretions, synovial fluid, cerebrospinal fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid), which are clearly not typically a source of exposure in fitness facilities.

Universal precautions do not necessarily apply to materials that fitness facility personnel may more commonly come into contact with such as: feces, nasal secretions, sputum, sweat, tears, urine, vomitus, saliva. However, a reasonable and responsible approach is as follows: when it is difficult to identify the specific body fluid or when body fluids are contaminated by blood, universal precautions should be applied. When in doubt – take the safest approach.

What are the Universal Precautions?

1. Personal Protective Equipment (PPE) – The purpose of PPE is to prevent blood and body fluids from reaching the workers’ skin, mucous membranes, or personal clothing. It must create an effective barrier between the exposed worker and any blood or other body fluids. PPE includes, but it not limited to, gloves, lab coats, gowns, shoe covers, goggles, glasses with side shields, masks, and resuscitation bags.

Fitness facilities should have reasonable PPE available (such as protective gloves) to ensure that an effective barrier between the person and the potentially hazardous substance can be established.

2. Work practice controls – These refer to practical techniques that reduce the likelihood of exposure by changing the way a task is performed. Examples of activities requiring specific attention to work practice controls include:
   - hand washing
   - handling of used needles and other sharp instruments
   - contaminated reusable sharp instruments
   - collecting and transporting fluids and tissues according to approved safe practices.

Ten Signs and Symptoms of Acute Infectious Disease

1. Coughing, Sneezing
2. Temperature -- fever, chills
3. Vomiting
4. Diarrhea
5. Wounds, open sores
6. Myalgia – (muscle pain not activity related)
7. Numbness and Tingling (not injury related)
8. Balance Difficulty
9. Vision Changes
10. Disorientation

Second Step – Control

Personnel should demonstrate an awareness of a modified set of universal precautions (infectious disease control guidelines) that are specific to personnel working in fitness facilities.

Six Universal Precautions

Specific details for Fitness Facilities may be found in the Supplement Appendix A-4.

1. Hand washing
2. Use of appropriate barrier techniques
3. Cleaning and sanitizing
4. Proper disposal techniques
5. Not sharing personal items
6. Report exposures

Access to Programs

Regardless of health status, participants should not unreasonably be denied access to fitness programs. Instructors should tell participants who are visibly sick to remove themselves from participation and advise them that returning home is in everyone’s best interest.

Fitness Testing Precautions

Fitness appraisals should not normally be conducted on participants known to have a communicable disease. Clearance for such individuals should be given by a physician. Blood samples for the purpose of a fitness appraisal, should be conducted only by those who are qualified to do so, and have knowledge of the aforementioned precautions.
Fitness facilities should have a set of general safety/infectious transmission management policies and emergency procedures that are available and periodically reviewed by facility personnel. Routine infection control tasks are to be reviewed and altered to ensure practices are using the best available techniques to protect fitness facility employees. For example, a more recent common practice of providing alcohol-based sanitizing gel dispensers is being used in many public/private facilities.

Standards of practice in this regard should be regularly reviewed and corroborated with current clinical and public health standards; for example, recognition that a publicly available tissue dispenser or re-usable equipment “wipe-rags” that are not cleaned or regularly replaced could, ironically, be a source of infectious agent transmission.

A “Training Outline for a Communicable Disease Management Strategy” was developed for the training and education of fitness practitioners. This document may be found in the Supplement Appendix A-4.

In the previous guide book, there was one Standard and three Recommended Guidelines. These have been revised into one single Standard, in one sentence. The purpose of the change was to improve the clarity of the Standard.

Standard #12
Fitness service providers shall provide employee training pertaining to the awareness, prevention and control of communicable diseases.

References
Howe W.B., Avoiding infections, staying healthy, performing well: Patient Adviser – Practice Essentials.
A Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes

Chapter 7
Revised from Construction, Operation and Maintenance of Fitness related Environments, FSSC Guidelines 2000

Preamble
The Fitness Safety Advisory Council has developed the following standards and recommended guidelines for improving the safety of fitness related environments. Notwithstanding the recommendations below, the FSAC does NOT consider this section of this document to be an exhaustive coverage of safety issues related to the construction, operation and maintenance of fitness facilities.

Buildings
For the purpose of this section of the book, the term “fitness facility” is synonymous with fitness related environments. This includes buildings, structures, playing fields and physical plant annexes which are generally (but in some instances not exclusively) used for fitness related activities. All facilities should conform to the Federal and Provincial Building Code as deemed by their classification. Facilities should also conform to their Provincial Fire Code. Provincial contacts are referenced in the Supplement Appendix A-5.

Given that many facilities were constructed during a period of time when many of today’s Building and Fire Code regulations were not yet in effect, it is recommended that every effort be made to upgrade facilities to meet presently existing standards.

Another facility that may be adjacent to a playing field is a field-house or dressing room structure. The construction and operation of these facilities should follow the same general procedures as outlined for buildings and structures.
Playing Fields

Playing fields are usually multi-purpose in nature. Many of these standards and recommended guidelines apply equally to tracks, vita parcours and bicycle paths.

Inspections
Due to the variety of activities that take place on such surfaces, inspection of the grounds is essential. Inspection should include the removal of debris such as broken bottles, soft drink cans, and other sharp objects. Fields used for football or rugby may incur hazardous divots in the grassed surface.

Proper grading
The grading of a field is necessary for many reasons:
• To allow for adequate drainage to run from a high centre to a low sideline.
• To design the playing field to have an upward graded embankment surrounding it in order to provide the added stopping power of gravity by making the person run up a graded surface.
• In the case of a buffer zone, it should allow for a run-off area from the playing field's sideline area to any public or private thoroughfare.

Lighting
If activities are planned for dusk and non-daylight hours, proper lighting is also essential. Lighting intensity is measured in candle power, and this intensity varies depending on its use. Professional expertise is usually sought when a facility is to be illuminated for dusk and non-daylight use.

For additional information on illumination measurements, refer to the Supplement Appendix A-6.

Racquet Courts

Potential hazards exist with some glass walls in racquet courts. The particular hazard is found with the glass court doors. When a body comes into contact with the glass court door, the gap between the door and the actual wall increases. Should a player's hand be in the area of the enlarged gap, the potential for pinching fingers and possibly severing fingers does exist. Providing a cover molding around the gap would prevent fingers from accidentally entering. There is a glass wall adaptor kit available which can fit most glass door openings. All glass-backed court facilities should be examined regularly to determine the potential for injuries resulting from excessive gapping of glass doors upon impact. Owners of such facilities should investigate and install an appropriate safety measure to protect the court player from such injuries. Doors to courts should open inward to avoid potential collision with a passer-by and allow for quick evacuation in an emergency.

Flooring
There is a concern arising from the number of injuries to ankles, knees, and hips being reported by participants in racquet games. As such, flooring is a primary concern and the surface of racquet courts should be constructed with shock absorbers in mind. A sprung wood floor is preferable. The texture of the floor finish should limit the amount of slipping during normal use, along with the use of proper footwear by participants. Routine cleaning also helps to ensure the floors retain a non-slip condition.

Walls
The walls of a racquet court should be constructed of materials that can withstand high impact forces (body slams, ball impact, racquet frame impacts) and will not break, chip, crack, splinter or shatter under normal use related to racquet sports. Regular inspections and repairs should be part of routine maintenance procedures.

Lighting
Lighting is very important for an enclosed area such as a racquet court. Participants must be able to see the ball clearly. A minimum of 50 foot candles or higher is standard for lighting and lights need to be protected from ball impact. Each court should also be equipped with an emergency lighting system to provide instant illumination sufficient to allow safe exiting of a court, and court access corridors.

Ventilation
There is concern over proper ventilation and temperature conditions within racquet courts. Air exchangers would be the ideal for keeping fresh air circulating in court areas; however, many courts are of a subterranean nature, or do not offer immediate access to a roof area for air duct installation. The cost for air exchangers may be prohibitive and, as such, they are to be considered only as an option at the discretion of the facility owner/operator. However, air circulation can be accomplished with protected ventilation fans placed in the upper reaches of courts where the ball would normally be considered out-of-play. The temperature of a court area usually reflects the individualized preference of participants and a need to environmentally control multiple court areas. Individualized climate control of racquet courts is not economically feasible. An average room temperature of 18-20 degrees centigrade is the norm for court facilities.

Equipment Related to Racquet Sports
Potential for injury exists as a result of participants using faulty equipment, or the improper use of equipment. Eye guards are essential and must be approved by the Canadian Standards Association. Racquets which are cracked, splintered, or shattered should not be used. Facilities that rent equipment should examine equipment before it is given out and after it is returned. Use of non-slip grips and proper grip sizing are recommended.

Gymnasiums and Exercise Rooms

Hazards
Fire extinguishers or electrical panels that pop open may be very hazardous for participants in the room, and must be covered or removed.

Flooring
Flooring is a primary concern given the number of back and leg injuries experienced by participants in exercise classes conducted in such facilities. Where possible, exercise room floors should be constructed of a shock absorbing material such as ballistic rubber overlay or sprung wood (1’’ thick plywood). Where floor quality is not adjustable to the above standard, exercises should be structured in order to minimize movements that create forceful impacts to feet and legs when contacting hard floors. If possible, high density foam should be employed to reduce impact. Footwear selection (specific to the activity involved) can also reduce the possibility of impact injuries. Flooring should be inspected before each use for loose material, foreign objects etc.

The Deutsches Institut für Normung (DIN) suggest six criteria that should be met for multiuse exercise floor areas. For additional information on the DIN Floor Standards, please refer to the Supplement Appendix A-8.
Ventilation

Environmental control in exercise facilities is very important. Exhaustion due to excessive sweating which causes body fluid depletion is a concern. This condition may lead to other complications. All exercise rooms should be equipped with proper ventilation and air conditioning systems. Maximum temperature should not markedly exceed 20 degrees centigrade. Programming should be modified appropriately during conditions of extreme heat and high humidity.

Accessibility to a water supply (water fountain, bottled water, or washroom facility with sinks) is also essential.

Group Exercise Class Size

Overcrowding of classes is a major concern as it poses a major hazard to the performance of exercise, and inhibits safe enjoyment of the fitness activity. Too large a class also obstructs the instructor’s view of the participants. The capacity of an exercise class should be determined based on the following factors:

- The availability of mirrors to assist the instructor in monitoring the movement of participants.
- The type of movements to be followed (low impact aerobic versus high impact aerobic; stationary versus dance routines).
- The participant fitness level (i.e. beginner versus advanced).
- The qualifications of the instructor (experienced versus beginner).
- The building code load restrictions and fire code regulations for the capacity of the room.

The space per person varies significantly depending on the type of exercise being conducted. As an example, a Yoga class, or a spinning class requires much less space per person than does a group exercise class. As each class is different in structure, the number of participants should vary accordingly. It is essential that each participant has unrestricted and safe movement within the class. Provincial fitness organizations recommend instructors teach with a maximum of 20–30 students per instructor.

Weight Equipment

The positioning of weight equipment in the facility should be considered carefully; not only for the progressive work-out of body parts, but also to avoid overcrowding. The selection of equipment should be done in line with the needs of the users. Busy weight rooms require top-of-the-line equipment. Also, there appears to be a need to obtain some consistency in the design, manufacture, installation and maintenance of such equipment. There does not appear to be a standard for the manufacture of weight equipment. All types of injuries can occur in a weight lifting facility because of simple things such as improper lifting techniques, lack of adequate supervision, insufficient space, faulty equipment, and misuse of equipment.

The design of weight equipment has improved in terms of providing safety devices, but there is no consistency from one manufacturer to another. An example of this is the use of guards or shields around weight stacks, because reports have indicated that injuries to fingers have occurred in the use of stack-weights which do not have guards.

Weight Room Supervision

Given that weightlifting is something that is pursued on an individual basis, and that there is a variety of equipment that supports such activity; some common sense rules should apply when using this equipment. In the case of free weights a spotter should always be used, especially when lifting heavy amounts of weight in activities such as the bench press. The design of variable resistance and isokinetic equipment does not require spotters; however, common sense should prevail in the amount of weight an individual attempts to displace.

Fitness Testing

There is a concern over the potential for injury resulting from the poor quality of testing equipment perhaps due to lack of care and maintenance. Re-calibration should be carried out if variances are found to exist in the equipment. Unaccredited participants should be spotted when using a treadmill. Cleanliness is a very important prerequisite to running any type of testing operation. Ideally mouth-pieces should be disposable or at a minimum sterilized between uses.

Change Rooms

Potential for injury to patrons exists in shower and change areas. One of the most common accidents in facilities results from members slipping on wet floors. Floor surfaces should be constructed of a slip resistant material within building code safety standards. All showers should be designed with a back-flow safety valve to prevent sudden surges of extreme hot or cold water. In addition, water temperature should be governed by a temperature valve limiting the range at which the water temperature can be adjusted. In order to prevent pooling, drainage systems should be designed to remove water from all areas of the floor at a rate greater than the flow of water coming from all available sources. All change facilities should be equipped with a separate drying area which will minimize the amount of water being transported into the changing area. Daily cleaning is essential with particular attention to the prevention of communicable diseases.

Public Spas (Whirlpools, Spas and Hot Tubs)

Provincial legislation regulates the operation and maintenance of whirlpools, hot tubs and spas. Compliance with provincial legislation is mandatory. The legislation may be obtained from the provincial government office which regulates such acts. For example, in Ontario, the Operation of Public Spas, is mandated through the Ministry of Health & Long Term Care, Health Protection and Promotion Act, Ontario Regulation 428/05. A copy of the act may be found in the Legislation Appendix D-1.
Recommended Guideline #14
Sport or recreational playing areas should be separated from roadways by a fence, wall or buffer zone, but should be accessible by emergency vehicles. Spectator areas should be a safe distance from playing surfaces so as to avoid collisions with participants.

Recommended Guideline #15
Adequate lighting, including emergency lighting should exist throughout indoor and outdoor areas of the facilities.

Recommended Guideline #16
All sports court areas (e.g. floor surfaces, doors, playing fixtures, markings etc.) should comply with national sport governing body regulations and/or manufacturers safety regulations.

Recommended Guideline #17
Air temperature, water temperature, humidity and air circulation in all indoor areas should be monitored and properly controlled.

Recommended Guideline #18
All squash, racquetball and badminton participants should wear appropriate eye guards approved by the Canadian Standards Association.

Recommended Guideline #19
Group exercise floor areas should be constructed with materials (e.g. sprung wood, ballistic rubber overlay) that reduce the potential of repetitive impact injury.

Recommended Guideline #20
All equipment, (cardio, resistance machines, free weights etc.) should be placed in a logical sequence to maximize efficient traffic flow and allow safe and effective use of the equipment.

Recommended Guideline #21
Direct supervision in high risk/injury areas (e.g. gymnasium and weight training areas) should be provided at all times by qualified personnel (e.g. certified in First Aid, CPR, strength conditioning).

Recommended Guideline #22
Participants (particularly beginners) should be provided with one or more instructional sessions by qualified staff in order to ensure they can use the exercise equipment safely.
Recommended Guideline #23

Signs are to be posted in weight lifting areas, with detailed instruction, pictures and safety precautions to guide participants in proper use of equipment.

Recommended Guideline #24

To promote good hygiene and safety, participants are to wear appropriate footwear and apparel.

Recommended Guideline #25

Shower (wet) areas should not be directly connected to exercise areas (pools excluded).

Recommended Guideline #26

Activity areas that are typically unsupervised (e.g., squash courts) should be monitored hourly and/or have signs informing participants of appropriate precautions (e.g., protective eye equipment, proper footwear and clothing).

References
Ontario Fitness Council, Fitness Knowledge Training Program.
Glossary of Definitions

Fitness
Fitness is a functional quality of well-being that is influenced by and associated with participation in physical activity. Well-being reflects the overall quality of life and involves the optimum interaction of an individual’s physical, mental and social capabilities. Physical activity refers to activity involving large muscle groups, total body movement, significant energy expenditure and pleasurable reinforcing activities typically pursued in recreation and sport.

Fitness Facility
Any premise, whether operated for profit or otherwise, in which participants can engage in fitness activities. The safety standards will pertain specifically to the fitness related activities conducted in these facilities.

Fitness Facility Operator
The owner or agent of a facility at which fitness related activities are offered.

Fitness Facility Personnel
Individuals who are responsible for supervising, administering, or implementing fitness related activities.

Fitness Service
The activities, programs and services provided by an individual, organization or institution to people who choose to engage in individual or group physical activities organized and conducted by the fitness service provider. Such services may include personal consulting on fitness matters, the development of personalized fitness programs, the supervision of fitness activities, the giving of instruction on the use of fitness equipment, and the monitoring of personal progress in relation to fitness matters.

Fitness Service Providers
Individuals who are responsible for supervising, administering, or implementing fitness related activities.

Legislation
The act of making laws and passing acts by a legislative body. (e.g. Provincial Government).

Recommended Guideline
The delineation of fitness related qualifications and/or conduct which are deemed highly advisable and are strongly recommended to ensure participant safety in fitness oriented physical activities. It is a strong recommendation to take the action described even thought it may not always be feasible to implement as a common standard of business practice or legal duty of care.

Recreation
All those activities a person or group chooses to do in order to make leisure time more interesting, more enjoyable and more satisfying. The central element of this definition is that of choice which, in turn, implies the freedom to choose. The second element is that recreational activities can be pursued individually, as well as collectively. The last aspects to be noted are those of satisfaction, interest and enjoyment, indicating that recreational experiences ought to be physically, emotionally, psychologically, socially, and intellectually enriching.

Special Exercising Populations
An individual or group of individuals who require advanced knowledge and expertise from the fitness facility personnel. Examples of such groups would include, but not limited to; pregnant women, seniors, people with disabilities, etc.

Sport
An activity which requires a significant level of aerobic or anaerobic involvement, and participants may engage in either a structured or unstructured environment. The purpose of the activity is declaring a winner or simply for relaxation, personal enjoyment, satisfaction, competition or non-competition. It generally involves formal rules, procedures and requires tactics, strategies and specialized neuromuscular skills.

Standard
The delineation of fitness related qualifications and/or conduct which are deemed essential to ensure participant safety in fitness oriented physical activities. A standard is related to a “legal duty of care”, it is the accepted approach in law, and acts as the standard of care in that instant.
First Aid Kit Recommendations
from St. John’s Ambulance

Compact First Aid Kit

Light and compact enough to be tucked into a backpack or looped onto a belt - perfect for the outdoors enthusiast. Contains the materials to tend to small and medium-sized wounds.

Contents:
3 Cleansing Wipes
6 Adhesive Bandages 1.9 cm x 7.5 cm
1 Knuckle Bandage
1 Fingertip Bandage
1 Adhesive Square 5 cm x 7.5 cm
2 Gauze Pads 7.5 cm x 7.5 cm
1 Gauze Bandage 5 cm x 4.5 cm
1 Gauze Bandage 7.5 cm x 4.5 cm
1 Pair of Scissors
1 Pair of Tweezers
1 First Aid Pocket Guide
1 Adhesive Tape 1.25 cm x 2.3
1 Triangular Bandage
12 Safety Pins

For more information, visit www.sja.ca

National Contacts for Emergency Care and First Aid

Red Cross National Office
170 Metcalfe St., Suite 300
Ottawa, Ontario
K2P 2P2
Tel. (613) 740-1900
Fax. (613) 740-1911
www.redcross.ca
feedback@redcross.ca

St. John's Ambulance
National Office
1900 City Park Dr., Suite 400
Ottawa, Ontario
K1A 1A3
Tel. (613) 236-7461
Fax. (613) 236-2425
www.sja.ca
clientservices@sja.sja.ca

National Office Lifesaving Society
287 McArthur Ave.
Ottawa, Ontario
K11 6P3
Tel. (613) 746-5694
Fax. (613) 746-9929
www.lifesaving.ca
experts@lifesaving.ca

Provincial offices may be found on their web sites.
Canadian Fitness Safety Standards, 3rd ed. 54

A Training Document for a Communicable Disease Management Strategy

Developed by Canadian Fitness Matters for The Canadian Fitness Safety Standards

Communicable Diseases:
Standard #1
Fitness service providers shall provide employee training pertaining to the awareness, prevention and control of communicable diseases.

Communicable Diseases: more responsibility for us all.
The Canada Fitness Safety Standards & Recommended Guidelines were revised in 2004. The resultant standards and recommended guidelines are a refinement and clarification of those previously published in the Fitness Safety Standards Guide Book, 2000.

The 6 categories (Fitness Related Personnel, Emergency Procedures, Communicable Diseases, Fitness Environment, Pre-Screening and Informed Consent, and Special Exercising Populations) were also considered in terms of their current relevance with respect to changes that have occurred since the 2000 Guide Book.

During the past five years in Ontario, the issue of Communicable Diseases has presented a unique challenge to the delivery and consumption of public and private services. Operating procedures for Communicable Diseases have changed to the extent that a “new normal” now exists with regard to the duty and obligation on the part of service providers.

Failure on the part of service providers to maintain adequate safeguards will undoubtedly have legal and monetary penalties to reflect the potentially devastating impact on public and individual health.

Given these changes it is not difficult to see how a sneeze at the gym can now be viewed in a very different context, by us all. It is advisable for fitness service providers to re-evaluate their role in the management of communicable diseases in their fitness facilities. This is because, by definition a new normal, changes the context of standards, guidelines and operating procedures.

Our Goal.
Considering feedback from the fitness industry and experts in public health, OASES has set about to recommend the minimum steps necessary to maintain an acceptable standard of communicable disease “awareness, prevention and control” to meet the requirements of the new standard in the 2005 Canadian Fitness Safety Standards. Recognizing that the challenge to meet minimal standards of competence acceptable under the current legislative and public health framework, also had to be realistic and economically feasible, we have outlined below a 2-step level of awareness and control that could assist in prevention of further disease dissemination and therefore constitute a reasonable and minimum set of procedures to meet the new Standard.

Awareness and control are core elements of prevention, which together form a communicable disease management strategy. Please refer to Appendix A for a training outline for the awareness, prevention and control of communicable diseases.

Sport First Aid Kit

From splints to cold compresses this kit contains the necessary first aid supplies to deal with sports injuries. Coaches and trainers will appreciate its compact size – easy to add to a gym or sport bag.

This kit is contains the essential materials to deal with large, medium and small-sized wounds as well as burns.

Contents:
Small Wounds
6 Cleansing Wipes
6 Adhesive Bandages 1.9 cm x 7.5 cm
3 Adhesive Squares 5 cm x 7.5 cm
2 Knuckle Bandages
2 Fingertip Bandages
2 Non-Adherent Pads 5 cm x 7.5 cm
Medium Wounds
2 Cleansing Wipes
1 Elastic Gauze Bandage 5 cm x 4.5 m
4 Gauze Pads 10 cm x 10 cm
1 Abdominal Pad 19 cm x 20 cm
Personnel should demonstrate an awareness of modified set of universal precautions (infectious disease control guidelines) that are specific to personnel working in fitness facilities.

### 6 Universal Precautions
For specific details for Fitness Facilities (see Appendix A “Prevention & Control”)

1. Hand washing
2. Use of appropriate barrier techniques
3. Cleaning and sanitizing
4. Proper disposal techniques
5. Not sharing personal items
6. Report exposures

What follows here is a review of standard guidelines and procedures with regard to infection control as provided by the Canadian Center for Occupational Health and Safety. A modified set of procedures suitable to fitness facilities are highlighted in the boxed text.

### Infectious Diseases
Infectious diseases are caused by viruses, bacteria, parasites and fungi. These organisms can be spread from person to person through: blood and other body secretions; droplets breathed, sneezed or coughed out of the nose or mouth; skin-to-skin contact; sexual contact.

### Universal Precautions
Universal precautions are infection control guidelines designed to protect workers from exposure to body fluids— specifically (semen, vaginal secretions, synovial fluid, cerebrospinal fluid, pleural fluid, peritoneal fluid, pericardial fluid, amniotic fluid), which are clearly not typically a source of exposure in fitness facilities.

Universal precautions do not necessarily apply to materials that fitness facility personnel may more commonly come into contact with such as: feces, nasal secretions, sputum, sweat, tears, urine, vomitus, saliva. However, a reasonable and responsible approach is as follows: when it is difficult to identify the specific body fluid or when body fluids are contaminated by blood, universal precautions should be applied. When in doubt – take the safest approach.

### What are the Universal Precautions?
1. Personal Protective Equipment (PPE) - The purpose of PPE is to prevent blood and body fluids from reaching the workers’ skin, mucus membranes, or personal clothing. It must create an effective barrier between the exposed worker and any blood or other body fluids. PPE includes but not limited to gloves, lab coats, gowns, shoe covers, goggles, glasses with side shields, masks, and resuscitation bags.
**Fitness facilities should** have reasonable PPE available (such as protective gloves) to ensure that an effective barrier between the person and the potentially hazardous substance can be established.

2. **Work practice controls** – These refer to practical techniques that reduce the likelihood of exposure by changing the way a task is performed. Examples of activities requiring specific attention to work practice controls include: hand washing, handling of used needles and other sharps and contaminated reusable sharps, collecting and transporting fluids and tissues according to approved safe practices.

**Fitness facilities should** have a set of general safety/infectious transmission management policies and emergency procedures that are available and periodically reviewed by facility personnel. Routine infection control tasks are to be reviewed and altered to ensure practices are using the best available techniques to protect fitness facility employees. For example, a more recent common practice of providing alcohol-based sanitizing gel dispensers is being used in many public/private facilities. **Standards of practice in this regard should be regularly reviewed and corroborated** with current clinical and public health standards, for example: recognition that a publicly available tissue dispenser or reusable equipment “wipe-rags” that are not cleaned or regularly replaced could, ironically, be a source of infectious agent transmission.

3. **Engineering controls** - refer to methods of isolating or removing hazards from the workplace.

**Fitness facilities should** have a set of operating guidelines with regard to disposal of suspected contaminated materials. These guidelines are to be reviewed and altered to ensure practices are using the best available controls to protect fitness facility employees.

Canadian Fitness Matters wishes to thank and acknowledge the following individuals for their contribution to the development of this Communicable Disease Training Document:

1) Dr. Bob Grisdale  MSc, DC  
Executive Director, LifeMark Assessments – LifeMark Health, Canada  
Lecturer – School of Nutrition and School of Continuing Education – Ryerson University, Toronto

2) Mr. Andrew Popadopoulos, MBA, CPHI(C)  
Director, School of Occupation and Public Health  
Ryerson University, Toronto
Food Poisoning
Food poisoning may include several symptoms such as nausea, vomiting, diarrhea and onset might be gradual or sudden. It is spread through contaminated food or water by person to person contact. Victim is contagious until several weeks after symptoms are over. Physician may prescribe medication on a case by case basis.

Giardia
Symptoms can include chronic diarrhea, fatigue, weight loss, stomach pain. Victim may have organism present but not have any symptoms. It is spread by contact with contaminated food and water, contact with soiled articles and person to person contact. The victim is contagious for the duration of the symptoms. Physician may prescribe medication on a case by case basis.

Hand, Foot, Mouth Disease
Recognized by small ulcers in the mouth, mild fever, small water spots on the palms, soles and between fingers and toes or buttocks. It is mainly seen in very young children, and can be spread by contact with discharges of nose and throat or fecally contaminated hands. It is difficult to prevent the spread of illness, as it is not severe.

Head Lice
Recognized by lice in hair, itchy scalp. It spreads easily through head to head contact, and indirectly through sharing hats and clothing as well as brushes and hairclips. Victim is contaminated as long as there are lice in the hair. Please see physician for medicated treatment.

Hepatitis A*, B*, C
Hep A is transmitted through the ingestion of food or water contaminated by fecal matter. Hep B and C are not. The onset of symptoms of Hep A are abrupt with fever, malaise, weight loss, nausea and abdominal cramping. The person is no longer contagious after the first week of the onset of jaundice. Immune to the disease often lasts for life afterwards. Disinfection measures include proper sanitation methods when dealing with fecal matter and personal hygiene, with special attention to hand washing.

Hepatitis B and C are transmitted through blood and body fluids. In most cases there are no initial symptoms of the disease. Anyone with Hep B and C can be infectious from weeks before a positive blood test confirms the disease and for the rest of their lives. Disinfection for surfaces exposed to body fluids that may be contaminated with B and C requires a bleach/water solution. Inoculation is available for Hepatitis B but not C. There is now treatment available for Hepatitis C.

Impetigo
Infected lesions are superficial pustules that burst and form thick yellow crusts. Often around nose, mouth, arms and lower part of legs. It is spread through contact with infected person or articles, and often spread on hands. Victim is contagious for a week until antibiotics are given.

Influenza*
Fever, chills, headache, muscle aches and cough. It can be spread through contact with secretions from nose, mouth and throat. Victim is generally contagious for a week. Please notify your Health Unit if you are immunosuppressed.

Measles*
Fever, cough, eyes are red and sensitive to light, red blotchy rash that lasts for at least 3 days, appears on face first then spreads to rest of the body. It is spread by contact with infected person (coughing or sneezing), or soiled articles of clothing from discharge of nose and throat. Measles are extremely infectious. Victim is contagious 5 days before onset of rash to 4 days after. Please call Health Unit immediately for all victims, especially if you are pregnant, on chemotherapy, immunosuppressed due to other reasons, not immunized, or immunized before 1st birthday.

Meningitis (bacterial)* (low risk but very serious if exposed)
Fever, vomiting, loss of energy, headache, stiff neck and back. It spreads from contact with secretions from nose, throat and mouth. It is contagious until 24 hours after starting proper antibiotics. Please call Health Unit immediately, especially if you were exposed.

Meningitis (viral)*
Same symptoms as bacterial meningitis and it is spread the same way, but the period of contagion is variable and one must call Health Unit immediately.

Mumps*
Fever, swelling and tenderness of one or both sides of face. It is spread through contact with infected person or articles soiled with discharge from nose, mouth or throat. Victim is contagious from 7 days before swelling to 9 days after. Please call Health Unit immediately, especially if you are pregnant or not immunized.

Pertussis (Whooping Cough)*
Red, running eyes and dry hacking cough. Coughing occurs in spasms often with a high-pitched 'whoop', vomiting and sometimes seizures. Cough is often worse at night and may last several weeks. It is spread through contact with infected person or articles contaminated with discharge from nose, mouth and throat. Victim is contagious from 7 days after exposure to 3 weeks after receiving antibiotic treatment. Please notify Health Unit, especially if not adequately immunized for age.

Pinworms
Anal itching, disturbed sleep, irritability and sometimes secondary infection of the scratched skin. Worms may be seen at anus. It is spread by direct transfer of eggs from hands or indirectly through clothing, bedding, food or other articles contaminate with eggs. Eggs can survive up to 3 weeks in environment. Victim is contagious up to 3 weeks after antibiotic treatment begins. Close contacts should be examined by physician and treated if testing positive.

Ringworm (scalp) (High Risk fungal infection)
Skin infection, scaly, mildly itchy rings. Hair breaks off leaving bald spot. It is spread by direct transfer of eggs from hands or indirectly through clothing, bedding, food or other articles contaminate with eggs. Eggs can survive up to 3 weeks in environment. Victim is contagious up to 3 weeks after antibiotic treatment begins. Close contacts should be examined by physician and treated if testing positive.

Ringworm (body) (High Risk fungal infection)
Flat, spreading ring shaped area, moist or crusted. Reddish Around edges with white scales in centre. Spreads in the same way as scalp ringworm and is contagious for the same length of time. Treatment from physician is highly recommended.
Canadian Fitness Safety Standards, 3rd ed. 62

Routine Practices help protect against all infectious diseases. Routine Practices are used to prevent skin or mucous membrane contact with all body fluids, including blood, secretions and excretions (except sweat). Routine Practices replace a combination of universal precautions and body substances precautions. Infections can occur when infectious body fluids come in contact with broken skin, the mucous membranes of the eyes, nose and mouth, or through sexual contact. Routine Practices help protect against all infectious diseases.

6 Steps of Routine Practices:
1. Handwashing
2. Use of appropriate barrier techniques
3. Cleaning and sanitizing
4. Proper disposal techniques
5. Not sharing personal items
6. Report exposures

1. Handwashing
Handwashing is your best defense against any infection. Wash your hands before and after potential contact with body fluids and after removing gloves.

2. Barrier Techniques
Gloves: Should always be worn when there is potential for contact with body fluids. Change gloves after each contact with body fluid.

Masks, Eyewear and Protective Clothing: Generally intended for use by healthcare workers in high-risk settings. Use during procedures where splashing may occur.

3. Cleaning & Sanitizing
Wear protective gloves and use paper towels to clean up all body fluid spills. Dispose of paper towels appropriately. Wash the area with soap and water and rinse. Disinfect affected area with one part bleach to 9 parts water solution for 10 minutes. Use paper towels to absorb the bleach and residue.

4. Proper Disposal Techniques
- Sharps: Any object that could break, cut or puncture the skin can be considered a "sharp". Proper handling and disposal techniques must be used to avoid injuries from contaminated sharps.
  - Do not recap, bend or break used needles.
  - Sharps must be discarded in a non-breakable container with a lid.

Laundry: Handle body fluid soiled laundry as little as possible. Place in leak-proof bags for transport to laundry. Rinse in cold water using gloves and machine wash in hot water using regular laundry detergent.

5. Avoid Sharing Personal Items
Personal items such as razors, toothbrushes, needles, etc, should not be shared. They may have come in contact with infectious body fluids.

6. Report Exposures Immediately
Report to your employer all significant exposure to body fluids as you may need post-exposure treatment.

Control & Prevention:
Control and prevention training includes employee orientation to the following information:

Routine Practices:
Routine Practices are used to prevent skin or mucous membrane contact with all body fluids, including blood, secretions and excretions (except sweat). Routine Practices replace a combination of universal precautions and body substances precautions. Infections can occur when infectious body fluids come in contact with broken skin, the mucous membranes of the eyes, nose and mouth, or through sexual contact. Routine Practices help protect against all infectious diseases.

Roseola
Fever, rash which begins as fever subsides. It is unknown how it spreads and it is not very contagious. Victim is contagious while fever is present.

Rubella (German measles)*
Mild fever, cold symptoms, swollen neck glands, rash. It is spread by contact with infected person or articles soiled by body secretions. Woman is contagious 1 week before onset of rash to 1 week after. Please notify Health Unit, especially if pregnant or not immunized.

Scabies
Lesions around finger webs, wrists, elbows, skin folds, armpits, lower portion of buttocks, belt line. Itching is more intense at night. It is spread by direct skin to skin contact and through clothing only if infected person wore clothing immediately beforehand. Victim is contagious until all mites are destroyed, usually after 1-2 treatments. Please see physician for treatment.

Scarlet Fever*
Fever, headache, sore throat, vomiting, fine red rash that feels like sandpaper, flushing of cheeks, white area around mouth. It is spread by direct contact with infected person. Victim is contagious until 24 hours after starting antibiotic treatment. Please see physician for treatment.

Shingles
Lesion around finger webs, wrists, elbows, skin folds, armpits, lower portion of buttocks, belt line. Itching is more intense at night. It is spread by direct skin to skin contact and through clothing only if infected person wore clothing immediately beforehand. Victim is contagious until all mites are destroyed, usually after 1-2 treatments. Please see physician for treatment.

TB (Tuberculosis)
Coughing lasting more than 3 weeks, fatigue, fever, and weight loss. It is spread by droplets in the air from person coughing. Victim is contagious from onset of symptoms to 24 hours after beginning antibiotic treatment. Please see physician for advice.

*Vaccines Available, indicating very low risk.

CPR: Should always be worn when there is potential for contact with body fluids. Change gloves after each contact with body fluid.

Masks, Eyewear and Protective Clothing: Generally intended for use by healthcare workers in high-risk settings. Use during procedures where splashing may occur.

Gloves: Should always be worn when there is potential for contact with body fluids. Change gloves after each contact with body fluid.

Personal items such as razors, toothbrushes, needles, etc, should not be shared. They may have come in contact with infectious body fluids.

Report to your employer all significant exposure to body fluids as you may need post-exposure treatment.
**Personal Services Disinfection**

**How to Prepare Disinfectant Using Household Bleach:**
The solution must be made fresh every day to preserve strength. Household bleach solution is 5% sodium hypochlorite solution (50,000 ppm available chlorine).

**High Level of Disinfection:**
1:10 dilution of bleach (1 part bleach to 9 parts water)- ¼ cup bleach with 2 ¼ cups water
Use on semi-critical items, items that may accidentally penetrate the skin and/or come into contact with blood or body fluids.
Use to clean surfaces following contact with blood or body fluids or where sterilization is not possible.

**Intermediate Level of Disinfection:**
1:100 dilution of bleach (1 part bleach to 99 parts water)- 1 tsp bleach with 2 cups water
Use on semi-critical items, items that may accidentally come in contact with blood or body fluids or penetrate the skin. (For example, containers for dirty instruments)

**Low Level of Disinfection:**
1:500 dilution of bleach (1 part bleach to 499 parts water)- 1 tsp bleach with 10 cups water
Use on non-critical items, items that come in contact but do not penetrate the skin, or those that do not ordinarily touch the client. These items do not come into contact with blood or body fluids. May be used for routine housekeeping, such as washing floors or surfaces.

*Please note that Cedar wood used in most saunas have natural anti-bacterial properties but still need to be properly cleaned. Patrons should take proper precautions when using saunas, by using a towel while inside, and showering or washing afterwards.

*Please note that WHMIS for workers does not cover Communicable Diseases, only Hazardous Material and Waste Management.

Canadian Fitness Matters wishes to thank and acknowledge Jennifer Logan, for her work in collecting and collating the appendix information.
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<tr>
<th>Province</th>
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<td>NEW BRUNSWICK</td>
<td>Public Safety</td>
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<td>Safety Services</td>
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<td></td>
<td>Barker House, Floor: 4</td>
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<td>P.O. Box 6000</td>
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<td>Fredericton, New Brunswick E3B 5H1</td>
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<td>Telephone: (506) 453-3992</td>
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<td></td>
<td>Fax: (506) 453-7481</td>
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<tr>
<td>NEWFOUNDLAND &amp; LABRADOR</td>
<td>Government Services and Lands</td>
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<td></td>
<td>P.O. Box 8700, Confederation Building</td>
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<td>St. Johns, Newfoundland A1B 4J6</td>
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<td>NORTHWEST TERRITORIES</td>
<td>Municipal and Community Affairs</td>
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<tr>
<td></td>
<td>Office of the Fire Marshal</td>
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<tr>
<td></td>
<td>P.O. Box 1320</td>
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<td></td>
<td>Yellowknife, Northwest Territories X1A 2L9</td>
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<td>Telephone: (867) 873-0260</td>
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<td>NOVA SCOTIA</td>
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<td></td>
<td>ONTARIO</td>
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<td>Municipal Affairs and Housing</td>
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<td>Building and Development Branch</td>
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<td>E-mail: <a href="mailto:safety.services@gov.ab.ca">safety.services@gov.ab.ca</a></td>
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<td>BRITISH COLUMBIA</td>
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<td>MANITOBA</td>
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</table>
PRINCE EDWARD ISLAND
Department of Community and Cultural Affairs
Planning and Inspection Services Division
P.O. Box 2000
31 Gordon Drive
Charlottetown, Prince Edward Island
C1A 5S3
Telephone: (902) 368-5280
Fax: (902) 368-5526

Québec
Régie du bâtiment du Québec
Direction de la normalisation
800, place D’Youville, 15 étage
Québec, Quebec G1R 5S3
Tel.: (418) 643-0087
Télé.: (418) 646-5280
normalisation@rbq.gouv.qc.ca

Ministère de la Sécurité Publique
Direction de la Sécurité incendie
2525 boul Laurier, 6e étage
Sainte-Foy, Quebec G1V 2L2
Tel.: (418) 643-8256
Télé.: (418) 644-4448

IRC Publications
Tel: 1-800-672-7990
Fax: (613) 952-7673

SASKATCHEWAN
Corrections and Public Safety
Protection and Emergency Services
310 - 1855 Victoria Avenue
Regina, Saskatchewan S4P 3V7

Building Standards - SBC
Telephone: (306) 787-4113
Fax: (306) 787-9273
Email: buildingstandards@cps.gov.sk.ca

Saskatchewan amendments to the NBC:
Office of the Fire Commissioner - SFC
Telephone: (306) 787-3774 (Regina) or (306) 933-5063 (Saskatoon)
Fax: (306) 787-9872
Purchase Fire Code & 1990 Plumbing Code
Tel.: (306) 787-6894
E-mail: qprinter@justice.gov.sk.ca

YUKON
Community Services
Consumer and Safety Services
Box 2703
Whitehorse, Yukon
Canada Y1A 2C6
Telephone: (867) 667-5811
Toll free (in Yukon): 1-800-661-0408
information@gov.yk.ca

Reference
http://www.nationalcodes.ca/prov_links_e.shtml
Illumination Measurements

**Luminous (Light Level)**

This is the amount of light measured on the work plane in the lighted space. The work plane is an imaginary horizontal, tilted or vertical line where the most important tasks in the space are performed. Measured in footcandles (fc) or lux in metric, light levels are either calculated, or in existing spaces, measured with a light meter. A footcandle is actually one lumen of light density per square foot; one lux is one lumen per square meter. Like lumens, footcandles can be produced as either initial or maintained quantities.

**Footcandle:**

A footcandle is a measure of light intensity. A footcandle is defined as the amount of light received by one square foot of a surface that is one foot from a point source of light equivalent to one candle of a certain type.

**Lux:**

The metric unit of measure for illuminance of a surface. One lux is equal to one lumen per square meter. One lux equals 0.0929 footcandles.

**References:**


DIN Floor Standards

The flooring for a multiuse exercise area should adhere to Deutsches Institut für Normung (DIN) standards. These standards require that a floor meet six criteria:

1. **Shock Absorption** – a floor’s ability to reduce the impact of contact with the floor surface. The greater the shock absorption, the more protective it is because it reduces impact forces. An aerobic floor, for example, would need more shock absorption than a basketball court.

2. **Standard vertical deformation** – the actual vertical deflection of the floor upon impact. The greater the deformation, the more the floor deflects downward. Floors with minimal deformation are not good at absorbing impact forces.

3. **Deflective indentation** – the actual vertical deflection of the floor at a distance 50 cm from the point of impact. The greater the indentation the more likely impact at one spot will cause deflection at a distant point.

4. **Sliding characteristics** – the surface friction of the finished floor. A floor with poor sliding characteristics would be inappropriate for aerobics or basketball.

5. **Rolling load** – a floor’s ability to withstand heavy weight without breaking or sustaining permanent damage.

This DIN criteria are then used to evaluate the effectiveness of a floor. A floor will have one of the three functions:

1. **Sports function** – enhances athletic performance. Surface friction and ball reflection are important.

2. **Protective function** – reduces the risk of injury (e.g., from a fall) during activity. Shock absorption is important here.

3. **Material-technical function** – meets both the sports and protective functions.

In a health/fitness facility, the gymnasium and multipurpose floors are classified under sports function or material-technical function. The aerobics floor is classified under protective functions, with some sports function characteristics.

A floor surface that has a material-technical function should meet the following DIN criteria:

- **Shock absorption**: 53% minimum
- **Standard vertical deformation**: 2.3 mm minimum
- **Deflective indentation**: 15% maximum
- **Sliding characteristics**: 0.5 to 0.7 range
- **Ball deflection**: 90% minimum
- **Rolling load**: 337.6 lb

**Reference:**

Fitness Facility Safety Register Application Form

Recognition of your fitness facility is an excellent way of adding value to your centre. You will be demonstrating to your staff and members your commitment to quality and the importance of safety within your facility. Upon completion and acceptance of your application form, your facility will then be one step closer to obtaining nationally recognized accreditation status.

This application process has been designed for ease of completion, but with appropriate documentation to ensure compliance with the Canadian Fitness Safety Standards.

Benefits of being a recognized fitness facility

- The facility listing receives premium placement on the CanadianFitnessMatters.ca website, with a 50 word ad promoting your facility.
- The facility listing receives a safety icon designating its compliance with the Canadian Fitness Safety Standards.
- Consumers are provided with a direct link to your website and information about your facility.
- You will attract new members and maintain current ones, because you will be demonstrating that you care about the safety of your members.
- You will reduce potential client injuries and other safety and health risks, and possibly lower your insurance costs.
- You will boost staff morale, accountability and pride in the facility.
- The promotional materials that you receive support your recognition status, and will help create the look of a safe, professional environment.
- You will have the opportunity for co-operative advertising and promotional contests to create awareness and excitement around your facility.
1. **Application Procedures**

Recognizing that there are a variety of sizes and types of fitness facilities, you have been provided with options in some of the areas to verify your facility’s compliance with a specific Standard. You only need to complete one of the options in each section, based on your facility and its operating procedures. There are also mandatory questions that follow for each Standard, and in some cases, you are required to provide documentation verifying your procedures. This additional information must be attached, and mailed or faxed in with your application.

A. You have chosen to download the application form, and mail or fax in the document.

B. Forms may be mailed to:

   Canadian Fitness Matters
   P.O. Box 1166
   Shelburne, On
   L0N 1S0

   Forms may be faxed to: 1-519-925-9853

C. Upon receipt of the Fitness Facility Safety Register Application, the necessary documents and appropriate payment, the application will then be reviewed. If all requirements are met, you will be notified that the application has been approved. A letter will be sent, in addition to your certificate, door decals, and posters. Instructions will also be sent to you to allow you to add additional information to your listing in the on-line directory on the Canadian Fitness Matters website.

Should you have any questions regarding the completion of the application form, you may contact the OASES office at 1-888-942-2620 or via email at info@canadianfitnessmatters.ca

2. **Application Requirements**

To be able to complete the application process, please ensure you follow the process as outlined, and have the documents listed below, to include them with your submission to the office:

i) Complete and submit the application form as required

ii) Sign and submit the Memorandum of Agreement (copy in application form)

iii) Send payment in full to OASES/Canadian Fitness Matters office

The following documents must accompany the application form:

1) Job descriptions for fitness-related staff OR provide the dates of first aid and CPR training, and certifications accepted at your facility
2) Emergency action plan
3) Injury reporting form
4) Cleaning schedule
5) Equipment maintenance schedule

3. **Fee Structure – Application & Renewal Fees**

The fee structure has been based on the size of the facility determined by the number of employees (full-time and part-time). There is also a reduced fee for those institutions that have two or more facilities, that are owned or operated by the same company and that abide by the same policies and procedures.

<table>
<thead>
<tr>
<th>Size of Facility</th>
<th>Number of Employees incl. part time &amp; full time</th>
<th>Fee for Initial Recognition</th>
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<tr>
<td>Small</td>
<td>1 – 9</td>
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<td>Medium</td>
<td>10 – 29</td>
<td>$180.00</td>
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<tr>
<td>Large</td>
<td>30+</td>
<td>$200.00</td>
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<tr>
<td>Chains</td>
<td>Not applicable</td>
<td>$25.00/facility</td>
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</table>

Payment Procedures: Application fees must be paid in full prior to the review of the application. Should the facility not receive the recognition status, a refund will be made to the facility, with a $25 non-refundable administrative fee.

Renewal Fees: Annual renewal of your application will be necessary to maintain your recognition status. The renewal fee will be as noted above, based on the size of your facility, minus the $25.00 administrative charge.
## Fitness Related Personnel

### Standard #1
All fitness facility personnel and other fitness service providers shall be qualified in first aid and CPR.

Note: “Fitness facility personnel and other fitness service providers” refers to fitness appraisers, consultants, leaders, personal trainers, management, and program support staff (e.g. facility supervisors, lifeguards, weight room attendants). It does not include operational support such as cleaning staff, locker room attendants, reception, maintenance, pro shop, and food servers.

**Method of Verification**
1. How do you maintain current CPR and First Aid for your fitness-related personnel?

2. You may answer either option #1 or option #2 below.

#### Option #1
Submit job descriptions & qualifications of staff.

- [ ] Job descriptions attached (please indicate if attaching)

#### OR

#### Option #2 (if limited number of facility staff)

- [ ] Job descriptions attached (please indicate if attaching)

### Standard #2
Fitness personnel shall be certified in the area with which they are providing program services. (e.g. fitness appraisal, personal training, aerobics classes, aqua fitness classes, etc.)

**Method of Verification**
1. How do you verify that all staff will maintain current certifications in the areas with which they are providing program services?

2. How long are your injury reporting forms retained?

- [ ] Submit sample of injury reporting form.
- [ ] Provide the last two dates whereby the Emergency Action Plan was practiced.
- [ ] Provide a copy of your Emergency Action Plan.

### PRE-screening AND Informed Consent

#### Standard #3
Fitness service providers shall provide or require a pre-activity screening procedure (e.g. PNU-D or appropriate similar services)?

**Method of Verification**
1. Indicate the procedures used at your facility for pre-activity screening.

### Special Exercising Populations

#### Standard #5
Fitness service providers shall recommend that pregnant women obtain medical advice regarding their participation in physical activity.

**Method of Verification**
1. What method do you use to inform pregnant women to obtain medical advice regarding their participation in physical activity?

### Emergency Procedures

#### Standard #10
Facilities and other environments in which fitness related activities are offered shall have in place an Emergency Action Plan (EAP) which shall be practiced twice per year and reviewed with all NEW staff at the commencement of their employment.

**Method of Verification**
- [ ] EAP attached
2. Provide the last two dates whereby the Emergency Action Plan was practiced.
- [ ] Date
- [ ] Date
3. How do you ensure new staff are orientated to the Emergency Action Plan?

### Pre-screening and Informed Consent

#### Standard #4
Fitness service providers shall provide or require a pre-activity screening procedure as per PNU-D or appropriate similar services.

**Method of Verification**
1. Indicate the procedures used at your facility for pre-activity screening.

#### Standard #6
Fitness service providers shall recommend individuals 70 years of age and over receive medical advice before initiating a physical activity program or becoming much more physically active.

**Method of Verification**
1. What method do you use to inform individuals 70 years of age and over to receive medical advice before initiating a physical activity program or becoming much more physically active?

### Special Exercising Populations

#### Standard #9
Fitness service providers shall recommend that pregnant women obtain medical advice regarding their participation in physical activity.

**Method of Verification**
1. What method do you use to inform pregnant women to obtain medical advice regarding their participation in physical activity?

### Emergency Procedures

#### Standard #7
Maximal testing of individuals who:
- a) are not accustomed to regular strenuous exercise, or
- b) are males over 60 years of age, or
- c) are females over 50 years of age
shall be conducted under the supervision of either a physician or personnel with current appraisal certification and ACLS. (Advanced Cardio Life Support)

**Method of Verification**
1. Do you provide maximal testing as a service at your facility?
   - [ ] Yes
   - [ ] No

2. If any of the above statements in Standard #20 are relevant to the clientele that you test, what staff position(s) is responsible for the administering the test, and what are their qualifications?

- [ ] Qualifications

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**Canadian Fitness Matters**

**Fitness Facility Safety Register 22.06**

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**Canadian Fitness Matters**

**Fitness Facility Safety Register 22.06**

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### Canadian Fitness Safety Standards, 3rd ed.

#### Standard #10
A designated complement of triage Aid equipment shall be readily available in fitness facilities and other fitness related environments.

**Method of Verification**
1. There is a first aid kit in my facility
   - Yes
   - No, explain
2. A signed copy of the Memorandum of Agreement sent to office: 
   - Yes
   - No, explain
3. A copy of the Application Form sent to office: 
   - Yes
   - No, explain
4. A training document has been developed by OASES, Fitness Environment Safety Register Application Form. You have now completed the fitness facility safety register.

**Fitness Environment**

#### Standard #11
Immediate access to in-house first aid services must be available from qualified personnel. Contact information for external medical services (e.g. ambulance/hospital emergency phone numbers) must also be posted and phones readily accessible in all high risk/injury areas (e.g. pools, fitness testing, and weight training areas).

**Method of Verification**
1. Is there always a staff person qualified in CPR/First Aid on-site, while the fitness facility is open?
   - Yes
   - No, explain
2. List the high risk areas in the facility.
3. Phones are readily accessible in all high risk/injury areas.
   - Yes
   - No, explain
4. Provide a copy of your maintenance schedule.
   - N/A, explain

#### Communicable Diseases

#### Standard #12
Fitness service providers shall provide employee training pertaining to the awareness, prevention and control of communicable diseases. 

**Note:** A training document has been developed by OASES, from Public Health documents, regarding awareness, prevention and control of communicable diseases. It is strongly recommend that this be used to inform your staff, which will then allow you to comply with this Standard. It may be obtained on the website at www.canadianfitnessmatters.ca, Safety Resources tab.

**Method of Verification**
1. How do you practice compliance with this Standard?
   - Yes
   - No
2. How do you ensure unrestricted and safe movement in exercise classes?
   - Yes
   - No
3. List the locations where drinking water is available to members.
   - Yes
   - No, explain
4. The number of participants in an exercise class is based on the square footage that allows each participant unrestricted and safe movement in various types of exercises. Participant numbers may also be defined by building code restrictions and/or fire code regulations.

**Method of Verification**
1. How is your equipment maintained? If there is no equipment maintenance schedule attached.
   - No
   - N/A, explain
2. All receptacles in wet areas have ground fault circuit interrupters of the Class A type.
   - Yes
   - No, explain
3. Are all fitness testing equipment checked, cleaned and calibrated as required.
   - Applicable
   - Not applicable
4. Whirlpools, spas and tubs shall comply with the Recommended Standards for the Operation of Public Spas (Ministry of Health & Long Term Care Act, June 2001). (The provincial act may be obtained from your provincial Ministry of Health).

**Standard #13**
All fitness related environments and equipment shall be clean, well maintained, and free from hazards.

**Method of Verification**
1. First aid kit in my facility?
   - Yes
   - No
2. Method of Verification
   - Yes
   - N/A, explain
3. Is there a first aid kit(s) in facility?

**Fitness Environment**

#### Standard #14
Access to a clean drinking water supply is required at or near all physical activity areas.

**Method of Verification**
1. List the locations where drinking water is available to members.
2. Provide a copy of your cleaning schedule.
   - Cleaning Schedule attached
   - N/A, explain

#### Communication Diseases

#### Standard #15
The number of participants in an exercise class is based on the square footage that allows each participant unrestricted and safe movement in various types of exercises. Participant numbers may also be defined by building code restrictions and/or fire code regulations.

**Method of Verification**
1. How do you ensure unrestricted and safe movement in exercise classes?
   - Yes
   - No
2.所有在湿区的配线应具有故障电路断路器的第A类。
   - Yes
   - No, explain
   - N/A, explain

#### Standard #16
Fitness testing equipment shall be checked, cleaned and calibrated as required.

**Method of Verification**
1. If applicable, list who, when and how the fitness testing equipment is checked, cleaned and calibrated.
   - Applicable
   - Not applicable

#### Standard #17
Floors in wet areas shall have a non-slip surface with adequate drainage to prevent pooling of water.

**Method of Verification**
1. Indicate if the tiles in wet areas have a non-slip surface?
   - Yes
   - No, explain
   - N/A, explain
2. Are there adequate drainage to prevent pooling of water?
   - Yes
   - No, explain
   - N/A, explain

#### Standard #18
Whirlpools, spas and tubs shall comply with the Recommended Standards for the Operation of Public Spas (Ministry of Health & Long Term Care Act, June 2001). (The provincial act may be obtained from your provincial Ministry of Health).

**Method of Verification**
1. Whirlpools, spas and tubs comply with the provincial legislation as it applies to Whirlpools, spas and tubs.
   - Yes
   - No, explain
   - N/A, explain

#### Standard #19
Electrical panels shall be covered. Receptacles located in wet areas of a building and associated with the pool, such as a locker and change room, require ground fault circuit interrupters of the Class A type.

**Method of Verification**
1. Electrical panels are covered.
   - Yes
   - No, explain
   - N/A, explain
2. All receptacles in wet areas have ground fault circuit interrupters of the Class A type.
   - Yes
   - No, explain
   - N/A, explain

#### Additional Requirements
A signed copy of the Memorandum of Agreement sent to office:
- Fax
- Mail

**Payment Method:**
Payment must be included with the application, based on fee schedule. Please indicate which method you have chosen.

- Option 1: Credit card
- Option 2: Cheque to be sent in mail payable to OASES
- Option 3: Purchase order

**Amount Paid**
- $99 (1 – 5 staff)
- $199 (6 – 20 staff)
- $399 (21+ staff)

Please make a copy of the application document to provide you with a reference for next year's renewal.
Canadian Fitness Safety Standards © Facility Compliance Recognition

Safety Matters!

Memorandum of Agreement

(name of facility/organization applying – please print)

agrees to abide by all terms of this Safety Matters Memorandum of Agreement during the current annual term which expires one year from notification of successful application and to any subsequent renewals in which (name of facility/organization applying – please print) is recognized for its compliance with the Canadian Fitness Safety Standards® by the Ontario Association of Sport and Exercise Sciences and CanadianFitnessMatters.ca, a program of the Ontario Association of Sport and Exercise Sciences, Inc.

As duly authorized officers or representatives of: (name of facility/organization applying – please print)

we hereby confirm that:

1) The authorized officers or representatives who sign below have the full authority to submit the Canadian Fitness Safety Standards® Safety Matters! Application on behalf of the facility/organization named above, as well as to bind the applying facility/organization to the terms of this Memorandum of Agreement;

2) The facility/organization named above is warranting the truthfulness of all statements submitted in this application and especially its current compliance with all applicable Canadian Fitness Safety Standards® that it is claiming;

3) The authorized officers or representatives signing this Memorandum of Agreement and the facility/organization submitting the application understand that the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca relies on the truthfulness of the submitted statements. It is understood however, that the Ontario Association of Sport and Exercise Sciences and CanadianFitnessMatters.ca may require additional information from the applicant when the Ontario Association of Sport and Exercise Sciences and CanadianFitnessMatters.ca deems it necessary;

4) In consideration of the acceptance of this application, the facility/organization agrees to indemnify and hold harmless the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca together with each of their officers, directors, agents, servants and employees from and against all losses, claims, actions, suits or proceedings in connection with loss of life, personal injury and/or damage to or loss of property arising out of any occurrence in or about the applicant’s premises which are attributable to the failure of the applicant to comply with the Canadian Fitness Safety Standards®;

5) The facility/applicant named above agrees to defend the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca, together with each of their officers, directors, agents, servants and employees in any action, suit or proceeding which may be brought against either the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca, and/or their officers, directors, agents, servants and employees arising out of any alleged negligence or breach of compliance concerning the Canadian Fitness Safety Standards® that occurs in or about the applicant’s premises;

6) The applicant expressly waives and releases the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca, OASES Inc., and/or their officers, directors, agents, servants and employees from and against any and all claims of any nature whatsoever, including without limitation those that may arise from the Canadian Fitness Safety Standards® as currently published by the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca. 

Monitoring Compliance

7) The applicant will permit random on-site visitation(s) of its facility/organization by an Ontario Association of Sport and Exercise Sciences representative to audit any matters pertaining to its practice of all applicable Canadian Fitness Safety Standards®, following a 24-hour notification;

8) The applicant will immediately inform the Ontario Association of Sport and Exercise Sciences office should its facility or organization implement any policy or business practice changes that would result in being unable to maintain compliance with one or more of the applicable Canadian Fitness Safety Standards® as stated in this application.

9) The applicant acknowledges that according to the Business Practices Act, Chapter 55, Section A, Item 2, it would be illegal to display decals and certificates should your centre no longer comply or fail to renew its recognition status. In such cases we agree to remove the safety standards compliance recognition door decals and return the related compliance recognition certificate to the Ontario Association of Sport and Exercise Sciences office.

10) The applicant agrees to pay an annual renewal fee for recognition of ongoing compliance with the Canadian Fitness Safety Standards®. It also agrees to provide supporting information that may be requested by the Ontario Association of Sport and Exercise Sciences, its Fitness Safety Advisory Council and CanadianFitnessMatters.ca to document the current fitness safety practices of the above named facility or organization.

We understand that failure to comply with any one or more terms of this Safety Matters! Memorandum of Agreement is adequate reason for the Ontario Association of Sport and Exercise Sciences to revoke the existing Canadian Fitness Safety Standards® compliance recognition and immediately remove the above named facility/organization from any materials published by the Ontario Association of Sport and Exercise Sciences and/or CanadianFitnessMatters.ca in which previous Safety Matters! compliance by the above named facility was recognized or identified. In such an instance, the annual fee or any unused pro-rated portion will not be refunded.

____________________________________________________
Date

____________________________________________________
Name of Applicant (please print)

____________________________________________________
Name of Authorized Witness (please print)

Safely Matters! 

Please return this form to:

OASES, P.O. Box 1166 Shelburne ON L0N 1S0
Fax: 519-925-9853

CanadianFitnessMatters.ca gratefully acknowledges the legal counsel of Rasmussen Star Buddy LLP, Ottawa, Ontario.
1. **Fitness Related Personnel**

<table>
<thead>
<tr>
<th>Standard #1</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>All fitness facility personnel and other fitness service providers are qualified in first aid and CPR. (Note: Fitness personnel are individuals who are responsible for supervising, administering or implementing fitness-related activities.) Job descriptions reviewed and/or date of CPR &amp; First Aid certifications verified.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #2</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness personnel are certified in the area which they are providing program services (e.g. fitness appraisal, personal training, aerobic classes, aqua fitness classes etc.) Certifications verified.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #1</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Where certification is not available, fitness personnel working with special exercising populations have participated in training programs specific to that population (pregnant women, seniors, people with disabilities).</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #2</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training programs for fitness personnel include information on participant screening, participant education and the risk of injury during physical activity.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #3</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Training programs for fitness personnel emphasize the important safety role of fitness personnel, in instruction, supervision and monitoring of high risk activities or areas.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

2. **Pre-Screening & Informed Consent**

<table>
<thead>
<tr>
<th>Standard #3</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A pre-activity screening procedure is provided or required (e.g. PAR-Q or appropriate signs). Validated procedures - e.g. signs visible, PAR-Q forms filed date. Forms should be kept for a minimum of one year.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #4</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participants are informed of the risks inherent in physical activity participation and fitness facility use. Validated procedures through signs or informed consent forms.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #4</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals planning to engage in physical activity are, at minimum, screened by the PAR-Q (physical activity readiness questionnaire) and/or the PAR Med-X (physical activity readiness medical exam).</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #5</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness service providers encourage new or renewing members/clients to complete an Informed Consent Agreement before engaging in the health and fitness program.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

3. **Special Exercising Populations**

<table>
<thead>
<tr>
<th>Standard #5</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness service providers recommend to pregnant women that they obtain medical advice regarding their participation in physical activity. Validated procedures.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #6</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness service providers recommend to individuals 70 years of age and over that they receive medical advice before initiating a physical activity program or increasing physical activity. Validated procedures.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #7</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-activity assessment is provided for individuals aged 40 years and over that they receive medical advice before initiating a physical activity program or increasing physical activity.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #8</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>For all other individuals (not identified in Standard #7), unprepared maximal tests may be conducted, provided participants have, at a minimum, been screened for medical risks by the PAR-Q or a physician.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Recommended Guideline #9</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>The PAR-Med X for Pregnancy questionnaire is utilized in pre-exercise medical consultations with pregnant women.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

4. **Emergency Procedures**

<table>
<thead>
<tr>
<th>Standard #8</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility has an Emergency Action Plan which is practiced twice per year and reviewed with all NEW staff at the commencement of their employment. Emergency Action Plan reviewed, validation of previous 2 dates the EAP was practiced. Reviewed practice for orienting new staff to the EAP.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #9</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>All injuries, accidents and emergencies are documented in writing and retained. Reviewed accident form and retention practices. Forms must be kept for a maximum of one year.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #10</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>A designated complement of First Aid equipment is readily available. Inspected location and content of first aid kits and equipment. (Note: A designated list of first aid equipment may be found in the Appendix of the C.F.S.S. 3rd ed.)</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Standard #11</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Immediate access to in-house first aid services is available from qualified personnel. Contact information for external medical services are posted and phones are readily accessible in all high risk/low injury area (e.g. pools, fitness testing rooms, free weight areas). Validated coverage of facility by qualified staff (CPR &amp; first aid training) during all hours of operation. Inspected access to phones in high risk areas and validated that emergency contact information is posted.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>
### 6. Fitness Environment

<table>
<thead>
<tr>
<th>Standard #14</th>
<th>Access to clean drinking water near all physical activity areas is available. Inspected locations.</th>
<th>SM</th>
<th>WT</th>
<th>NP</th>
<th>NA</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standard #15</td>
<td>The maximum number of participants in an exercise class is appropriate for unrestricted and safe movement in various types of exercises. ACSM recommends 12-18 sq.m/participant (40-60 sq ft) for an aerobic class. Refer to Fire Code.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Standard #16</td>
<td>All fitness testing equipment is checked, cleaned and calibrated as required. Validated procedures.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Standard #17</td>
<td>Floors in wet areas have a non-slip surface with adequate drainage to prevent the pooling of water. Inspected floors.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Standard #18</td>
<td>Whirlpools, spas and tubs comply with the Recommended Standards for the Operation of Public Spas. Inspected areas to ensure compliance with provincial Standards.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Standard #19</td>
<td>Electrical panels are covered. Receptacles located in wet areas of a building and associated with the pool, such as a locker and change room, have ground fault circuit interrupters. Inspected electric panels.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Standard #20</td>
<td>Appropriate fire alarm is installed. Portable fire extinguishers are installed, based on provincial/territorial code or regulations. Verified alarm system and fire extinguishers.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Recommended Guideline #12</td>
<td>Staff are required to carry out ongoing inspection, reporting, and/or maintenance of all areas and equipment, as part of their day-to-day activities.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
<tr>
<td>Recommended Guideline #13</td>
<td>The surface for all recreational areas are appropriate for the intended use(s). Areas are free from obstructions to participants. If outdoors, there is proper grading for adequate drainage.</td>
<td>SM</td>
<td>WT</td>
<td>NP</td>
<td>NA</td>
<td>Comments</td>
</tr>
</tbody>
</table>
Choosing a Quality Fitness Centre

The Facility
The facility is recognized for their compliance with the Canadian Fitness Safety Standards.
The Centre is nearby and convenient.
The facilities are clean and well maintained.
Drinking water is accessible.
Emergency phones are readily available.
Line ups for equipment during times you plan to attend are minimal.
Group fitness classes are not too crowded.
You will be comfortable using the facilities.
The Centre has been open for more than one year.

The Fitness Program Staff
The exercise area is always supervised.
All fitness staff are trained in first aid and CPR training.
All fitness staff are certified in the areas.
with which they are providing services to the members.
(e.g. aerobic, aqua fitness, personal training, fitness assessment etc.)
Ask to see their certifications.

Program Safety and Other Qualities
Pre-screening procedures are required, to determine if there may be any health-related risks to you exercising.
A full fitness appraisal from a certified staff member is available.
Ongoing active lifestyle education is emphasized.
A balanced approach to conditioning is emphasized.

Fee Structure Policy
The membership fees reflect good value.
The Centre provides a published fee schedule.
You may pay your yearly dues on a monthly basis as per the Prepaid Services Act. Ask for details.

Other Criteria Important to You

| The designation recognizes fitness facilities that comply with and practice the Canadian Fitness Safety Standards as they apply to the following areas: Fitness Staff Qualifications; Emergency Procedures; Communicable Disease Prevention; Safe Club Environment; and Protecting Members with Higher Health Risks or Special Needs. | Oui | Non | Je ne sais pas

Canadian Fitness Safety Standards, 3rd ed. 86

Canadian Fitness Safety Standards, 3rd ed. 87
Physical Activity Readiness Questionnaire – PAR-Q

(A Questionnaire for People Aged 15 to 69)

Regular physical activity is fun and healthy, and increasingly more people are starting to become more active every day. Being more active is very safe for most people. However, some people should check with their doctor before they start becoming much more physically active.

If you are planning to become much more physically active than you are now, start by answering the seven questions in the box below. If you are between the ages of 15 and 69, the PAR-Q will tell you if you should check with your doctor before you start. If you are over 69 years of age, and you are not used to being very active, check with your doctor.

Common sense is your best guide when you answer these questions. Please read the questions carefully and answer each one honestly: check YES or NO.

YES  NO

1. Has your doctor ever said that you have a heart condition and that you should only do physical activity recommended by a doctor?
2. Do you feel pain in your chest when you do physical activity?
3. In the past month, have you had chest pain when you were not doing physical activity?
4. Do you lose your balance because of dizziness or do you ever lose consciousness?
5. Do you have a bone or joint problem (for example, back, knee or hip) that could be made worse by a change in your physical activity?
6. Is your doctor currently prescribing drugs (for example, water pills) for your blood pressure or heart condition?
7. Do you know of any other reason why you should not do physical activity?

Useful advice: Talk with your doctor about the PAR-Q and which questions you answered YES.


For more information, please contact the Canadian Society for Exercise Physiology:

The Canadian Society for Exercise Physiology chaired by Dr. N. Gledhill (2002).

References:

- Canadian Society for Exercise Physiology
- Health Canada
- Santé Canada

© Canadian Society for Exercise Physiology

Physical Activity & Health

PAR-Q & YOU

Physical activity improves health.

<table>
<thead>
<tr>
<th>Physical activity</th>
<th>Health risks of inactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start with a 10 minute walk – when you’re ready, increase it to 20 minutes.</td>
<td>Colon cancer</td>
</tr>
<tr>
<td>Participate in activities against resistance for 2-4 days a week.</td>
<td>Adult-onset diabetes</td>
</tr>
<tr>
<td>Gradually increase the time.</td>
<td>Better self-esteem</td>
</tr>
<tr>
<td>Cycling paths nearby and use them.</td>
<td>Better health</td>
</tr>
<tr>
<td>Activities recommended by a doctor:</td>
<td></td>
</tr>
<tr>
<td>Brisk walking</td>
<td>To sleep better</td>
</tr>
<tr>
<td>Light walking</td>
<td>To help keep your muscles relaxed</td>
</tr>
<tr>
<td>Easy gardening</td>
<td>To build physical activity</td>
</tr>
<tr>
<td>Simple climbing of stairs</td>
<td>To increase flexibility</td>
</tr>
<tr>
<td>Biking</td>
<td>To increase strength</td>
</tr>
<tr>
<td>Swimming</td>
<td>To increase endurance</td>
</tr>
<tr>
<td>Aerobics</td>
<td>To increase flexibility</td>
</tr>
<tr>
<td>Racing</td>
<td>To increase strength</td>
</tr>
</tbody>
</table>

Physical activity doesn’t have to be very hard. Build physical activity into your daily routine.

You can do it – getting started is easier than you think.

It’s easier to start now... that’s better than later, later...

Scientists say accumulate 60 minutes of physical activity every day to stay healthy or improve your health. As you progress to moderate activities you can cut down to 30 minutes every day.

Every little bit counts, but more is even better – remember once in a while to do something fun too!

Get active your way – be active living!


http://www.paguide.com

For a copy of the Physical Activity Readiness Questionnaire (PAR-Q): 1-888-334-9769.

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Santé Canada

continued on other side...

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Health Canada
Santé Canada

continued on other side...
Oui à une ou plusieurs questions

1. Votre médecin vous a-t-il dit que vous souffriez d’un problème cardiaque et que vous ne deviez pas participer qu’aux activités physiques prescrites et approuvées par un médecin?
2. Ressentez-vous une douleur à la poitrine lorsque vous faites l’activité physique?
3. Au cours de dernier mois, avez-vous ressenti des douleurs à la poitrine lors de périodes autres que celles où vous participiez à une activité physique?
4. Éprouvez-vous des problèmes d’équilibre reliés à un étourdissement ou vous arrive-t-il de perdre votre équilibre?
5. Avez-vous des problèmes osseux ou articulaires (par exemple, au dos, au genou ou à la hanche) qui pourraient s’aggraver par une modification de votre niveau de participation à une activité physique?
6. Des médicaments vous sont-ils actuellement prescrits pour contrôler votre tension artérielle ou un problème cardiaque (par exemple, des diurétiques)?
7. Connaissez-vous une autre raison pour laquelle vous ne deviez pas participer à l’activité physique?

Si vous avez répondu

OUI

NON

这样一I à toutes ces questions

Si, en tout bimensmo, vous avez répondu OUI à toutes les questions du Q-AAP, vous êtes dans une situation de risque avéré que:

• vous pourriez augmenter votre pratique régulière d’activités physiques en commençant lentement et en surveillant le niveau de vos activités physiques. C’est le moyen le plus sûr et le plus sécuritaire d’agir.

• vous pourriez faire évaluer votre condition physique. Toute la meilleure manne de surveillance de votre niveau de condition physique de base afin de déterminer votre participation à un programme d’activités physiques.

Remettez alors ce questionnaire à votre médecin. C’est lui qui pourra vous dire si vous êtes prêt à participer à un programme d’activités physiques.

Toute modification est interdite. Nous encourageons à copier le Q-AAP dans sa totalité.

Dans le cadre du Q-AAP, il est déconseillé de ne pas prendre en compte toutes les activités physiques que vous faites déjà. Le questionnaire a été conçu pour vous aider à faire une série de questions qui pourront vous aider à déterminer si vous êtes prêt à participer à un programme d’activités physiques.

© Société canadienne de physiologie de l’exercice


CANADIAN FITNESS SAFETY STANDARDS, 3RD ED 90

Canadian Fitness Safety Standards, 3rd ed
The PARmed-X is a physical activity-specific checklist to be used by a physician with patients who have had positive responses to the Physical Activity Readiness Questionnaire (PAR-Q). In addition, the Conveyance/Referral Form in the PARmed-X can be used to convey clearance for physical activity participation, or to make a referral to a medically-supervised exercise program.

Regular physical activity is fun and healthy, and increasingly more people are becoming active every day. Being more active is very safe for most people. The PAR-Q by itself provides adequate screening for the majority of people. However, some individuals may require a medical evaluation and specific advice (exercise prescription) due to one or more positive responses to the PAR-Q.

Following the participant's evaluation by a physician, a physical activity plan should be devised in consultation with a physical activity professional (CSEP-Professional Fitness & Lifestyle Consultant or CSEP-Exercise Therapist). To assist in this, the following instructions are provided:

**PAGE 1:** Sections A, B, C, and D should be completed by the participant BEFORE the examination by the physician. The bottom section is to be completed by the examining physician.

**PAGES 2 & 3:** A checklist of medical conditions requiring special consideration and management.

**PAGE 4:** Physical Activity & Lifestyle Advice for people who do not require specific instructions or prescribed exercise.

**Sections**

A. PERSONAL INFORMATION:

- NAME _____________________________
- BIRTHDATE _________________________
- GENDER _________
- TELEPHONE_________________________________________________

B. PHYSICAL ACTIVITY INTENTIONS:

- What physical activity do you intend to do?
- Progressive physical activity:
  - with inclusion of:
  - with avoidance of:
  - under the supervision of a CSEP-Professional Fitness & Lifestyle Consultant or CSEP-Exercise Therapist™?

C. PHYSICAL ACTIVITY PREPARATION:

- Cardiovascular
- Recovery
- Musclekeletal
- Abdominal
- Other

D. PHYSICAL ACTIVITY CONDITIONS:

- Physical Activity Readiness Conveyance/Referral:

**Physical Activity Readiness Medical Examination**

**Absolute Contraindications**

- Highly unstable. Value of exercise testing and/or program may be limited. Activity may be contraindicated. Desirable to minimize control of conditions. Direct or delayed medical supervision of exercise program may be desirable.

**Relative Contraindications**

- •

**Special Prescriptive Conditions**

- •

**ADVICE**

- **Cardiovascular**
  - aortic stenosis (moderate+)
  - aortic valve insufficiency
  - congestive heart failure
  - coronary artery disease
  - myocardial infarction (acute)
  - myasthenia (active or recent)
  - pericardial or pericarditis (active or recent)
  - rheumatic fever
  - rheumatic arthritis
  - subacute/chronic/recurrent bacterial endocarditis
  - hypertrophic cardiomyopathy
  - constrictive pericarditis

- **Infections**
  - acute infectious disease
  - acute pyelonephritis
  - active tuberculosis
  - active syphilis

- **Metabolic**
  - uncontrolled metabolic disease (diabetes mellitus, hyperlipidemia, etc.)
  - obesity
  - metabolic insufficiency
  - prediabetes (impaired glucose tolerance)

- **Pregnancy**
  - complicated pregnancy (e.g., toxemia, hypertension, diabetic pregnancy, etc.)

**References:**

- CSEP-Professional Fitness & Lifestyle Consultant or CSEP-Exercise Therapist™

- Canadian Fitness Safety Standards, 3rd ed.
### Physical Activity Readiness Medical Examination

**PARmed-X** Physical Activity Readiness Medical Examination

**Physical activity improves health.**

- Exercise is one of the most effective ways to improve your health.
- Physical activity helps you feel better—both physically and mentally.

**Canadian Fitness Safety Standards**, 3rd ed. Revised 2002

**Supported by:**

- Canadian Fitness Safety Standards
- Canadian Society for Exercise Physiology
- Canadian Fitness Safety Association

**Note to physical activity professionals...**

It is a prudent practice to retain the completed Physical Activity Readiness Conveyance/Referral Form in the participant’s file.

---

<table>
<thead>
<tr>
<th><strong>Conditions</strong></th>
<th><strong>ADVICE</strong></th>
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<tbody>
<tr>
<td><strong>Lung</strong></td>
<td>(a) chronic pulmonary disease</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td></td>
<td>(b) obstructive lung disease</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td></td>
<td>(c) heart failure</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td></td>
<td>(d) severe cardiopulmonary disease</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td></td>
<td>(e) severe respiratory disease</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td><strong>Musculoskeletal</strong></td>
<td>(a) musculoskeletal disease</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td><strong>CNS</strong></td>
<td>(a) convulsive disorders not completely controlled by medication</td>
</tr>
<tr>
<td><strong>Blood</strong></td>
<td>(a) anemia—severe</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td><strong>Medications</strong></td>
<td>(a) antiarrhythmic</td>
</tr>
<tr>
<td></td>
<td>restricts physical activity</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td>(a) heart indifference</td>
</tr>
</tbody>
</table>

**Further Information:**

- Physical Activity and Health: A Guide Handbook to Active Living
- Canadian Fitness Safety Standards
- Canadian Society for Exercise Physiology
- Canadian Fitness Safety Association

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**Note to physical activity professionals...**

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---

**Physical Activity Readiness Medical Examination**

By [Last Name]  M.D.

**Based upon a current review of the health status of [Name], I recommend:**

- Physical activity is safe and recommended for most people.
- Exercise is safe and recommended for most people.
- Physical activity is safe and recommended for most people.
- Exercise is safe and recommended for most people.
- Physical activity is safe and recommended for most people.
- Exercise is safe and recommended for most people.

**Further Information:**

- Attached
- To be forwarded
- Available on request

**Note to professional...**

This physical activity clearance is valid for a maximum of six months from the date it is completed and becomes invalid if medical condition becomes worse.

---

**Canadian Fitness Safety Standards**, 3rd ed. Revised 2002

**Supported by:**

- Canadian Fitness Safety Standards
- Canadian Society for Exercise Physiology
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By [Last Name]  M.D.

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**Note to physical activity professionals...**

It is a prudent practice to retain the completed Physical Activity Readiness Conveyance/Referral Form in the participant’s file.
Évaluation médicale de l’aptitude à l’activité physique

Le X-AAP est un questionnaire spécifique à l’activité physique utilisé par le médecin dont le patient a répondu "OUI" à au moins une des questions du Q-AAP. De plus, il est impératif que le médecin prenne connaissance de l’X-AAP avant de traiter le patient. Il est également nécessaire de lire les instructions de l’X-AAP pour comprendre les précautions qui doivent être prises.

Le questionnaire est divisé en deux parties : les sections A, B, C et D, et les sections E et F. Les sections A, B, C et D doivent être remplies par le participant avant de se soumettre à l’examen médical, tandis que les sections E et F doivent être remplies par le médecin traitant pour mener à bien l’examen médical.

Les sections A, B, C et D contiennent des questions sur les antécédents médicaux, les habitudes de vie, le niveau d’activité physique et les habitudes de santé. Les sections E et F contiennent des questions spécifiques à l’activité physique, ainsi que des questions sur les conditions médicales qui pourraient nécessiter des précautions ou des conseils.

Les sections E et F du questionnaire contiennent également des questions sur les activités physiques quotidiennes, les habitudes alimentaires, les antécédents familiaux de maladies cardiovasculaires et les facteurs de risque de maladie cardiovasculaire.

Les sections A, B, C et D sont à la disposition du participant avant de se soumettre à l’examen médical, tandis que les sections E et F sont à la disposition du médecin traitant pour mener à bien l’examen médical.

Les sections A, B, C et D sont destinées à aider le participant à comprendre les risques associés à l’activité physique, tandis que les sections E et F sont destinées à aider le médecin traitant à évaluer les risques associés à l’activité physique.

Enfin, les sections A, B, C et D doivent être remplies par le participant avant de se soumettre à l’examen médical, tandis que les sections E et F doivent être remplies par le médecin traitant pour mener à bien l’examen médical.
### Conditions spéciales de recommandations

<table>
<thead>
<tr>
<th>CONSEILS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Poumons</strong></td>
</tr>
<tr>
<td>• troubles respiratoires chroniques</td>
</tr>
<tr>
<td>• asthme</td>
</tr>
<tr>
<td><strong>Muscules-squelettiques</strong></td>
</tr>
<tr>
<td>• affections ostéo-articulaires (arthrite greffe du tendon)</td>
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<tr>
<td>• troubles de la circulation (hémorragie, troubles de la ventilation, etc.)</td>
</tr>
<tr>
<td><strong>SNC (système nerveux central)</strong></td>
</tr>
<tr>
<td>• troubles cérébrovasculaires</td>
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<tr>
<td><strong>Sang</strong></td>
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<tr>
<td>• anémie</td>
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<tr>
<td><strong>Médicaments</strong></td>
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<tr>
<td>• anticoagulants</td>
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<tr>
<td>• antihypertenseurs</td>
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<tr>
<td>• antiparkinsoniens</td>
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<tr>
<td><strong>Autres</strong></td>
</tr>
<tr>
<td>• troubles après l’exercice</td>
</tr>
</tbody>
</table>

### Activité physique progressive

- **Sans aucune restriction** — début léger avec augmentation progressive
- **Sous aucune restriction** — début modéré avec augmentation progressive
- **Suspension** — suspension de l'activité physique
- **Environnement de chaleur extrême** — augmentation graduelle de la température avec monitoring des paramètres vitaux
- **Métabolisme** — augmentation progressive de l'intensité et de la durée de l'activité physique
- **Système nerveux** — augmentation progressive de l'intensité et de la durée de l'activité physique
- **Fermeture** — suspension de l'activité physique

### Évaluation médicale de l’aptitude à l’activité physique

- **Questionnaire sur l’activité physique (Q-AAP)**
- **Fiche de Recommandation d’Activité Physique**

### Note aux professionnels de l’activité physique

Pour plus d'information, veuillez contacter la Société canadienne de physiologie de l'exercice.

**Source**


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### Informed Consent Agreement

Thank you for choosing to use the facilities, services or programs of ______________. We request your understanding and cooperation in maintaining both your and our safety and health by reading and signing the following Informed Consent Agreement.

I, ____________________, declare that I intend to use some or all of the activities, facilities, programs and services offered by ______________ and I understand that each person, (myself included) has a different capacity for participating in such activities, facilities, programs and services. I am aware that all activities, services and programs offered are either educational, recreational, or self-directed in nature. I assume full responsibility during and after my participation, for my choices to use or apply, at my own risk, any portion of the information or instruction I receive.

I understand that part of the risk involved in undertaking any activity or program is relative to my own state of fitness or health (physical, mental or emotional) and that the awareness, care and skill with which I conduct myself in that activity or program. I acknowledge that my choice to participate in any activity, service and program of ______________ brings with it the assumption by me of those risks or results stemming from this/these choice(s) and the fitness, health, awareness, care and skill that I possess and use.

I further understand that the activities, programs and services offered by ______________ are sometimes conducted by personnel who may not be licensed, certified, or registered instructors or professionals. Although as a standard practice, program personnel shall be certified in the area with which they are providing program services, I accept the fact that the skills and competencies of some employees and/or volunteers will vary according to their training and experience and that no claim is made to offer assessment or treatment of any mental or physical disease or condition by those who are not duly licensed, certified or registered and herein employed to provide such professional services.

I recognize that by participating in the activities, facilities, programs and services offered by ______________ that I may experience potential health risks such as transient light-headedness, fainting, abnormal blood pressure, chest discomfort, leg cramps, and nausea and that I assume wilfully those risks. I acknowledge my obligation to immediately inform the nearest supervising employee of any pain, discomfort, fatigue, or any other symptoms that I may suffer during and immediately after my participation. I understand that I may stop or delay my participation in any activity or procedure if I so desire and that I may also be requested to stop and rest by a supervising employee who observes any symptoms of distress or abnormal response.

I understand that I may ask any questions or request further explanation or information about the activities, facilities, programs and services offered by ______________ at anytime before, during or after my participation.

I declare that I have read, understood and agree to the contents of this Informed Consent Agreement in its entirety.

Signature _____________________________
Date of Signing ________________________
Witness ______________________________

### Guests Log Sign In

Please read the following Informed Consent statement. Your signature below, confirms that you have read and understood the risks that could arise from participation in the programs being offered in the facility.

As a guest or casual user of this facility, I acknowledge and accept the risk of injury or medical problem that could arise from my participation in the programs and services provided or from any other use of the facilities. I also acknowledge that I have had the opportunity to undergo more detailed screening (the PAR-Q for example) for potential risks that I may knowingly or unknowingly have. I freely choose not to participate in such screening and hereby register with my full assumption of any such risks.

<table>
<thead>
<tr>
<th>Date</th>
<th>Print Name</th>
<th>Signature</th>
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<tbody>
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</table>
PARmed-X for PREGNANCY
PHYSICAL ACTIVITY READINESS MEDICAL EXAMINATION

PARmed-X for PREGNANCY is a guideline for health screening prior to participation in a prenatal fitness class or other exercise.

Healthy women with uncomplicated pregnancies can integrate physical activity into their daily living and can participate in activities without significant risk either to themselves or to their unborn child. Potential benefits of such programs include improved aerobic and muscular fitness, promotion of appropriate weight gain, and stress reduction. Regular exercise may also help to prevent gestational glucose intolerance and pregnancy-induced hypertension.

The safety of prenatal exercise programs depends on an adequate level of maternal-fetal physiologic reserves. PARmed-X for PREGNANCY is a convenient check-list and prescription form for health care providers to evaluate pregnant patients who want to enter a prenatal fitness program and for ongoing medical surveillance of exercising pregnant patients.

Instructions for use of the 6-episode PARmed-X for PREGNANCY are the following:

1. The patient should fill out the sections on PATIENT INFORMATION and the PRE-EXERCISE HEALTH CHECKLIST (PART 1, 2, 3, and 4 on p. 1) and give the form to the health care provider monitoring her pregnancy.

2. The health care provider should check the information provided by the patient for accuracy and fill out SECTION C on CONTRAINDICATIONS (p. 2) based on current medical information.

3. If no exercise contraindications exist, the HEALTH EVALUATION FORM (p. 3) should be completed, signed by the health care provider, and given by the patient to her prenatal health care provider.

In addition to patient medical care, participation in appropriate types, intensities and amounts of exercises is recommended to increase the likelihood of a beneficial pregnancy outcome. PARmed-X for PREGNANCY provides recommendations for individualized exercise prescription (p. 3) and program safety (p. 4).

NOTE: Sections A and B should be completed by the patient before the appointment with the health care provider.

A. PATIENT INFORMATION

NAME

ADDRESS

TELEPHONE

BIRTHDATE

HEALTH INSURANCE No.

NAME OF PREGNANT INDIVIDUAL

PREGNATAL PHYSICIANS

PROFESSIONAL'S PHONE NUMBER

B. PRE-EXERCISE HEALTH CHECKLIST

PART 1: GENERAL HEALTH STATUS

In the past, have you experienced (check YES or NO):

1.  Macrogiastrism in an earlier pregnancy?

2.  Other pregnancy complications?

3.  Have you ever completed a PAP within the last 30 days?

If you answered YES to question 1 or 2, please explain:

Number of previous pregnancies?

PART 2: STATUS OF CURRENT PREGNANCY

Due Date:

____________________________________________________

PART 3: ACTIVITY HABITS DURING THE PAST MONTH

1.  List only regular times/recreational activities:

2.  Does your regular occupation (if you have one) involve:

3.  Do you currently smoke tobacco?*

4.  Do you consume alcohol?

PART 4: PHYSICAL ACTIVITY INTENTIONS

What physical activity do you intend to do:

Is this a change from what you currently do?

---

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Canadian Fitness Safety Standards, 3rd ed

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Translation and reproduction in its entirety is encouraged. Disponible en français sous le titre «Examination medicale sur l'aptitude à l'activité physique pour les femmes enceintes (X-AAP pour les femmes enceintes)»

Additional copies of the PARmed-X for PREGNANCY, the PARmed-X for and the RNP-Q can be downloaded from:

www.parmed-x.com

For more information contact the:

Canadian Society for Exercise Physiology

185 Serramonte St, West, Suite 223, Orillia, Ontario Canada, K0P 1L0

Tel: 1-877-651-0752, FAX 416 295-2566

www.canFitness.ca
Pregnancy (2002)

Physical Activity Readiness

Prescription for Muscular Conditioning

It is important to condition all major muscle groups during both prenatal and postnatal periods.

**EXAMPLES OF MUSCULAR STRENGTHENING EXERCISES**

<table>
<thead>
<tr>
<th>Exercise</th>
<th>Target Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shoulder shrugs</td>
<td>Shoulders</td>
</tr>
<tr>
<td>Shoulder blade pinch</td>
<td>Shoulders</td>
</tr>
<tr>
<td>Pelvic floor</td>
<td>Gluteals, pelvis</td>
</tr>
<tr>
<td>Leg press</td>
<td>Thighs</td>
</tr>
<tr>
<td>Squats</td>
<td>Thighs</td>
</tr>
<tr>
<td>Backward leg curls</td>
<td>Thighs</td>
</tr>
<tr>
<td>“The Elevator”</td>
<td>Abdominals</td>
</tr>
<tr>
<td>“Wave”</td>
<td>Abdominals</td>
</tr>
<tr>
<td>“Core Lifts”</td>
<td>Abdominals</td>
</tr>
<tr>
<td>“Face Down Kegels”</td>
<td>Pelvic floor</td>
</tr>
<tr>
<td>“Standing Kegels”</td>
<td>Pelvic floor</td>
</tr>
</tbody>
</table>

**MEDICAL EXAMINATION FOR PHYSICAL ACTIVITY READINESS**

**ADVICE FOR ACTIVE LIVING DURING PREGNANCY**

Advice for Active Living During Pregnancy

Pregnancy is a time when women can make beneficial changes in their health habits to protect and promote the healthy development of their unborn babies. These changes include adopting improved eating habits, abstinence from smoking and alcohol intake, and participating in regular moderate physical activity. Since all of these changes can be carried over into the postnatal period and beyond, pregnancy is a very good time to adopt healthy lifestyle habits that are permanent by integrating physical activity with enjoyable healthy eating and a positive self and body image.

**Active Living:**
- see your doctor before increasing your activity level during pregnancy
- exercise regularly but don't overtrain
- exercise with a pregnant friend or join a prenatal exercise program

**Healthy Eating:**
- the need for calories is higher (about 300 more per day) than before pregnancy
- follow Canada’s Food Guide to Healthy Eating and choose healthy foods from the following groups: whole grain or enriched bread or cereal, fruits and vegetables, milk and milk products, meat, fish, poultry, and alternatives

**EXERCISE MODIFICATIONS**

- avoid rapid changes in direction and bouncing during exercises
- stretching should be performed with controlled movements

**SAFETY CONSIDERATIONS**

- Avoid isometric exercise or straining while holding your breath
- Avoid exercise while lying on your back past the 4th month of pregnancy
- Avoid activities which involve physical contact or danger of falling
- Know your limits — pregnancy is not a good time to train for athletic competition
- Know the reasons to stop exercise and consult a qualified health care provider immediately if they occur

**REASONS TO STOP EXERCISE AND CONSULT YOUR HEALTH CARE PROVIDER**

- Excessive shortness of breath
- Chest pain
- Painful uterine contractions (more than 6-8 per hour)
- Vaginal bleeding
- Any “gush” of fluid from vagina (suggesting premature rupture of the membranes)
- Dizziness or faintness

**FOR MORE INFORMATION:**
- For more detailed information about healthy eating during pregnancy, you may wish to obtain a copy of Nutrition for a Healthy Pregnancy: National Guidelines for the Childbearing Years © 1999. Available from Health Canada, Ministry of Public Works and Government Services, Ottawa, Ontario (also available online at www.hc-sc.gc.ca).
X-AAP pour femmes enceintes

Le X-AAP pour femmes enceintes est un guide de sélection des participantes inscrites à un cours prénatal de conditionnement physique pour tout autre exercice.

Les femmes en bonne santé qui ont des grossesses sans complications peuvent intégrer l'activité physique dans leur vie quotidienne et peuvent y participer à un cours prénatal de conditionnement physique ou pour tout autre exercice.

1. Fatigue excessive ?
2. Position debout prolongée ?
3. Position assise régulière ?
4. Marche occasionnelle (> 1 fois/h) ?
5. Marche fréquente/montée d'escaliers ?
6. Maladie cardiaque ou respiratoire faible ou modérée
7. Maladie cardiaque ou respiratoire forte ou grave
8. Malnutrition, troubles alimentaires (anorexie, bulimie)
9. Hypertension ou hypertension prénatale
10. Hypertension du à la grossesse ou prééclampsie
11. Saignements persistants au deuxième ou troisième trimestre (Placenta Previa)
12. Maladie cardiaque ou respiratoire faible ou modérée
13. Maladie cardiaque ou respiratoire forte ou grave
14. Malnutrition, troubles alimentaires (anorexie, bulimie)
15. Places cardiaques ou respiratoires
16. Hypertension du à la grossesse ou prééclampsie
17. Saignements persistants au deuxième ou troisième trimestre (Placenta Previa)
18. Maladie cardiaque ou respiratoire faible ou modérée
19. Maladie cardiaque ou respiratoire forte ou grave
20. Malnutrition, troubles alimentaires (anorexie, bulimie)
21. Hypertension ou hypertension prénatale
22. Hypertension du à la grossesse ou prééclampsie
23. Saignements persistants au deuxième ou troisième trimestre (Placenta Previa)
24. Maladie cardiaque ou respiratoire faible ou modérée
25. Maladie cardiaque ou respiratoire forte ou grave
26. Malnutrition, troubles alimentaires (anorexie, bulimie)
27. Places cardiaques ou respiratoires
28. Hypertension ou hypertension prénatale
29. Hypertension du à la grossesse ou prééclampsie
30. Saignements persistants au deuxième ou troisième trimestre (Placenta Previa)
**X-AAP pour femmes enceintes**

**Prescription pour l'entraînement musculaire**

Il est important de stimuler les grandes masses musculaires durant les périodes pré- et postnatale.

### Exemples d'exercices de renforcement musculaire

<table>
<thead>
<tr>
<th>CATÉGORIE</th>
<th>OBJECTIF</th>
<th>EXEMPLES D’EXERCICES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haut du dos</td>
<td>Promouvoir un bon maintien</td>
<td>Étalement isométrique: toutes les parties musculaires du haut du dos</td>
</tr>
<tr>
<td>Muscles abdominaux</td>
<td>Renforcement de la musculature de soutien, prévention de la diastase du droit de l’abdomen renforcée</td>
<td>Exercices d’étirement et de contraction du périnée (Kegels)</td>
</tr>
<tr>
<td>Pelvis et fesses</td>
<td>Maintien de la posture et de l’alignement correct durant la grossesse et le postpartum</td>
<td>Exercices de renforcement des muscles pelviens et des fesses</td>
</tr>
</tbody>
</table>

### Précautions à prendre pendant l’entraînement musculaire durant la grossesse

**VARIABLE**

- Évitez l’exercice isométrique et le surentraînement
- Évitez les exercices en position couchée sur le dos après le 32e semestre de grossesse
- Évitez les exercices qui demandent une modification importante de la respiration

**MODIFICATIONS À APporter aux exercices**

- Suivez les recommandations pour les exercices abdominaux
- Suivez les conseils de votre professionnel de la santé

### Conseils pour vivre activement durant la grossesse

La grossesse est une période qui convient bien pour prendre de saines habitudes de vie afin de protéger et de favoriser le développement sain de l’enfant à naître. Ces changements comportent de meilleures habitudes alimentaires, l’abstinence de tabac et d’alcool et la pratique régulière d’activités physiques d’intensité modérée. Comme tous ces changements peuvent être poursuivis durant la période postnatale et même après, la grossesse est une très bonne période pour rendre ces habitudes permanentes en combinant l’activité physique et un comportement alimentaire santé ainsi que une image corporelle favorable et une image de soi positive.

#### Vivre activement:

- Suivez votre calendrier esthétique pour la grossesse (environ 300 de plus par jour)
- Suivez les recommandations pour le Guide alimentaire canadien pour manger sainement et choisissez des aliments qui soutiennent le développement du bébé
- Faites de l’exercice régulièrement mais évitez le surentraînement
- Faites des activités avec une amie enceinte ou rejoignez-vous à un programme d’exercices prénataux
- Suivez les recommandations associées à votre état

#### Manger sainement:

- La base calorique est plus élevée qu’à la grossesse (environ 300 de plus par jour)
- Suivez les recommandations pour un régime alimentaire pour manger sainement et choisissez des aliments qui soutiennent le développement du bébé
- Acceptez le fait que votre corps change durant la grossesse
- Évitez la surconsommation de liquide incluant le lait, quotidienement
- Limitez la sucrerie et les boissons gazeuses
- Revoyez votre alimentation comme une expérience unique et significative

### Image de soi et image corporelle positives:

- Enseignez-lez qui est normal de prendre du poids pendant la grossesse
- Acceptez le fait que votre corps change durant la grossesse
- Évitez la surconsommation de liquide incluant le lait, quotidienement
- Évitez la surconsommation de sucre et de boissons gazeuses
- Limitez la consommation de boissons gazeuses et de sucreries

#### Plus de conseils et d’informations:


**CONSEILS DE SÉCURITÉ**

- Ne faites pas d’activité physique par temps chaud et humide surtout durant le premier trimestre
- Évitez l’exercice intègre et celui qui demande un effort excessif lorsqu’il vous relève votre respiration
- Ayez une alimentation et une hydratation adéquate, buvez du liquide avant et après l’exercice
- Évitez les exercices en position couchée sur le dos après le 4e mois de la grossesse
- Évitez les activités qui demandent un contact physique avec un partenaire ou ceux où il y a un risque de chute
- Connaissez les signes - il n’est pas recommandé de s’entrainer à des fins compétitives durant la grossesse
- Identifiez les raisons qui commandent un arrêt de l’entraînement et consultez immédiatement un professionnel de la santé qualifié si la situation le justifie

**MOTIFS POUR ARRÊTER LES EFFORTS PHYSIQUES ET POUR CONSULTER UN PROFESSIONNEL DE LA SANTÉ**

- Essoufflement marqué
- Douleur à la poitrine
- Contractions dououreuses de l’utérus (plus de 6-8 par heure)
- Saignement vaginal
- Toute perte sanguine (peut être une indication d’une rupture prématurée des membranes)
- Étourdissement ou évanouissement

#### Fiche d’évaluation de l’état de santé

(À compléter par la patiente et à remettre au (à la) professionnel(le) du conditionnement physique prénatal après avoir reçu l’autorisation du professionnel de la santé pour pratiquer une ou plusieurs activités physiques)

**Ja (jou) patiente en caractère d’imprimante (u.s.)**, déclare avoir eu connaissance de mon désir de faire de l’activité physique durant ma grossesse sans avoir été motivé et avoir reçu un avis d’expertise pour comprendre cette pratique.

**Signé :** (patient’s signature) **Date :**

**Nom du professionnel de la santé :**

**Adresses :**

**Téléphone :**

**signé du professionnel de la santé**

---

**Questionnaire médical sur l’aptitude à l’activité physique pour femmes enceintes**

**Canadian Fitness Safety Standards, 3rd ed.**

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**Canadian Fitness Safety Standards, 3rd ed.**
Information Required for a Medical Form

Name
Address
Telephone # (day) (evening)
In Emergency Notify: Telephone # (day) (evening)
Family Doctor (name) (telephone #)
Medications
Allergies
Date of Birth

Conditions which may affect participation in fitness activities:
Cardiovascular (heart problems, blood pressure, circulation problems, etc.)
Respiratory (asthma, emphysema, etc.)
Musculo Skeletal (arthritis, bone, muscle or joint problems, etc.)
Other (anything not covered above)

Note: Medical information is CONFIDENTIAL. This information should NOT be available to others than authorized individuals.

Information Required for an Incident/Accident Report Form

Program
Program Supervisor
Time of Incident Date of Incident
Place of Incident
Identification of participant(s) involved in incident
Name Address

Note: Report only facts, not opinions
Description of incident
Causes and contributing factors
Description of injury(ies) and/or property damage
Immediate action taken by supervisor on duty and/or others (please be as specific as possible)

Medical unit called? If yes, give arrival time
Diagnosis of Medical Unit
Immediate Treatment Given by Medical Unit
Injured person(s) taken to hospital? If yes, by whom?
Medical Clearance Required? If yes, date given
Witness (name) Phone number Address

Signature of Reporter Date
Name (print) Phone #

Reference:
Safety and Legal Responsibility – CIRA Safety and Legal Responsibility Committee.
Summary of Fitness Injury Survey (1988)

Introduction

Purpose of Study

The purpose of this study was “to better define and quantify the incidence, severity and predisposing factors of fitness related injuries in Ontario.”

The identification and examination of these factors are intended to provide the Fitness Safety Standards Committee (FSSC) with information that will assist in the development of guidelines and standards for preventing injuries. The FSSC will use this information and other resources to recommend fitness safety standards which should be met by public and private fitness facilities.

Study Objectives

The study objectives were:

- To design and conduct a combined prospective, retrospective and fitness facility study of the nature, incidence and severity of injuries experienced by Ontarians who participate in a variety of fitness activities;
- To identify, count and compare personal, environmental and activity specific factors associated with fitness injuries; and
- To propose guidelines that are likely to reduce the incidence and/or severity of fitness injuries.

Methodology

The original study Terms of Reference called for a prospective methodology. As the project developed, two additional study methodologies were added. These were:

- A Facility Survey designed to provide a “picture” of the fitness industry and an over-all fitness injury rate;
- A Retrospective Study in which participants recorded injuries sustained over the previous nine months.

The Facility Survey made available fitness industry and injury information not included in the study Terms of Reference and not previously available in an accessible form.

The Retrospective Study was designed and implemented when it became clear that the Prospective Study would not gather a large enough number of injury records in the short period of time allowed. The difficulties encountered with the Prospective Study were reviewed with the FSSC at two Committee meetings. The retrospective methodology was selected to allow for a larger sample to be surveyed. The three methodologies were reviewed and approved by the FSSC before each study was implemented.

Facility Survey

The facility questionnaire was sent to 463 facilities; 25 questionnaires were undeliverable; 124 were completed and returned (28% return rate)

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness Health (private)</td>
<td>14</td>
<td>12</td>
</tr>
<tr>
<td>Racquet Fitness (private)</td>
<td>13</td>
<td>11</td>
</tr>
<tr>
<td>YM/YWCA</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Municipal/Community</td>
<td>37</td>
<td>33</td>
</tr>
<tr>
<td>University / College</td>
<td>17</td>
<td>15</td>
</tr>
<tr>
<td>Weight Training (private)</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Dance/Aerobics (private)</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Employee Fitness</td>
<td>8</td>
<td>7</td>
</tr>
</tbody>
</table>

The original facility types included in the sample were re-grouped according to facility use to allow an examination of injuries by facility use (e.g., YMCA and Municipal/Community are both multiple-use).

<table>
<thead>
<tr>
<th>Facility Type</th>
<th>Number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fitness Health</td>
<td>21</td>
<td>19</td>
</tr>
<tr>
<td>Racquet Fitness</td>
<td>15</td>
<td>13</td>
</tr>
<tr>
<td>Multiple-use</td>
<td>62</td>
<td>55</td>
</tr>
<tr>
<td>Weight Training</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Dance / Aerobics</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Other (single use)</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

Prospective Study

The network of facilities was made up of 23 fitness facilities (97 sites) with a participant membership of 140,000. Twenty-three trackers were recruited to monitor injuries at these facilities. By the mid-point in the study period, it was evident that the number of reported injuries was not going to meet the study requirement (900 injury records). At this point in the study, an attempt was made to increase the number of reported injuries.

Trackers were requested to make a greater effort; additional support materials were provided and the definition of injury was modified.

An injury was defined as occurring when:

- the participant required examination and/or treatment by a medical or paramedical practitioner, dentist or first aid specialist; OR
- the participant missed one or more sessions because of injury; OR
- the participant missed one or more days from work as a result of the injury. The following definition of injury was revised as approved by the FSSC:

An injury has occurred when one of the following has taken place:

- The participant is unable to complete the activity session; OR
- One or more activity sessions are missed; OR
- One or more days from work are missed; OR
- examination or treatment by a medical or paramedical practitioner is required; OR
- An over-use injury is sustained.
Seventy complete Fitness Injury Questionnaires were returned during the prospective component of the study. Ten of the twenty-three participating facilities reported no injuries during the period of the study, as verified by monthly reports and by an end-of-study confirmation. Due to the relatively low return rate, calculation of an injury rate was deemed uninterpretable. For reasons previously described, the Prospective Study represents an attempt to report on a portion of what should have been an epidemiological study of much longer duration.

Retrospective Study:

Ten multi-use facilities participated in this study and were requested to distribute 4000 questionnaires: Mississauga Recreation and Parks Department, Sault Ste Marie YW/YMCA, Northfield Racquet Clubs, Skyline Club, Variety Village, University of Toronto, Thornhill Community Centre, Mayfair Tennis Club, Sports Clubs of Canada, Etobicoke Olympium.

The facilities returned 802 complete retrospective questionnaires, a 20% return rate. Of the 802 completed questionnaires, 211 respondents reported injuries. This represents a 26% injury rate among respondents. This is simply a prevalence injury rate that specifies the total number of injuries (new or old) that exist at a specific point in time relative to their non-injured peers. This is in contrast to an incidence rate which specifies the number of new injuries occurring during a specified time period. These definitions are consistent with rate definitions used by epidemiologists and defined by Dr. William Powell, Chief of Behavioral Epidemiology at the Atlanta Centre for Disease Control.

The prevalence injury rate of 26% reported here does not consider all possible facility members as respondents because a number of these people never participate; inclusion of these people causes the bias mentioned earlier. The rate reported only indicates prevalence among those people who volunteered to participate in this study. While this statistic has limitations to inferences beyond the sample, it does not suffer from extrapolations that might provide a rate that underestimates injury prevalence.

This injury rate, while limited in generalization, is not confounded by the use of over all participation rates. To illustrate, a study that samples six fitness classes of fifty participants each and asks only for the response from participants who have suffered injury may result in fifty self-reported injuries. If one calculates the injuries as a proportion of the over all sample (i.e., 50/300) then the injury rate is 16%. This is not necessarily accurate because it considers the fifty reporting injured volunteers as a proportion of the whole sample. In fact, there could be another thirty or more injured respondents who chose not to report. Thus the real injury rate is greater than the rate calculated for the study sample.

In the Retrospective Study we still have the problem of self-reporting. However, the injury rate is at least based upon a common sample of injured plus uninjured volunteer respondents. It can be argued that there are also possible biases in this rate. For example, one could argue that the questionnaire response rate of the injured participants is higher than that of uninjured participants because having an injury encourages the former person to complete a questionnaire more than it encourages the response of a non-injured individual. This argument is speculative for several reasons. First, over the previous nine months (i.e., term of reference of the original study) was the time frame for reporting injuries. However, people injured earlier than this (but not injured when responding to the questionnaire) could also have been drawn to complete the questionnaire, thus increasing the non-injured response rate. Second, the encouragement of a high level of response in facilities was done by advertising the study. The study was advertised as a fitness safety study. Thus both injured and non-injured people interested in safety would be drawn to respond for safety reasons. Also, the advertising encouraged both injured and uninjured respondents to partake, thus removing the possibility that people would think only the injured were allowed to respond.

A more legitimate response bias that is unavoidable in most studies using most methodologies is that of volunteer respondents. These data are from a more compliant population of individuals who, for the most part, use their facility on a regular basis. They are compliant in the sense that they wish to volunteer information of interest. Thus the sample is less likely to contain people who are not interested in fitness, fitness safety or fitness injury. These people cannot be forced to respond.

It should be noted that all these selective response possibilities could normally be present in a volunteer sample. However, there is not strong reason for us to believe such biases were distributed in the sample in other than random fashion across several facilities in different municipalities.

Results

Facility Survey: Significant Observations

There were 124 completed survey questionnaires returned (28% return rate) from facilities representing a variety of facility types and uses. The most significant observations from this survey are summarized here.

a) Staff

The facilities were asked to indicate the number of staff employed at their facilities as well as the qualifications of their full-time and part-time staff. The significant observations were:

- 32% of the facilities reported no medical or paramedical personnel on the facility staff;
- 54% of the facilities reported no program staff with the CFC qualification; and
- 26% of the facilities reported no staff with a First Aid qualification.

The associations between facility injury rate and selected staff qualifications were examined in multi-use facilities, using categories of high injury rate (greater than or equal to 0.8) and low injury rate (less than or equal to 0.57).

Significant relationships were found for the following:

- full-time PFLC (Chi-Square (2) equals 9.64, p<0.008)
- part-time PFLC (Chi-Square (2) equals 7.18, p<0.002)
- full-time CFC (Chi-Square (2) equals 10.90, p<0.004)
- part-time CFC (Chi-Square (2) equals 10.62, p<0.005)

These relationships, however, are to be expected, given the reported distribution of full-time and part-time staff. There are few instances of facilities reporting more than 1 qualified staff member.

b) Emergency Equipment

The facilities operated were asked to report the emergency equipment available at their facility, using a 5-item emergency equipment index. The most significant observation was that 17% of the facilities had two or fewer of the emergency equipment items.

c) Screening

The facility operators were asked to identify the procedures used to screen and monitor the health status of their fitness participants. The most significant observation was that 59% of the facilities reported using two or fewer of the screening procedures included on the 5-item screening index and 31% reported using one procedure or none at all.

Concerning screening, (an a priori practice with respect to injury) there is no marked association between injury rate and degree of screening.

d) Safety Signs

The facility operators were asked to report the presence of safety signs in their activity areas. It was observed that the range in safety sign use was great. High risk activity areas reported a use of safety signs less than 100%. For example, in multiple-use facilities, 53% reported gyms displaying safety signs, 41% reported signs in dance/aerobic areas and 82% in squash courts.

e) Injury Rates

An injury rate for the responding facility operators was calculated, based on hours of operation. The calculated injury rate was 349 injuries per 100 hours of operation. Of particular note was the rate for multiple-use facilities, 570 injuries per 100 hours of operation.
In the Prospective Study, there were 70 injuries reported from 23 facilities (97 sites) with a total participant membership of 140,000. The small number of injuries reported increases the difficulty in making definitive observations. However, there are indications of trends which can be used to support both the Facility Survey and the Retrospective Study.

- **Type and Location of Injury**
  - The injured participants were asked to report the type and location of their injuries.
  - 36% of the injuries reported were strains or sprains.
  - 25% of the injuries reported were to the ankle.

- **Activity During Injury**
  - In reporting the activity in which they were participating at the time of their injury, 25% of the participants reported squash and 22% aerobics.

- **Experience in Activity**
  - When asked to indicate their experience in the activity in which they were injured, 30% reported 1-3 years experience and 45% reported 4 or more years experience.

- **Treatment**
  - The injured participants were asked to indicate where they received treatment, who administered the treatment, what the treatment was and the time of treatment:
    - 58% of the injured participants were treated at the site of their injury.
    - 36% of the injured participants were treated by a physician and 46% by facility staff. In some cases, this represents multiple treatment administration.
    - Treatment administered included: ICE (ice, compression, elevation) - 71%; reduced activity - 38%; first aid - 27%; rest - 24%.
    - 67% of the participants reported receiving treatment within one hour of their injury.

- **Room/Area at Time of Injury**
  - The injured participants were asked to report the room or area where their injury occurred. The areas/rooms of highest injury frequency were gymnasia - 37% and court areas -16%.

- **When Injury Occurred**
  - In reporting the activity period in which their injury occurred, 70% of the participants indicated they were injured during the activity.

- **Type and Location of Injury**
  - The most frequently administered treatments were ICE - 53% and reduced activity - 49%

- **Room/Area at Time of Injury**
  - 29% of the participants reported treatment was administered at home and 25% at a physician's office.

- **Experience and Fitness Level**
  - When asked if they had lost time from their fitness activity or work/school due to their injury, 41% reported losing 0 - 3 days from fitness activity and 79% reported losing no work/school time. There would appear to be little economic impact due to the injuries reported.

- **Lost Time**
  - 14% in weight training.

- **Activity during Injury**
  - The predominant injuries occurring during aerobics, squash and weightlifting are overuse and strain injuries. These relationships showed a marginal significance. [Chi-Square (5) =9.42, p<0.10]

- **Supervision**
  - When asked about staff supervision, 34% of the injured participants reported that the area or class was unsupervised at the time of their injury.

- **Facility Survey and Retrospective Study**
  - The information on the injured participants was examined to determine possible relationships between the type and location of injury and the number of hours of activity per week, for both males and females. There were no significant relationships. (For full data, see Other Study Results -Retrospective Study, In
  - When examining the relationship between injury type/location on the body and hours of activity per week, it was observed that there was a marginally significant relationship for females between activity levels less than 10 hours/week and overuse and strain injuries. [chi-Square (15)=22.43, p<0.03] Back and knee injuries occurred most frequently in both males and females.

- **Room/Area at Time of Injury**
  - The injured participants were asked to indicate the room or the area where the injury occurred. High risk areas appear to be the gymnasia, where 25% of the injuries reported occurred, squash courts (19%) and weight rooms (14%). While only 9% of the injuries reported were in designated aerobic areas, it should be noted that there is likely significant aerobic activity in the gymnasia areas.

- **Activity during Injury**
  - In examining the relationship between injury type/location on the body and hours of activity per week, it was observed that there was a marginally significant relationship for females between activity levels less than 10 hours/week and overuse and strain injuries. [chi-Square (15)=22.43, p<0.03] Back and knee injuries occurred most frequently in both males and females.
Historical Overview

1987

The FSSC was established to advise the Government of Ontario on matters pertaining to the development of safety standards for the fitness industry. The Ministry of Tourism and Recreation directed the Committee to specifically:

- have representation from a cross-section of the fitness service delivery community including both for-profit and not-for-profit agencies. In addition, there was to be two members from the Ministry, including one representative from the Fitness Section and one from the Community and Safety Initiatives Section of the Sports and Fitness Branch.

- coordinate the development of safety standards for the fitness industry including standards relating to equipment, training and experience required by professional staff working in the fitness industry, and operating standards that will ensure the safety of participants.

- investigate the nature and incidence of injuries in the fitness industry including the collection of research on the frequency, type and cause of injuries.

- recommend a means by which those individuals participating in fitness activities can be assured that reasonable care has been taken to ensure their safety and an indication of the acceptability of such recommendations by the fitness industry.

The FSSC attests that the above conditions were attended to properly.

Previous Documentation Concerning Fitness Safety:

A number of investigators have previously detailed the incidence of injuries incurred during a variety of fitness related activities. Although their findings have served to underline the problem, they were based, for the most part, on retrospective surveys and did not provide details on contributing factors which could serve as a basis for safety standards.

In addition, there had been several Coroner’s Inquests in the province of Ontario which examined deaths in fitness related activities. The recommendations from these inquests were considered by the FSSC in its development of safety standards.

The 1986 Ontario Fitness Injury Survey, which is detailed in the Report of the Ontario Sports Medicine Safety Advisory Board, identified a number of concerns pertaining to safety in the fitness industry. Some of these concerns dealt with:

- the qualifications of fitness appraisers
- the lack of standardization in the preparation of fitness leaders
- the absence of certification for fitness leaders
- the lack of cardiopulmonary resuscitation training and First Aid training for fitness appraisers and fitness leaders
- the lack of client screening for contraindications to exercise
- the absence of guidelines or standards for facility construction and equipment maintenance

The most common injuries suffered during fitness appraisals, fitness classes and exercise programs were related to:

- overuse and impact shock
- improperly warm up and progression
- type of flooring and improperly selected footwear
- incorrect performance of exercises as a result of inadequate instruction and supervision
- improper screening to identify those individuals with conditions for which certain fitness regimens are contraindicated
- exercise levels set beyond the capability of the participants

The authors of the above report, J. Griffin of George Brown College and N. Gledhill of York University, and the Ontario Sports Medicine Safety Advisory Board called for the establishment of professional standards and guidelines in several areas, including qualifications of personnel, client screening and supervision, facility operation, and exercise program design.

Representation on the FSSC:

The membership of the FSSC was established by requesting the major interest groups in the fitness community (representing both for-profit and not-for-profit sectors) to name a representative. Members were also solicited from other related groups which had expressed a desire to improve safety in the fitness industry, such as health care professionals, the disabled community, educators, and professional associations.

The FSSC contacted many non-governmental organizations which were interested in improving and promoting safety in the fitness industry and resolving the problems associated with fitness injuries. Many of these groups wished to become full members of the Committee, however it was decided that corresponding Membership status would be offered to the groups/associations which could not be offered full membership on the FSSC. The following accepted the invitation:

- Squash Ontario
- Canadian Manufacturers Association (Ontario Branch)
- Canadian Standards Association
- St. John’s Ambulance of Metropolitan Toronto
- The JF Group
- Ontario Public Health Association

A special effort was made to involve the disabled community in developing the standards. Offers of voting membership were made to several prominent associations for the mentally and physically disabled. Interest and appreciation was expressed by these groups, but they were unable to name a representative to the FSSC. Approximately half way through the mandate, the Committee requested that Dr. Bert Taylor, a university professor who acts in an advisory role to several disabled groups, become a member of the Committee and solicit feedback from the disabled community. Dr. Taylor distributed the minutes and proposals of the FSSC extensively throughout the disabled community, but only modest feedback was received. Therefore, the FSSC regretfully advised the MTR that the disabled community may not be adequately considered in the proposed Standards, Guidelines and Recommendations, and it may be necessary to direct additional attention to this concern.

Overview of the Deliberations of the Committee:

The FSSC received its mandate in August of 1987. The issues outlined below, were taken into consideration and the final report was submitted to the Ministry of Tourism and Recreation on February 28, 1990.

A) Establishing the Basis for Standards

Because of the social and economic impact of fitness injuries and the necessity of finding proper and lasting solutions to many of the dilemmas faced by the fitness community, it was decided that wherever possible, recommendations for safety standards should be based upon strong epidemiological evidence. However the Committee recognized that at times it was necessary to recommend safety standards based on face validity. In the latter instances, it was deemed essential that such standards be reviewed and approved by as broad a representation of the fitness community as possible.

B) Approach: Voluntary Compliance

The FSSC had been advised through their legal council that:

- whereas the constituencies which are represented on the FSSC were identified by the MCCR as being representative of the fitness community, and
- whereas the members of the FSSC who represent the various constituencies and involved their constituency fully in establishing the safety standards, and
• whereas many other major fitness related groups were invited to become corresponding members and were sent periodic updates informing them of the work of the FSSC and requested to provide feedback on FSSC proposals,

• then it can be anticipated that the standards developed by the FSSC will be recognized as the acceptable standards of safety in matters concerning fitness related safety issues.

The recommended approach to be taken in implementing Fitness Safety Standards is one of voluntary compliance. Prudent managers will comply with the standards to avoid safety problems. Since the fitness community was fully involved in establishing the safety standards, it is anticipated that the implementation of these standards will be acceptable to all members of the fitness community, and hence, voluntary compliance should be successful. However, it is recommended that the success of this approach be evaluated in not less than three or more than five years after the implementation of the standards.

C) Defining the Problem
Public participation in physical activity (sport and fitness) has increased considerably over the past two decades. There have been both social and economic benefits to Ontario from this participation. However, accompanying this trend toward greater participation in sport and fitness is the concern that there may be an increase in the number and severity of injuries.

A number of concerns have arisen out of these observations, namely
• the personal suffering and hardship on the individual and his/her family
• the cost to the Ontario health care system
• the negative impact on participation.

Committee members identified a number of specific concerns with regard to fitness safety standards, some of which include:
• developing a profile of the fitness industry
• establishing a sense of what fitness services are available
• determining how the education system can be used to promote fitness safety
• the health care benefits of safety
• the desirability of voluntary compliance to enforce safety standards
• the problems of implementing and safeguarding standards across all regions of the province and what the effects might be on the profit and not-for-profit sectors of the fitness industry.

Committee members also recognized that the final recommendations must take various forms. For example, the most appropriate manner of presenting safety standards related to the construction of fitness facilities might be as Recommended Guidelines, whereas the safety procedures for the operation of facilities and qualifications of personnel might best be stated as Standards.

At the outset of its mission, the FSSC sought to define the terminology to be used during its deliberations and in the report. To this end, the Committee produced a lexicon of working definitions (see Glossary of Definitions). An important clarification was the term Minimal (as a minimal standard). Minimal is to be interpreted as the appropriate level which the FSSC agrees must be met, leaving open the ability to exceed the minimal standard with even higher standards.

D) FSSC Objectives
1. To establish safety standards pertaining to the provision of fitness related services, including but not limited to:

   Fitness Facilities:
   A) Public, Private/Commercial centres such as:
   Private fitness clubs
   Resorts and spas
   Public fitness clubs

   Golf and country clubs
   Hotels and motels
   Dance studios
   Condominiums, apartments, and rental dwellings
   Not-for-profit agencies
   Corporate fitness centres
   Sport specific studios (karate, tae kwon do, etc.)

   B) Educational Institutions such as:
   Pre-Schools
   Elementary Schools
   Secondary Schools
   Private Schools
   Colleges and Universities

   C) Community Facilities such as:
   Community Centre Halls
   Church Halls
   Rental Facilities
   Senior Citizen Homes/centres
   Youth Clubs
   Fitness Services
   Personal Fitness Consulting
   Master’s Athletic Programs
   Clinical Exercise Programs
   Employee Fitness Programs
   Holistic Health Offerings
   Wellness Programs
   Pre-Natal and Post-Natal Classes

2. To establish safety standards pertaining to the qualifications, conduct and continuing professional development of fitness related personnel including, but not limited to the following, and solely in relation to the provision/counseling of fitness activities and services:
• Fitness appraisers
• Fitness leaders and physical activity instructors
• Personal fitness consultants and counselors
• Facility operators/administrators/supervisors

3. To establish safety standards pertaining to fitness-related environments including, but not limited to:
• Indoor and outdoor facility design, maintenance and operation
• Equipment design, maintenance and operation
• Signs
• Participant responsibility

4. To establish safety standards for the use of approved emergency equipment and procedures pertaining to fitness related activities and facilities.

5. To establish safety standards pertaining to the screening of participants planning to engage in fitness related activities.
6. In establishing safety standards, to consider and to include the fitness related activities of special populations including, but not limited to the following:

- the physically and intellectually disabled and developmentally handicapped
- symptomatic individuals
- special age groups

7. In establishing safety standards, to consider and to include the fitness related activities of those with infectious diseases.

8. To make recommendations concerning the promotion, communication and implementation of the fitness safety standards developed by the FSSC along with a plan for evaluating the effectiveness of the implementation.

9. To identify and address concerns pertaining to the impact of the print and broadcast media as it presents information, programs and advertising on fitness that could adversely affect safe participation in physical activity by citizens of Ontario.

E) Criteria to be Applied When Considering Potential Standards

The Committee developed the following list of criteria which were applied when considering the establishment of potential safety standards.

- Does it lead to safety?
- Is it a standard?
- Is it practical/usable?
- Is it realistic?
- Is it attainable?
- Is it justifiable? (i.e. based on a concern which needs to be addressed?)
- Is it focused (both specific and succinct)?
- Is it measurable (able to be monitored)?
- Is it equitable (applicable to all; no favoritism; e.g. regional considerations)?
- Is it accessible/available?
- Is the potential economic impact reasonable?
- Is the time frame for implementation realistic?
- Is it generally acceptable to the fitness community?
- Is it valid?

F) Literature Review on Fitness Injuries

Reports and articles on fitness injuries were researched and reviewed. Issues and problems related to fitness injuries were identified and considered. The major problems identified in past studies related to two main themes: physical injuries and related predisposing factors. The physical problems were identified as injuries to the musculoskeletal system, specifically the lower extremities (foot, ankle, shin, knee, and lower back). Injuries occurred due to overuse, improper body mechanics in the performance of an exercise and exercising at a level to which the body had not yet become accustomed. These injuries could be overcome by lessening the frequency of exercise, insisting that the participant begin the exercise regimen at a lower intensity and ensuring that the exercise progression is appropriate.

The predisposing factors identified in the literature indicated a number of basic trends, especially; poor instructor training/qualifications, poor facility design/maintenance, and poor program design. These problems might be overcome by having properly trained and qualified personnel, better facility design, and enhanced program planning. Another organizational concern is the education of the fitness consumer in such areas as; choosing a facility, proper footwear and clothing, and appropriate programming. On the question of the facility/injury relationship, there is conflicting evidence as to the role floor surfaces and footwear play in the incidence of fitness injuries. It appears that improper technique in performing exercises and inappropriate progression are the more likely causes of injury.

G) Research Commissioned by the FSSC

An extensive literature review and consultations with both interest groups and epidemiologists convinced the FSSC that the material needed by the Committee, upon which to base the need and subsequent evaluation of safety standards, did not exist. It was evident that a more realistic and comprehensive understanding of the fitness injury problem was needed before appropriate standards could be formulated. A major problem with the existing literature was the lack of an adequate statistical base from which recommendations could be developed. Therefore, the FSSC commissioned a research project to be conducted by Fraser Shaw Consultants. The purpose of the project was to better define and quantify the incidence, severity and predisposing factors to fitness related injuries in Ontario.

The objectives of the fitness injuries study were as follows:

1. To design and conduct a combined prospective and retrospective study to determine the nature, incidence and severity of injuries experienced by participants in fitness activities in Ontario’s fitness facilities.
2. To identify, quantify and compare personal, environmental and activity-specific factors associated with fitness injuries and their correlation to existing safety standards or the lack thereof.
3. To propose guidelines or standards which are likely to reduce the incidence and/or severity of fitness injuries.

The FSSC stipulated that the study must be epidemiologically designed. A summary of the Fitness Injury Survey may be found in the Articles and Research Papers, Appendix-C.

H) Organization of the First Document

The Fitness Safety Standards Report outlined Standards, Guidelines and Recommendations for each of the major operating components within the Ontario fitness industry, namely:

- Qualifications of personnel who provide fitness related services
- Training and recognition of fitness consultants
- Training and recognition of fitness leaders
- Screening and informing participants planning to engage in fitness activities
- Special exercising populations and concerns
- Management of communicable diseases in fitness facilities
- Construction, operation and maintenance of fitness-related environments
Industry Compliance Survey Results Summary
Prepared for the: Fitness Safety Advisory Council  April 18, 2002

SURVEY METHODOLOGY
• Cross-sector/region contact list
• Telephone survey - April 1 - 12, 2002
• 340 successful surveys
• Data tabulation and analysis
• Results summary

RESPONSES BY REGION
About 50% of facilities in all regions are less than 10,000 sq. ft.

RESPONSES BY SECTOR
• Commercial represents 72% of total responses
• Municipal/charitable/education facilities tend to be bigger
• Commercial clubs tend to be smaller

STAFFING -
FITNESS AREA PERSONNEL
• 88% of respondents staff fitness areas
• NE only region below the average compliance (76%)

FIRST AID QUALIFICATIONS
• 84% of respondents qualify 75% or more of their fitness staff with first-aid
• No regional deviation

CPR QUALIFICATIONS
• 89% of respondents qualify 75% or more of their fitness staff with CPR
• No regional deviation
CSEP PROGRAM QUALIFICATIONS
- Less than half of all respondents qualify 50% or more of their fitness staff through the CSEP Program
- No regional deviation

NFLAC PERFORMANCE STANDARDS
- 67% of respondents use certifications other than NFLAC
- Can-Fit-Pro, YM & YWCA most popular alternatives

PERSONAL TRAINERS OFFERED
- On average 75% of facilities offer Personal Training
- No regional deviation

PERSONAL TRAINER CERTIFICATIONS
- Can-Fit-Pro most popular in all sectors except workplace (CPTN)
- Can-Fit-Pro most popular in all regions

PRE-SCREENING - COMPLIANCE
- 80% of all respondents use pre-screening methods
- No deviation by region

METHODS
- Par Med X and Par Med X for pregnancy used least often
- NW and SW use Par Q and Par Med X about half as frequently as the other regions
### APPRAISAL BEFORE PROGRAM
- On average, 75% of members are appraised before a program in 50% of facilities
- No regional deviation

### SPECIAL POPULATIONS MEDICAL ADVICE
- 82% (pregnancy) and 72% (70+ yrs.) general compliance
- No regional deviation

### MAX TESTING
- Less than 30% of facilities offer max testing
- About 40% of tests are supervised

### USE OF INFORMED CONSENT
- Informed consent used most often for facilities
- Martial Arts uses for programs most often
- NW uses less often than other regions

### SIGNAGE - VISIBLE IN HIGH RISK AREAS
- 78% general compliance
- Martial Arts facilities comply least often

### FITNESS APPRAISAL OFFERED
- 77% offer appraisals
- No regional deviation
**EMERGENCY PROCEDURES - PLANS**
- 86% average compliance
- Generally practised once or twice per year

**EMERGENCY KITS, ETC.**
- Very little sectoral deviation
- No regional deviation

**COMMUNICABLE DISEASES**
- Overall 48% compliance
- No regional deviation

**EMERGENCY PROCEDURES - PLANS**
- 86% average compliance
- Generally practised once or twice per year

**EMERGENCY KITS, ETC.**
- Very little sectoral deviation
- No regional deviation

**COMMUNICABLE DISEASES**
- Overall 48% compliance
- No regional deviation

**AWARENESS**
- 52% of respondents aware of standards
- E (40%) and CW (44%) regions least aware
1. How IMPORTANT/RELEVANT is Standard #1 as a fitness industry safety practice?

- Very important: highly relevant, highest priority
- Important: higher relevance
- Slightly Important: lower relevance
- Unimportant: no priority or relevance

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<thead>
<tr>
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<tr>
<td>Important</td>
<td>30%</td>
</tr>
<tr>
<td>Slightly important</td>
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<tr>
<td>Unimportant</td>
<td>5%</td>
</tr>
</tbody>
</table>

No Judgement: I am not that certain about any of the above choices.

I need more Forum discussion on this.

2. How FEASIBLE/WORKABLE is Standard #2 as a fitness industry safety practice?

Definitely Feasible: easy to implement; no R&D required; fitness industry very likely to comply
Possibly Feasible: seems workable; some R&D required; problems with voluntary compliance
Possibly Unfeasible: may be unworkable; difficult to implement or practice

<table>
<thead>
<tr>
<th>Feasibility Level</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definitely feasible</td>
<td>70%</td>
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<tr>
<td>Possibly feasible</td>
<td>20%</td>
</tr>
<tr>
<td>Possibly unfeasible</td>
<td>10%</td>
</tr>
</tbody>
</table>

No Judgement - I am not that certain about any of the above choices.

I need more Forum discussion on this.

3. NOW WHAT? Should Standard #3 be:

- Retained as is? 25 50.0%
- Retained with changes? (see next question for options) 20 40.0%
- No Judgement: More Forum discussion needed 0 0.0%
- Removed completely? 0 0.0%

4. SUGGESTED CHANGES: What changes would you suggest for Standard #4?

Change the wording to: (use comments box) 10 16.7%
Change Standard #4 to a Recommended Guideline 6 10.0%

5. NEW PROPOSAL: If Standard #5 has prompted you to suggest a new, but closely related Standard or Recommended Guideline in this topic area, it would be to create:

A new Recommended Guideline (enter proposed wording in Comments box) 6 10.2%
I want to explore my idea as a post-survey Forum Topic (briefly describe your idea in the Comments box) 4 6.8%
A new Standard (enter proposed wording in Comments box) 4 6.8%
Canadian Fitness Safety Standards, 3rd ed.

The awareness of the body’s limits and capabilities helps in building a better balance between the body and the soul.

The Canadian Fitness Safety Standards in Alberta were first to be offered in Alberta. Our excellent Protections and Safety Staff take great pride in what they do. We pride ourselves on our strong commitment to our clients and the safety of our patrons in the Alberta fitness industry. Our comprehensive Fitness Files chart covers this in great detail and serves as our data source to ensure we keep you informed and benefit from the many years of experience in the future generations of fitness staff.

CPTP/Certified Personal Trainer Practical Exercise Program, 2nd ed. (2008) is a problem-solving approach for conducting physical activity programs within a safe therapeutic environment. The program is designed to teach participants how to design, implement, and evaluate physical activity programs that are safe, effective, and enjoyable for all participants. It focuses on the safe and effective use of fitness equipment and exercises to achieve fitness goals.

CPTP-Certified Personal Trainer (CPTP) is a nationally recognized certification for personal trainers. It is designed to provide an understanding of the safe and effective use of fitness equipment and exercises, and the ability to apply this knowledge to design and implement programs that are appropriate for a variety of clients.

CPTP-Certified Personal Trainer - Best in Practice (CPTP-BIP) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs. It provides additional knowledge and skills in areas such as injury prevention, client assessment, and program design.

CPTP-Certified Personal Trainer - Advanced (CPTP-ATP) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs to clients with special needs, including those with disabilities.

CPTP-Certified Personal Trainer - Performance (CPTP-PF) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for athletes and sports performance.

CPTP-Certified Personal Trainer - Leadership (CPTP-CL) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for leadership roles within the fitness industry.

CPTP-Certified Personal Trainer - Corporate (CPTP-C) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for corporate and industrial clients.

CPTP-Certified Personal Trainer - Senior (CPTP-S) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for senior clients.

CPTP-Certified Personal Trainer - Virtual (CPTP-V) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for online and virtual clients.

CPTP-Certified Personal Trainer - Military (CPTP-M) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for military clients.

CPTP-Certified Personal Trainer - Education (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for educational clients.

CPTP-Certified Personal Trainer - Nutrition (CPTP-N) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for nutrition clients.

CPTP-Certified Personal Trainer - Mindfulness (CPTP-M) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for mindfulness clients.

CPTP-Certified Personal Trainer - Rehabilitation (CPTP-R) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for rehabilitation clients.

CPTP-Certified Personal Trainer - Special Populations (CPTP-SP) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for special populations clients.

CPTP-Certified Personal Trainer - Customization (CPTP-C) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for customization clients.

CPTP-Certified Personal Trainer - Personal Training (CPTP-P) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for personal training clients.

CPTP-Certified Personal Trainer - Small Group Training (CPTP-SGT) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for small group training clients.

CPTP-Certified Personal Trainer - 1-on-1 (CPTP-1) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for 1-on-1 clients.

CPTP-Certified Personal Trainer - Youth (CPTP-Y) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for youth clients.

CPTP-Certified Personal Trainer - Fitness (CPTP-F) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for fitness clients.

CPTP-Certified Personal Trainer - Exercise (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for exercise clients.

CPTP-Certified Personal Trainer - Start (CPTP-S) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for start clients.

CPTP-Certified Personal Trainer - Train (CPTP-T) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for train clients.

CPTP-Certified Personal Trainer - Coach (CPTP-C) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for coach clients.

CPTP-Certified Personal Trainer - Lead (CPTP-L) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for lead clients.

CPTP-Certified Personal Trainer - Guide (CPTP-G) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for guide clients.

CPTP-Certified Personal Trainer - Mentor (CPTP-M) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for mentor clients.

CPTP-Certified Personal Trainer - Expert (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for expert clients.

CPTP-Certified Personal Trainer - Leader (CPTP-L) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for leader clients.

CPTP-Certified Personal Trainer - Advocate (CPTP-A) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for advocate clients.

CPTP-Certified Personal Trainer - Support (CPTP-S) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for support clients.

CPTP-Certified Personal Trainer - Innovator (CPTP-I) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for innovator clients.

CPTP-Certified Personal Trainer - Developer (CPTP-D) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for developer clients.

CPTP-Certified Personal Trainer - Entrepreneur (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for entrepreneur clients.

CPTP-Certified Personal Trainer - Engineer (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for engineer clients.

CPTP-Certified Personal Trainer - Designer (CPTP-D) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for designer clients.

CPTP-Certified Personal Trainer - Developer (CPTP-D) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for developer clients.

CPTP-Certified Personal Trainer - Entrepreneur (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for entrepreneur clients.

CPTP-Certified Personal Trainer - Engineer (CPTP-E) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for engineer clients.

CPTP-Certified Personal Trainer - Designer (CPTP-D) is a national certification for personal trainers who are highly skilled in the safe and effective delivery of fitness programs for designer clients.
Canadian Fitness Safety Standards, 3rd ed. 150

Canadian Fitness Safety Standards, 3rd ed. 151

YMCAs in Canada

YMCA's are Canada's largest contributor to the health of people in spirit, mind and body, and a source of responsibility to each other and the global community.

The YMCA has been active in health and fitness in Canada since 1858. YMCAs in Canada have been leaders in physical education and for over 100 years. The national fitness leadership certification program was launched in 1978.

YMCA's offer opportunities for people of all ages and abilities to develop new skills, meet new people, gain confidence, learn leadership development, child care development, and equipment training, wellness management and more.

Certification of YMCA fitness professionals provides an assurance to the YMCA Fitness professionals and staff in the YMCA, that they maintain the necessary balance and quality and YMCA value based training.

YMCA can be an active partner in the voluntary sector and participate in the following Canadian MAEC, CACP-CAK, forums on child and youth health and other organizations that promote health for all ages.

Fitness Leadership Certification

The YMCA offers national certification for fitness leaders in three disciplines; group fitness, aquatic fitness and individual conditioning. All programs are described in detail throughout this manual.

The programs are designed to ensure opportunity for participants to learn technical information, as well as have ample time to practice skills in a safe and enjoyable environment.

The certification pathway is a five stage process for YMCA fitness professionals.

Stage 1: Basic Theory Course
10 hours

Stage 2: Participant CPR
12 hours

Stage 3: Aquatic Training
12 hours

Stage 4: Personal Trainer Certification
20 hours

Stage 5: Fitness Leadership Certification
40 hours

Assessment is a two day practical training in a formal setting, with all peer and supervisory reviews and tests.

The YMCA requires ten (10) years of experience as a fitness professional or equivalent.

Certification valid for two years

Re-certification

After completion of the theory course and assessment, a current YMCA Fitness Trainer is required to successfully complete 10 hours of continuing education every two years, for a total of 20 hours of continuing education every two years.

Accreditation is a significant feat in personal achievement. It requires dedication and hard work to meet the needs of the local community.

The YMCA may determine that the YMCA Fitness Leadership course and what it offers in terms of value add to the needs of the local community.

The YMCA Fitness Leadership course is designed to meet the needs of the local community.

Title Earned: YMCA Fitness Leader

CITATION

Citation: This page contains a list of all the references and sources used in the document. It is formatted in APA style, with authors, titles, and publication information included.

WaterART Fitness Inc.

Julie Teighan
111 Fitness Blvd.
Dr. Z. 11
Toll Free: 1-800-200-300
Tel: (650) 623-123
Fax: (650) 623-123
Web: www.waterart.com

WaterART is the integration of exercise with water. WaterART is a unique and effective form of exercise that helps burn calories, build strength and sculpt muscle. It helps help the professional effectively coach clients to achieve optimal results with individualized programs featuring exercise progressions. Each program focuses on "why" we do the exercise and "how" to make the exercise safe, effective and enjoyable.

We are rapidly developing our resources for the fitness industry for the fitness profession. Our training manuals, coaching and educational products are a visual road map for growth and education. It is a form of great opportunity and challenge. Many participants are coming to the fitness industry for this career opportunity. Certification is becoming a standard tool around the world and growth opportunities are available for the aquatic fitness professional. We have developed WaterART's (Programs from Four) Comprehensive Certification Programs as well as three (4) Specialty Certification Programs to help you further develop and specialize your skills and position based on researched information. For the experienced instructor looking to become WaterART's Certified, there is also the WaterART System Instructor Certification.

Core Water Fitness Certification (16 hour program)

1. WaterART Instructional Certification
2. WaterART Student & Support Personnel Instructor Certification
3. WaterART Personal Training Specialist Certification
4. WaterART Rehabilitation Specialist Certification
5. WaterART Weight Management Consultant Certification
6. WaterART Aquatic Therapy Certification
7. WaterART Aquatic Resistance Certification
8. WaterART Contusion-Displacement Land Instructor Certification
9. WaterART Exercise Ecology Instructional Certification
10. WaterART Cycling and Cardiovascular Instructor Certification
11. WaterART Body Composition Certification
12. WaterART Grand Master Certification

"The Application of Science in Aquatic Exercise" - Our certification program takes you through a system that helps you understand the differences between "Water Fitness" and "Aquatic Fitness".

"Aquatic and WaterART Fitness Evaluation and Programming" - WaterART provides a systematic approach to WaterART Fitness.

Certification is the application of science in Aquatic Exercise by the water and its ability to aid the body and mind.

Educational Objectives

1. To understand the science of exercise and its application to aquatic fitness.
2. To understand the application of science to aquatic fitness.
3. To understand the application of science to aquatic fitness.
4. To understand the application of science to aquatic fitness.
5. To understand the application of science to aquatic fitness.
6. To understand the application of science to aquatic fitness.
7. To understand the application of science to aquatic fitness.
8. To understand the application of science to aquatic fitness.
9. To understand the application of science to aquatic fitness.
10. To understand the application of science to aquatic fitness.

WaterART fitness certification provides a unique opportunity to learn about the science of exercise and its application to aquatic fitness. It is a valuable tool for individuals who are looking for opportunities to improve their fitness and health through the use of Aquatic exercise.

WaterART fitness certification is a unique opportunity to learn about the science of exercise and its application to aquatic fitness. It is a valuable tool for individuals who are looking for opportunities to improve their fitness and health through the use of Aquatic exercise.
<table>
<thead>
<tr>
<th>Geographical Limits</th>
<th>Membership Required</th>
<th>Annual Membership Fees</th>
<th>Number of Years Active</th>
<th>Length of Initial Certification Course</th>
<th>Education Prerequisite</th>
<th>CPR</th>
<th>First Aid</th>
<th>Other Prerequisite(s)</th>
<th>Exam Theory and/Or Practical</th>
<th>Cost</th>
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<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
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</tr>
</tbody>
</table>

*Note: The above table represents the certification requirements for different regions. Please check with local authorities for the most accurate information.*
## Exercise Safety

### Standards

By Andy Clarke

Injuries and possibly deaths are always a potential risk whenever people engage in exercise. In most instances, such injuries and fatalities can be averted with the proper use of prevention techniques. The law however dictates that facility owners and managers that mean are being responsible for their facility, must provide a safe environment for their clients by acting in a manner that is reasonable and due care and attention to those who are exercising. As stated earlier, the only place in which there is a duty of care is in the aspects of fitness equipment, fitness services, and fitness training. Injury prevention is the basis for the standards that are set for all fitness facilities and fitness equipment in Canada. The Standards and Recommended Practices are published by the Canadian Fitness Safety Standards Association (CFSSA). The Standards and Recommended Practices are intended to provide guidance on the operation and management of all fitness facilities in Canada. The Standards and Recommended Practices are intended to provide guidance on the operation and management of all fitness facilities in Canada.

### Specialties Offered

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Description</th>
<th>Certification</th>
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<tbody>
<tr>
<td>Cardiovascular Training</td>
<td>Training for cardiovascular health</td>
<td>CPR, First Aid</td>
</tr>
<tr>
<td>Strength Training</td>
<td>Training for muscle strength</td>
<td>NASM, ACSM</td>
</tr>
<tr>
<td>Flexibility Training</td>
<td>Training for flexibility</td>
<td>yoga, Pilates</td>
</tr>
<tr>
<td>Balance and Coordination</td>
<td>Training for balance and coordination</td>
<td>Pilates, yoga</td>
</tr>
<tr>
<td>Stretching</td>
<td>Training for stretching</td>
<td>yoga, Pilates</td>
</tr>
<tr>
<td>Personal Training</td>
<td>Training for personal fitness</td>
<td>NASM, ACSM</td>
</tr>
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### Certification

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>CPR</td>
<td>Cardiopulmonary Resuscitation</td>
</tr>
<tr>
<td>First Aid</td>
<td>First Aid for Emergencies</td>
</tr>
<tr>
<td>NASM</td>
<td>National Academy of Sports Medicine</td>
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<tr>
<td>ACSM</td>
<td>American College of Sports Medicine</td>
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### Annual Membership Fees

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<th>Club Type</th>
<th>Membership Fee</th>
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<td>Medium</td>
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<tr>
<td>Large</td>
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### Conclusion

The CFSSA has established standards and recommended practices to ensure the safety of fitness facilities and clients. These standards are intended to provide guidance on the operation and management of all fitness facilities in Canada. The CFSSA standards and recommended practices are intended to provide guidance on the operation and management of all fitness facilities in Canada. The CFSSA standards and recommended practices are intended to provide guidance on the operation and management of all fitness facilities in Canada.
However, the new Standards are listed. A modification is currently being rewritten to reflect the changes and should be available in August 2004. Significant changes were made to the existing Standards document to ensure that the new Standards are relevant and feasible with the current fitness industry trends. There are now 17 Standards and 39 Recommended Guidelines. The original 100-page Standards document is being revised to reflect the changes and should be available in 2005. However, the new Standards are listed. A complete listing of the new Standards and Recommended Guidelines may be found on the OASES web site at http://www.oases.ca/standards.htm.

It is the aim of OASES to increase awareness and voluntary compliance with the Standards across Canada through a national marketing strategy to continuously be developed. If you have any questions or comments on the Standards, please contact Patricia Clark at the OASES office at patty@oases.on.ca.

Patricia Clark is the Executive Director for the Ontario Association of Sport and Exercise Sciences (OASES) and the Ontario Fitness Safety Advisory Council, a standing committee of OASES. She has worked in the field for thirty years and is a CSEP-certified Professional Fitness & Lifestyle Consultant and a Course Coordinator for the CSEP-UFC program.

**Canadian Fitness Safety Standards**

**Standard #1**

Fitness-related environments and activities shall be clean, well maintained, and free from hazards.

**Standard #2**

A clean drinking water supply shall be present at or near all physical activity areas.

**Standard #3**

A number of participants in an exercise program based on the square footage allows each participant unrestrained movement in various exercises. Participant numbers defined by building code regulations and/or fire code regulations.

**Standard #4**

Testing equipment shall be properly maintained and calibrated as required.

**Standard #5**

Wet areas shall have a non-slip surface with adequate drainage to prevent pooling of water.

**Standard #6**

Whirlpools, spas and tubs shall comply with the Recommended Standards for the Operation of Public Spas (Ministry of Health & Long Term Care Act, June 2001).

**PRE-SCREENING & INFORMED CONSENT**

**Standard #1**

Fitness service providers shall provide or require a pre-activity screening procedure (e.g. PAR-Q or appropriate signage)

**Standard #2**

Fitness service providers shall provide or require a pre-activity screening procedure (e.g. PAR-Q or appropriate signage)

**Standard #3**

Fitness service providers shall recommend that pregnant women obtain medical advice regarding their participation in physical activity.

**Standard #4**

Fitness service providers shall recommend individuals 70 years of age and over receive medical advice before initiating a physical activity program or becoming much more physically active.

**Standard #5**

Maximal testing of individuals who:

- a) are not accustomed to regular strenuous exercise,
- b) are males over 40 years of age, or
- c) are females over 50 years of age shall be conducted under the supervision of either a physician or personal current appraisal certification and ACLS, (Advanced Cardiac Life Support) FBCC

**Approved by:**

Fitness Safety Advisory Council OASES Board of Directors

August 2004
SAFETY STANDARDS

Fitness Safety

This is the first in a series of articles discussing the rationale and importance of the newly revised Canadian Fitness Safety Standards by DIANE DODDS, PFLC

Over the past three decades, there has been a phenomenal increase in both the variety of fitness services available to the public and the personnel who offer these services. In the 1970s, a fitness appraisal was a rare and sought-after commodity, available primarily in the university setting. A typical class often consisted of simple warm-up exercises, a group run, and a cool-down. Music was an addition luxury. The fitness class was usually led by a casual, part-time instructor who may or may not have met qualification standards.

Today’s fitness programs are far more extensive in nature and scope. It’s a “big business.” Private clubs with piped in music, rows of satellite dish television sets, a seemingly endless array of highly specialized exercise and cardiovascular equipment, compete aggressively for customers. Most facilities provide personal trainers and offer fitness appraisals and monitoring in a variety of forms.

Fitness classes now come in as many varieties—cardio-sculpting, fitness ball, deep-water running, step, RISU, ball, and Therdura are just a sampling of fitness methods emerging from the last three decades. It’s hard enough to keep up with the terminology, let alone acknowledge or recommend a standardized certification for everyone who seeks to instruct or provide individualized services in such diverse settings, disciplines and circumstances.

The skills and knowledge that fitness leaders are expected to master have also grown exponentially. Fitness directors must train and hire specialized personnel in each of the vast array of fitness specialties, in high-risk fitness-activity classes. Consumers demand variety and expertise, and good fitness centers are constantly in the process of expanding and upgrading their offerings to meet these demands.

Today’s vast array of fitness opportunities, underscores the need to ensure that fitness staff are certified in the area with which they are offering programs. In Canada alone, there are now at least 60 reasonably bona fide certifying agencies for fitness practitioners to access.

In the past, it was relatively easy to pick one or two such agencies as a simple “certification standard.” Now, many credible standards exist depending on the leadership expertise required. “A one size fits all” approach to hiring fitness staff is no longer relevant. Ensuring that all fitness personnel are both knowledgeable and skilled is a daunting task in itself. Unfortunately, certification criteria vary within the fitness leadership training industry. There is still a strong need for the fitness industry itself to set a minimal knowledge and skill threshold that is sufficiently rigorous. Until then, the certification standards (noted in the sidebar) is, at best, a minimal standard that all who hire fitness personnel are encouraged to meet or exceed.

The Fitness Safety Standards and Recommended Guidelines, which were developed by the Ontario Association of Sport and Exercise Sciences (OASiS), outline two standards and four recommended guidelines in the area of Pre-screening and Informed Consent.

Please take a moment to review them and see if your facility is doing everything it should. Someone’s life could depend on it. FBC

SAFETY STANDARDS

PRE-ScreenING AND INFOMED CONSENT

The new 3rd edition of the Canadian Fitness Safety Standards® for fitness facilities is a more compact and practical document that can better help facility managers in the day-to-day management of safety issues.

By Paul Compton, PFLC
City of Vaughan, Area Recreation Manager-West

If only a question of time before a fitness centre will have to deal with some type of accident or emergency situation. Proper pre-screening and informed consent can help prevent accidents in the first place and mitigate the circumstances surrounding serious situations when they occur.

This is the fourth in a series of articles that highlight sections of the recently revised 3rd edition of the Canadian Fitness Safety Standards. Pre-screening and informed consent are issues where this practical guide can help facility managers ensure that they are doing all they can to protect customers.

Many incidents are predictable and preventable by pre-screening and obtaining an informed consent, simply because both the individual and the facility have the health and risk information they need. Pre-screening also provides essential medical information that could help direct a more appropriate response by staff and EMS in case of an emergency situation.

In the event of death in a fitness centre, the first question that should be asked is: “Did this individual receive appropriate pre-screening for possible health risks?”

“Did we do all we could and should to communicate safe exercising guidelines that may have prevented this death?”

Deaths have occurred in facilities where no pre-screening or informed consent was in place. Afterwards, when it’s too late to change what has already happened, facility personnel feel the tremendous and now impossible task of rationalizing why no steps were taken to ensure the safety of their patrons.

Facilities will always be able to prevent sudden catastrophic incidents in exercising environments, but when exercising on cardiovascular equipment. He was pre-screened by his physician, had completed an informed consent, and was appropriately advised of exercise principles by his fitness trainer. The fitness centre did everything it could reasonably do in terms of providing pre-screening, informed consent, signage, and qualified staff.

The Canadian Fitness Safety Standards® and Recommended Guidelines, which were developed by the Ontario Association of Sport and Exercise Sciences (OASiS), outlines two standards and four recommended guidelines in the area of Pre-screening and Informed Consent.

Please take a moment to review them and see if your facility is doing everything it should. Someone’s life could depend on it. FBC

The entire Canadian Fitness Safety Standards® can be viewed at www.CanadianFitnessMatters.ca.

The Canadian Fitness Safety Standards® have been launched by OASiS, (Ontario Association of Sport and Exercise Sciences) with a new program and website.

To register your facility for free on the new consumer on-line fitness facility directory website please visit www.CanadianFitnessMatters.ca. You may also apply to be recognized for your compliance with the Canadian Fitness Safety Standards®.

Standards for Pre-Screening and Informed Consent

Standard #1
Fitness service providers shall provide or require a pre-activity screening procedure (e.g., PAR-Q or appropriate signage)

Standard #2
Facility operators and other fitness service providers shall inform participants of the risks inherent in physical activity participation and fitness facility usage.

Reprinted with permission of Fitness Business Canada
Some exercisers are at higher risk for injury than others and require more intensive screening and guidance to stay injury-free. Be sure you're current on guidelines and recommendations when working with pregnant women, non-exercisers over 70 and max-test participants.

By PAUL COMPTON

Pregnant Women

As the 25th week of pregnancy approaches, pregnant women should reduce the intensity and duration of exercise. A continued reduction in intensity should follow and lead to the eventual elimination of abdominal exercise altogether until after the birth is born. Fluid intake is especially important. Pregnant women should also be advised to guard against overloading the body through the physical demands of the pregnancy.

Most pregnant women who exercise regularly seek their doctors’ approval to ensure they are not facing any unusual risks. Nevertheless, they should be screened to ensure they have taken this action.

Women pregnant with twins are considered high risk and must be very careful while exercising during pregnancy.

Non-Exercisers Over 70

Other individuals can face unique challenges: decreased mobility, cardiovascular disease, high blood pressure, diabetes, arthritis, and mental deterioration. Since all of these increase in likelihood with age and have exercise-related issues, these individuals clearly require medical advice before beginning an exercise program.

Max-Test Participants

People participating in maximal tests are also considered a special exercise population because of the tremendous strain the tests put on the body. The age threshold for close monitoring by a certified individual is based on one exercise. Qualified supervision is not required for other individuals (e.g., high school students) providing they have been properly screened. (See “Standard #3” in sidebar for details on qualifications of supervisors.)

The Canadian Fitness Safety Standards document can be viewed at www.canadianfitnessstandards.ca/BC.

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Canadian Fitness Safety Standards"
Communicable Diseases 2005: The New Normal

Dr. Bob Grisdale, MSc, DC
Andrew Popadopoulos, MBA, CPHI(C)

In the Canada Fitness Safety Standards & Recommended Guidelines, there is a critical need for a new framework to address public health concerns and ensure the safety of fitness facilities. This new framework recognizes the increasing risk of communicable diseases and the importance of complying with all applicable national, provincial, and local guidelines.

The new guidelines emphasize the importance of proactive measures to prevent the spread of communicable diseases within fitness facilities. This includes enhancing communication with members, implementing rigorous cleaning and sanitization protocols, and ensuring all staff are trained in infection control practices.

Communicable diseases are a major concern in the context of public health, and fitness facilities must take proactive steps to minimize the risk of transmission. By following these guidelines, fitness facilities can help protect the health and well-being of all members while maintaining a safe and enjoyable environment for everyone.

Ask Andy

Andrew Popadopoulos, MBA, CPHI(C)
Director, School of Occupation and Public Health
Ryerson University, Toronto

Questions and Answers: "Dust the Facts, Please!"

Dark Ewing - What is the hierarchy of responsibility with regard to public health and communicable diseases in the province of Ontario?

Andy - The hierarchy of responsibility with regard to public health and communicable diseases in Ontario is as follows:

1. Local Public Health Units
2. Provincial Public Health Services
3. Federal Health Canada

Local Public Health Units are responsible for providing public health services and promoting health within their local communities. Provincial Public Health Services work with local units to develop and implement public health policies and programs. Federal Health Canada is responsible for setting national public health priorities and coordinating federal public health initiatives.

What legislation speaks specifically to the operation and management of fitness facilities in the context of public health?

The Public Health Act (PHA) provides the legal framework for public health in Ontario. The PHA outlines the responsibilities of local public health units and the powers and duties of public health officers. It also contains provisions related to the operation and management of fitness facilities, including licensing requirements, health and safety standards, and reporting obligations.

Fitness facilities are required to comply with the PHA and its regulations, as well as any additional provincial or local health regulations that may apply. Failure to comply with these requirements can result in legal consequences, including fines and closure orders.

Can you provide an example of how a fitness facility could be held liable for a communicable disease outbreak?

Yes, if a fitness facility fails to meet its obligations under the PHA and other relevant public health laws and regulations, it may be held liable for a communicable disease outbreak. For example, if a facility fails to implement effective cleaning and sanitization practices, resulting in the transmission of a communicable disease among its members, it could be held liable for resulting injuries or damages.

Fitness facilities must ensure that their operations comply with all applicable public health laws and regulations. Failure to do so may result in legal liability and damages.

How can fitness facilities ensure compliance with public health regulations?

Fitness facilities can ensure compliance with public health regulations by:

1. Developing and implementing written policies and procedures that meet all applicable public health requirements.
2. Providing ongoing training to all staff on infection control practices and other public health-related topics.
3. Establishing a system for reporting communicable disease cases to local public health units.
4. Regularly monitoring and maintaining all cleaning and sanitization equipment.
5. Implementing effective communication strategies to inform members about public health concerns and preventive measures.

By following these steps, fitness facilities can help protect the health and well-being of their members and ensure compliance with all applicable public health regulations.
Fitness Safety

- Should fitness facility operations concern fitness facilities in the maintenance of their facilities, to the degree that their actions (or lack) may be the cause of a communicable disease outbreak. It is critical for the owner or operator of a fitness facility to ensure that the swimming pool and whirlpool are operating in accordance with the regulations. This includes regular testing of the free available chlorine and pH, and very importantly, ensuring the 150 mm black disc is visible from any point on the deck 50 m away. It is the responsibility of the pool operator to close the pool to public access if it is not compliant with the Public Pool Regulations.

- What are the main areas of potential liability?

- The greatest of potential liability for fitness facility operators can arise if they are found not be complaint with any regulations as it relates to the “Recommended Standards for the Operation of Public Space” (Ontario Ministry of Health & Long Term Care Act, June 2001). Liability may also arise if the owner or operator of a fitness facility is found negligent in the maintenance of their facility, to the degree that their actions (or lack) may be the cause of a communicable disease outbreak.

- Final Words?

- Communicable disease can be transmitted in many ways. New diseases are being discovered and their pattern of transmission may be unknown. It is therefore critical to use Universal Precautions at all times when dealing with body fluids or other material that may contain pathogens. FRC

Safety Environment

Part of New and Improved Standards

The new 3rd edition of Canadian Fitness Safety Standards® for fitness facilities is a more compact and practical document that can better help facility managers in the day-to-day management of safety issues. The revised fitness environment section is a great example of this functional evolution.


There are also 15 Recommended Guidelines that may be viewed at www.canadafitnessmatters.ca
1) All fitness related environments and equipment shall be clean, well maintained, and free from hazards.
2) Access to a clean drinking water supply is required at or near all physical activity areas.
3) The number of participants in an exercise class is based on the square footage that allows each participant unrestricted and safe movement in various types of exercises. Participant numbers may also be defined by building code restrictions and/or fire code regulations.
4) All fitness testing equipment shall be checked, cleaned and calibrated as required.
5) Floors in wet areas shall have a non-slip surface with adequate drainage to prevent pooling of water.
6) Whirlpools, spas and tubs shall comply with the Recommended Standards for the Operation of Public Space (according to provincial standards).
7) Electrical panels shall be covered. Receptacles located in wet areas of a building and associated with the pool, such as a locker and change room, require ground fault circuit interrupters of the Class A Type.
8) A fire alarm system shall be installed in accordance with the Whirlpool and Spa Regulation by building code requirements. Por

The Canadian Fitness Safety Standards® have been launched by OASES, (Ontario Association of Sport and Exercise Sciences) with a new program and website. To register your facility for the Gold Standard, go to www.canadafitnessmatters.ca

Fit, Fun and Safe Environment

The Fitness Environment Standards are available on-line as part of the complete 3rd edition of Canadian Fitness Safety Standards® at: www.canadafitnessmatters.ca

The Canadian Fitness Safety Standards® have been launched by OASES, (Ontario Association of Sport and Exercise Sciences) with a new program and website. To register your facility for the Gold Standard, go to www.canadafitnessmatters.ca

The Fitness Environment Standards are available on-line as part of the complete 3rd edition of Canadian Fitness Safety Standards® at: www.canadafitnessmatters.ca

The Canadian Fitness Safety Standards® have been launched by OASES, (Ontario Association of Sport and Exercise Sciences) with a new program and website. To register your facility for the Gold Standard, go to www.canadafitnessmatters.ca
ROLE OF AEDS IN THE CHAIN OF SURVIVAL

An AED is a device that incorporates a rhythm-analysis system and a shock-advise system for victims of cardiac arrest (1). The AED advises a shock, and the operator must take the final action to deliver the shock. The International Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (2) conclude that early CPR is the best treatment for cardiac arrest until the arrival of an AED and advanced cardiac life support care. The chain of survival includes a series of actions designed to reduce mortality associated with cardiac arrest. Early CPR plays an important role in the chain of survival that includes the following links: 1) early recognition of cardiopulmonary arrest, 2) early CPR, 3) early defibrillation when indicated, and 4) early advanced cardiac life support care (3). Early CPR can prevent ventricular fibrillation from deteriorating to asystole; may increase the chance of successful defibrillation, contributes to the preservation of heart and brain function, and significantly improves survival (4). Importantly, for victims of sudden, shockable cardiac arrest (ventricular fibrillation or pulseless ventricular tachycardia), the single greatest determinant of survival is the time from collapse to defibrillation. A recent review (17) summarizes the data comparing the time-between shock and first responders in three of five studies. A survival rate, among victims of witnessed ventricular fibrillation cardiac arrest, as high as 90% has been reported when defibrillation is achieved within the first minute of collapse (8,11,14,15,21). The International Guidelines (2) conclude that public access defibrillation (PAD) accomplished by the use of AEDs contributes to urgent and effective resuscitation by trained laypersons who may be key intervention to significantly increase survival from an out-of-hospital cardiac arrest. Two recent observational studies report impressive results regarding the effectiveness of PAD in persons with witnessed cardiac arrest, who are in ventricular fibrillation, with AED placement in casinos (20) and on airplanes (19). The cardiac arrest survival rates to discharge from the hospital were 53% and 46%, respectively.

CARDIOVASCULAR RISKS OF EXERCISE

The AHA/ACSM Recommendations (5,6) provide details regarding the cardiovascular risks of exercise. It is clear that the risk of adverse cardiovascular events including death (i.e., heart attack) is greater among those individuals with cardiovascular disease than among presumably healthy individuals (5,6,9). As the demographics of the more than 30 million individuals who exercise at health/fitness facilities demonstrate a steady increase in the number of members older than 35 yr (approximately 55% of the AHA/ACSM membership) (10,16), it is reasonable to presume that the number of members with cardiovascular disease (and other comorbidities) is rising as well. Although there are no data regarding the incidence of cardiac arrest at health/fitness facilities, two recent surveys provide some important insight. A large database consisting of more than 2.9 million members of a large commercial health/fitness facility chain demonstrates 71 deaths (mean age 52 ± 13 yr; 61 men, 10 women) occurring over a 2-year period, yielding a rate of 1 death/100,000 members/year. The death rate was highest among those members who exercised less frequently, such that nearly half of exercise-related deaths were in those who exercised less than once/week (12). The cardiac arrest rate was not reported but was probably similar to the death rate. A recent survey of 65 randomly chosen health/fitness facilities in Ohio (18) reports the occurrence of sudden cardiac arrest or heart arrest of 7% of facilities during a 5-year period. Notably, only 3% of facilities had an AED on site. Thus, it is prudent to conclude that health/fitness facilities should be considered among the sites in which PAD programs should be established.

RECOMMENDATIONS

It is essential to acknowledge that emergency equipment alone does not save lives. The ACSM/AHA Recommendations (5,6) emphasize the importance of written emergency policies and procedures that are reviewed and practiced regularly. Well-trained health/fitness facility staff members are essential to maintain strong links in the chain of survival for their clients. Effective placement and use of AEDs at all health/fitness facilities (Table 1: levels 1–5) is encouraged, as permitted by law, to achieve the goal of minimizing the time between recognition of cardiac arrest and successful defibrillation. Until further definitive data are available, AED placement is strongly encouraged in those health/fitness facilities with a large number of members (i.e., membership > 2500; > median size health/fitness facility [16]), those that offer special programs to clinical populations (i.e., programs for the elderly or those with medical conditions [level 4]) (note that in level-5 facilities, current equipment standards require defibrillators [5,6,22]), and
those health/fitness facilities in which the time from the recognition of cardiac arrest until the first shock is delivered by the EMS is anticipated to be > 5 minutes. In unprovided exercise rooms (level-1 facilities), such as those that might be located in hotels, apartment complexes, or office buildings, the AED should be part of the overall PAD plan for the host facility. At least, an unsupervised exercise room should have a telephone available in the room with clearly posted numbers to call in case of emergency. In supervised settings, it is essential that designated health/fitness facility staff members who are trained in CPR be present during all hours of operation. CPR should be initiated as soon as a cardiac arrest is recognized and should be continued until the AED is placed on the victim and is activated. In cases of cardiac arrest not due to ventricular fibrillation (VF) or pulseless ventricular tachycardia (VT), AEDs are of no value; and CPR must be maintained. Also, after successful termination of VF/pulseless VT, the rescuer must prepare to assist with support ventilation and circulation with chest compressions as needed until the arrival of EMS personnel.

Therefore, the establishment of a PAD at all health/fitness facilities is encouraged. This plan should include the following:

- **Have written emergency policies and procedures that are practiced regularly (i.e., at least once every 3 months).**
- **Designate staff members who are trained in CPR and AED use to meet the health/fitness facility setting during all hours of operation.**
- **Train staff to recognize cardiac arrest.**
- **Activating EMS – an emergency response team at the entrance of the facility so that they can be promptly guided to the victim.**
- **Provide CPR.**
- **Attach/operate AED (detailed instructions are provided by the specific equipment manufacturer and general guidelines are included in the Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (1)).**
- **The use of AEDs in infants and children < 8 yr of age is not recommended (1).**

Health/fitness facilities should coordinate their PAD program with the local EMS, because many dispatch systems use local phone-directed protocols to assist rescuers in the use of AED and may notify local EMS en route that an AED is being used at the scene. Moreover, the local EMS may assist with program planning and quality improvement, including medical direction, AED deployment and protocols, training, monitoring, and review of AED events (1). Emergency staff should be practiced at least once every 3 months or more often when staff changes occur (5.6). When new staff are hired, new team arrangements may be necessary. The simulated use of AEDs in drills offers the best opportunity for skills maintenance: Maintaining the AED device in proper working condition according to the manufacturer’s recommendations is essential. PAD programs must comply with local or regional regulation and legislation.

**COSTS**

Details regarding the technical aspects of AEDs are available elsewhere (1,17). At present, the cost of an AED is approximately $3000–$4500 per unit. It is expected that the price of AEDs will likely decrease as their use becomes more widespread. The National Heart Lung and Blood Institute (NHLBI), in partnership with the AHA and industry, is conducting a multisite, controlled, prospective study to determine the efficacy and cost-effectiveness of placing AEDs in a variety of public settings. A recent independent study (13) has demonstrated that a program of placing AEDs on large (>200 passenger) and medium (>100 passenger) capacity aircraft attain generally accepted levels of cost-effectiveness. However, the cost-effectiveness of AED deployment is smaller aircraft (e.g., the First Class use and support ventilation and circulate with chest compressions as needed until the arrival of EMS personnel.

**SUMMARY OF KEY POINTS**

- **The Cardiac Arrest Survival Act and the Rural Access to Emergency Devices Act, as components of the federal Public Health Improvements Act of 2000, as well as Good Samaritan laws passed in 47 states, expands Good Samaritan legal protections to users of AEDs throughout the nation.**
- **The placement of AEDs in selected locations for immediate use by trained laypersons in public places is an out-of-hospital cardiac arrest.**
- **The chain of survival includes a series of actions designed to reduce mortality associated with cardiac arrest and includes the following links: 1) early recognition of cardiopulmonary arrest, 2) early CPR, 3) early defibrillation when indicated, and 4) early advanced cardiac life support care.**
- **Well-trained health/fitness facility staff members are essential to maintain strong links in the chain of survival for these scenarios.**
- **Effective placement and use of AEDs at all health/fitness facilities (Table 1: levels 1–5) is encouraged, as permitted by law, to achieve the goal of minimizing the time between recognition of cardiac arrest and successful defibrillation.**
- **Until further definitive data are available, AED placement is strongly encouraged in those health/fitness facilities with a high frequency of members (i.e., membership > 2,500); those that offer special programs to clinical populations (i.e., programs for the elderly or those with medical conditions (level 4)); and those health/fitness facilities in which the time from the recognition of cardiac arrest until the first shock is delivered by the EMS is anticipated to be > 5 minutes. In unprovided exercise rooms (level-1 facilities), such as those that might be located in hotels, apartment complexes, or office buildings, the AED should be part of the overall PAD plan for the host facility.**

**REFERENCES**


8. **FLETCHER, G. F., and J. D. CANTWELL. Ventricular fibrillation in a 8 yr of age (i.e., membership > 2,500); those that offer special programs to clinical populations (i.e., programs for the elderly or those with medical conditions (level 4)); and those health/fitness facilities in which the time from the recognition of cardiac arrest until the first shock is delivered by the EMS is anticipated to be > 5 minutes. In unprovided exercise rooms (level-1 facilities), such as those that might be located in hotels, apartment complexes, or office buildings, the AED should be part of the overall PAD plan for the host facility.**

**ADDITIONAL RESOURCES**


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12. **FLETCHER, G. F., and J. D. CANTWELL. Ventricular fibrillation in a 8 yr of age (i.e., membership > 2,500); those that offer special programs to clinical populations (i.e., programs for the elderly or those with medical conditions (level 4)); and those health/fitness facilities in which the time from the recognition of cardiac arrest until the first shock is delivered by the EMS is anticipated to be > 5 minutes. In unprovided exercise rooms (level-1 facilities), such as those that might be located in hotels, apartment complexes, or office buildings, the AED should be part of the overall PAD plan for the host facility.**

**ADDITIONAL RESOURCES**


V\textsuperscript{2}\textsubscript{O}peak Prediction and Exercise Prescription for Pregnant Women

MICHELLE F. MOTTOLA\textsuperscript{1}, MARGIE H. DAVENPORT\textsuperscript{2}, CHANTALLE R. BRUN\textsuperscript{1}, STUART D. INGELS\textsuperscript{1}, R. SAMUEL CHARLESWORTH\textsuperscript{1}, and MAGGIE M. SOPPER\textsuperscript{1}

\textsuperscript{1}Exercise and Pregnancy Laboratory, School of Kinesiology, Faculty of Health Sciences and \textsuperscript{2}Department of Anatomy and Cell Biology, Schulich School of Medicine and Dentistry, The University of Western Ontario, London, Ontario, CANADA

ABSTRACT

MOTTOLA, M. F. M., H. DAVENPORT, C. R. BRUN, S. D. INGELS, S. CHARLESWORTH, and M. M. SOPPER. \textit{V\textsuperscript{2}\textsubscript{O}peak Prediction and Exercise Prescription for Pregnant Women}. Med. Sci. Sports Exerc., Vol. 38, No. 8, pp. 1389–1395, 2006. Purpose: The present study was designed to develop and validate a prediction equation for peak oxygen consumption (V\textsuperscript{2}\textsubscript{O}peak) using a progressive treadmill test and to refine the current target HR exercise guidelines for pregnant women (PARmed-X). Methods: One hundred fifty-six women between 16 and 22 wk of gestation performed the test to volitional fatigue (peak exercise test). Data collected from every subject were used to form the cross-validation group. The woman were separated into two age groups: 20-29 (N = 60) and 30-39 (N = 96) of age and then further separated into fit (V\textsuperscript{2}\textsubscript{O}peak at the top 25th percentiles), unfit (V\textsuperscript{2}\textsubscript{O}peak at the bottom 25th percentiles), and within these two ranges, HR and V\textsuperscript{2}\textsubscript{O}peak values used in the regression equation to predict target HR ranges at 60 and 80% V\textsuperscript{2}\textsubscript{O}peak. Results: The prediction equation (R\textsuperscript{2} = 0.72, \textit{t}-value 0.71, and \textit{P} = 0.001) was compared levels with cross validation (N = 39, \textit{P} = 0.030). Fit women had V\textsuperscript{2}\textsubscript{O}peak = 27 mL min\textsuperscript{-1} kg\textsuperscript{-1} and 26.1 mL min\textsuperscript{-1} for ages 20-29 and 30–39 yr, respectively, representing the top 25th percentiles. Unfit women had a V\textsuperscript{2}\textsubscript{O}peak of \textit{21.0 mL min\textsuperscript{-1}} and \textit{19.6 mL min\textsuperscript{-1}} respectively, representing the bottom 25% percentiles. HR/V\textsuperscript{2}\textsubscript{O}peak regression lines for each fitness level were used to generate the target HR zones in each age group. Conclusion: This is the first study to provide a validated prediction equation of V\textsuperscript{2}\textsubscript{O}peak for pregnant women using a progressive treadmill exercise test. The defined target HR zones based on age and the appropriate fitness levels can be used for exercise prescription in healthy pregnant women. Key Words: EXERCISE, PREGNANCY, GUIDELINES, TARGET HR

The latest medical advice from the American College of Obstetricians and Gynecologists (ACOG) states that low-risk pregnancy can participate in moderate exercise for 30 min \textsuperscript{-1} on most, if not all, days of the week (1). Although this advice promotes exercise during pregnancy in the United States, it does not give women concrete target HR guidelines for exercise. The PARmed-X guidelines for exercise during pregnancy are found in the PARmed-X for Pregnancy document (2). This document was recently modified from the American College of Sports Medicine (ACSM) recently endorsed the SOGC/CSEP joint position document (3) which suggests that pregnant women exercise between 60 and 80% of their aerobic capacity; these V\textsuperscript{2}\textsubscript{O}peak values were determined for the two age groups (20-29 y and 30–39 y) within each of the three fitness levels (fit, active, unfit) increased significantly during exercise pregnancy (4). We used a validated prediction equation (5) to volitional fatigue (peak exercise test). We used a modified Balke protocol because of the 2-4 min stages that allow pregnant women time to adjust to each new work rate. Sixteen to 22 wk of gestation were chosen to represent the most appropriate gestational age for testing. By this time, the symptoms of pregnancy (nausea, vomiting, fatigue, etc.) are usually minimal, and women have had medical approval to exercise. All women had low-risk pregnancies with no contraindications to exercise. Written informed consent was obtained from each participant. The human research ethics board for health sciences at the University of Western Ontario approved the protocol. To ensure adequate maternal blood glucose for the duration of the test, 1 h prior to the start of the exercise session, each participant ingested a standard meal (38g carbohydrate, 14.2 g protein, 124 g milk, and 3.2 g fat) and was required to eat and measure within the nearest centimeter and kilogram, respectively. Room temperature was maintained at 20°C with 55% humidity. Prior to each exercise test, the SensorMedics (Yorba Linda, CA) V\textsuperscript{2}\textsubscript{O}peak 2001 breath-by-breath gas analysis unit was calibrated according to company instructions, using two tanks of calibration gases (tank 1 4% carbon dioxide and 16% oxygen; tank 2 26% oxygen, 0% carbon dioxide; 5% carbon monoxide; SensorMedics), with an accuracy of 0.100 for the oxygen and carbon dioxide analyzer. The flow sensor meter was calibrated to a 3.0-L calibrator standard (Room temperature). The acceptable range for calibration was within \pm 2% variability. Preexercise respiratory gases were collected for 5 min while women performed light activity to establish a continuous monitoring of oxygen consumption. HR was recorded via four ECG leads (SensorMedics, V\textsuperscript{2}\textsubscript{O}peak 2001c). The test began with a 5-min warm-up at 3 mph (4.8 km h\textsuperscript{-1}), 0% grade. This is generally considered a normal walking pace (7). During the test, the treadmill speed was held constant at this pace (3 mph), with the incline increased every 2 min to 2% until volitional fatigue. If fatigue was not reached by 12% than the speed was increased slightly (by 0.2 mph (0.3 km h\textsuperscript{-1}) at each stage) until volitional fatigue was reached. At the start of each stage (within 30 s), the subject rated her perceived exertion using the Borg scale (7). Once volitional fatigue was reached (Borg-ratedlake of 0 or maximal on a 10-point scale; in 5-s from 0 to 15 s). During the test, the treadmill speed was maintained at this pace and while the treadmill was used to recover respiratory gases were collected for five additional minutes. During the test, subjects were instructed to lightly grip the hand rail at all times (6). Peak V\textsuperscript{2}\textsubscript{O}peak was determined from the average of the last 30 s of the breath-by-breath analyses recorded by the computer software, once volitional fatigue was reached (14). The 156 women were separated into two groups; one to develop the equation (N = 117) and a second to cross- validate the equation (N = 39). Every fourth subject was removed from the subject pool to form a cross-validation group (6). The 156 women were separated into two age groups: 20-29 (N = 60) and 30-39 (N = 96) yr of age. Each age group was further separated into fit, active, and unfit. Fit women were defined as having a \textit{VO}\textsubscript{peak} > 25% percentile for their age group (13). Unfit women were defined as having a \textit{VO}\textsubscript{peak} > 25% percentile for their age group, and active women were between these two ranges. A linear regression was performed between peak HR and V\textsuperscript{2}\textsubscript{O}peak for each of the six groups. Because the Canadian guidelines (21) suggest that pregnant women should exercise between 60 and 80% of their aerobic capacity; these V\textsubscript{2}\textsubscript{O}peak values were determined for the two age groups (20-29 y and 30–39 y) within each of the three fitness levels (fit, active, unfit) increased significantly during exercise pregnancy (4). Statistical analysis. Statistical analysis included subject characteristics (mean \pm SD) and Pearson product-moment correlations to measure the relationship between variables. Correlations (R') were adjusted for the degrees of freedom in the model. A nonparametric Mann-Whitney U-test and an independent samples t-test were used to determine significant differences between predicted and measured V\textsuperscript{2}\textsubscript{O}peak. A multiple linear regression was used to develop the V\textsuperscript{2}\textsubscript{O}peak prediction equation and the HR equations. Significance was accepted at \textit{P} \leq 0.05. All analyses were performed on SPSS software. RESULTS

Subjects. Subject characteristics of the equation-generated and the cross-validation groups are summarized in Table 1. No significant differences were found in the variables measured. The exercise parameters (distance at peak, peak speed at peak incline, HR, and VO\textsubscript{2peak}) were positively correlated with the exercise (P < 0.01).
parameters measured (Table 2). Based on these results, multivariate linear regression was found to have the best results in predicting VO2peak with BMI, speed at peak, peak incline, and HR. Thus, the following equation was developed to predict VO2peak = VO2peak (predicted) = (0.055 × peak HR) + (0.381 × incline) + (5.541 × speed (mph)) + (−0.090 × BMI) − 6.846, where peak HR is in bpm, incline is the percent, and BMI (kg/m²) is calculated at the time of the test. Analysis of this equation found that R² = 0.72, R²adjusted = 0.71, and SEE = 2.7 when this equation was used to predict VO2peak in the cross-validation group (N = 39), the P value was 0.78, actual value was 23.5 ± 5.9, and predicted value was 23.9 ± 4.03 mL/kg/min. Women were considered fit if they had a VO2peak ≥ 27.2 mL/kg·min⁻¹ and ≥ 26.1 mL/kg·min⁻¹ for ages 20-29 and 30-39 yr, respectively, representing the 75th percentile. Unfit women had a VO2peak of ≤ 21.0 mL/kg·min⁻¹ and ≤ 19.6 mL/kg·min⁻¹, respectively, representing the bottom 25th percentile. Table 3 compares the characteristics of women aged 20–29 yr who were fit, active, and unfit. Unfit women in this age range had a higher BMI (29.8 ± 1.2 kg/m²) than fit women (22.9 ± 0.7 kg/m²) but not different than the active women (26.3 ± 1.1 kg/m²). The BMI of the fit women was not different from that of the active women. The unfit women in this age group had a higher peak HR (160.3 ± 2.3 bpm) and the fit women (175.1 ± 1.6 bpm; P < 0.05). Figure 2 shows the regression lines and target HR zones for the fit and unfit women in this age group. No differences were found between age groups within fitness levels (unfit, active, and fit) for BMI, peak HR, and VO2peak (P > 0.05). These similarities between age groups are reflected in the target HR zones for the unfit women; however, in the active and fit women, the target HR zones are more distinct between age groups.

**DISCUSSION**

This is the first study to provide a validated prediction equation of VO2peak for pregnant women between 16 and 22 wk of gestation. Fitness professionals who do not have access to a metabolic cart can use this prediction equation to estimate peak aerobic capacity in this population of healthy pregnant women who have been medically pre-screened (21), including BMI values at 16–22 wk of pregnancy. The defined target HR zones based on age and fitness levels can be used for exercise prescription as we have further refined the target HR zones from the PARmed-X for Pregnancy document (21).

The fit women in our cohort have aerobic capacities similar to those described by Longerier et al. (14), who reported an average value of 36.2 mL/kg·min⁻¹ VO2peak (calculated) at 16 wk of gestation and an average maximum HR of 180 ± 2 bpm using a treadmill test. These authors defined maximum aerobic power as the presence of two of the three following criteria: 1) oxygen consumption increase < 5% in response to an exercise intensity increase, 2) HR increase < 5% in response to an exercise intensity increase, and 3) RER > 1.4. The slightly lower values for our women may be due to our peak versus their maximal testing protocol and the larger range in gestational age for our women (16–22 wk). When fitness levels, previous activity of the subjects, or gestational ages are not controlled, VO2peak values can range from 20.2 to 39.1 mL/kg·min⁻¹, and maximum HR can range from 167 to 197 bpm during cycle ergometry, between 20 and 34 wk of gestation (16). Maximal oxygen consumption in the cycle ergometer study was defined as the highest VO2 achieved at volitional fatigue (16), which we have defined as peak oxygen consumption in our study. Top-level athletes of national and international caliber at 15–19 wk of gestation had a VO2max range of 27.4–40.8 mL/kg·min⁻¹ in a medium-volume exercise group (12) and 38.5–52.6 mL/kg·min⁻¹ in a high-volume exercise group tested on a cycle ergometer (12). The maximum HR ranged from 179 ± 9 to 181 ± 6 bpm, respectively (12). The fit women in the present study were in the top 25 percentile of our cohort, but none were elite athletes. The women above our cutoff points of ≥ 27.2 mL/kg·min⁻¹ and ≥ 26.1 mL/kg·min⁻¹ for our younger and older age groups, respectively, are within the ranges reported for fit women (12,14,16), although the mode of assessing aerobic capacity differed between studies.

The target HR range based on age from the PARmed-X for Pregnancy document (21) suggests that between the ages of 20 and 29 yr, low-risk, medically pre-screened women can safely exercise at 135–150 bpm, reflecting 60–80% of aerobic capacity (18). Data from our cohort of active pregnant women (132–152 bpm) agree with the Canadian guidelines for this age group. For fit pregnant women, these HR guidelines may not reflect 60–80% of maximum aerobic capacity. This is apparent from the target HR zones from our women in the top 25 percentile, who present a target HR zone of 145–160 bpm, which represents 60–80% of peak aerobic capacity for this cohort. To confirm appropriate intensity, these exercise parameters were calculated from step-to-step VO2 values (34,45). Significant at the 0.05 level (two-tailed).
prescription HR should be coupled with the “talk test” (enabling a pregnant woman to carry on a conversation without being out of breath) and the RPE scale suggested in the PARmed-X for Pregnancy document for monitoring intensity, “somewhat hard” (12–14 on the 20-point scale, or 3–4 on the 10-point scale) (21).

On the other end of the continuum, which includes those women who are in the bottom 25th percentile of our cohort, the target HR zones suggested from the Canadian guidelines (PARmed-X for Pregnancy) (21) may be inappropriate. These women also have higher BMI values and a lower aerobic capacity for exercise. The target HR zone for the unfit women in our cohort at 20–29 yr of age (129–144 bpm) started below the zone suggested in the PARmed-X for Pregnancy document (135–150 bpm) (21). If the suggested target HR zone from the present study was used in conjunction with the “talk test” and the RPE (12–14, somewhat hard on the 20-point Borg scale, or 3–4 on the 10-point scale) as further guides for intensity, the target HR zone (129–144 bpm) generated from the present study may be better suited for this group of unfit women. Again, by using these tools, the intensity of exercise is individualized to meet the needs of this special group of women.

Santos et al. (17) examined aerobic exercise and submaximal functional capacity in overweight pregnant women. They determined that oxygen uptake at the anaerobic threshold (AT) for women aged 27 yr with a BMI of approximately 28 kg·m⁻² at 18 wk of gestation was, on average, 16 mL·kg⁻¹·min⁻¹ with a HR at AT of 144 bpm. These data are similar to those for our unfit women in the 20–29 yr cohort who are in the bottom 25th percentile (AT data not shown).

Similarly, in our older group of women, division by fitness levels may provide more appropriate target HR zones for the women who have a lower aerobic capacity (the unfit women) with a higher BMI. On the other end of the continuum, the women with the higher aerobic capacity who are more fit may also benefit from the adjusted target HR. The target HR zone suggested for women aged 30–39 yr is 130–145 bpm (PARmed-X for Pregnancy) (21). Our cohort of active women from this age group produced a target HR zone of 125–140 bpm, which is similar to the Canadian guidelines (21). The target HR zone for the unfit women in our cohort was 128–144 bpm, representing HR at 60–80% of aerobic capacity, which also fits within the Canadian guidelines. This may be because the BMI in the unfit group was not different from the BMI of the active women in this age group. Conversely, data from the fit women in this age group produced a target HR zone of 140–156 bpm, which places the range above the Canadian guidelines and may be more appropriate for women with higher aerobic capacities. Again, the “talk test” and RPE scale should be used as additional guides for intensity prescription for all the women in this age group in order to individualize exercise prescription and confirm intensity.

In the PARmed-X for Pregnancy document, guidelines for aerobic activity include advice on frequency, intensity (already discussed), time, and type of activity (21). It is suggested that the new target HR zones reported in the present study for fit and unfit pregnant women in the 20–29 and 30–39 yr age groups be used in conjunction with the other guidelines suggested by the PARmed-X for Pregnancy (21). This would include using the “talk test” with the RPE scale to individualize the exercise prescription and confirm the exercise intensity.

Regarding structured exercise frequency, Campbell and Mottola (8) suggested that women who engaged in structured exercise ≥5 wk⁻¹ in the third trimester were 4.6 times more likely to give birth to a low-birth weight baby. In addition, they found that those women who engaged in structured exercise ≤2 wk⁻¹ in late pregnancy were 2.7 times more likely to give birth to a low-birth weight baby (8). In this case-control design study of 529 women, frequency of structured exercise during late pregnancy was found to be more important as a determinant of birth weight than intensity, and thus women are cautioned about engaging consistently in structured exercise ≥5 or ≤2 wk⁻¹ during the third trimester (8). Although the ACOG (1) suggest that pregnant women should exercise on all or most of not days of the week, we recommend that those women who are more likely to engage in structured exercise ≥5 wk⁻¹ decrease the frequency of activity to 3–4 wk⁻¹, especially in the last trimester. In addition, it is important for all medically prescreened pregnant women to consistently exercise at least 3 wk⁻¹ for the greatest health benefits.

In conclusion, this is the first study to provide a validated prediction equation of VO₂peak for pregnant women between 16 and 22 wk of gestation using a progressive treadmill exercise test. The defined target HR zones based on age and fitness level can be used for exercise prescription in healthy pregnant women who have been medically prescreened. We suggest that fit pregnant women between the ages of 20 and 29 yr who wish to exercise at 60–80% of aerobic capacity should work at a target HR of 145–160 bpm, and in the 30–39 yr age group, target HR should be between 140 and 156 bpm. We also suggest that healthy women with lower fitness levels who are medically prescreened can exercise at target HR of 129–144 bpm if they are between the ages of 20 and 29 yr, and 128–144 bpm if they are 30–39 yr old. Target HR zones for healthy active pregnant women are confirmed in the PARmed-X for Pregnancy document (21). It is also recommended that the PARmed-X for Pregnancy be used for medical prescreening in conjunction with the new target HR zones suggested in the present study for aerobic exercise guidelines of frequency, intensity, time, and type of activity.

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**TABLE 4.** Characteristics of fit, active, and unfit women aged 30–39 (n = 8; mean ± SEM).

<table>
<thead>
<tr>
<th>Age Group</th>
<th>BMI (kg·m⁻²)</th>
<th>% Body Fat</th>
<th>VO₂peak (mL·kg⁻¹·min⁻¹)</th>
<th>VO₂max (mL·kg⁻¹·min⁻¹)</th>
<th>HR (bpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>30–39</td>
<td>22.5 ± 2.7</td>
<td>18.9 ± 3.2</td>
<td>3.3 ± 1.3</td>
<td>6.6 ± 1.1</td>
<td>165 ± 7</td>
</tr>
<tr>
<td>40–49</td>
<td>24.8 ± 3.1</td>
<td>21.5 ± 4.1</td>
<td>3.6 ± 1.4</td>
<td>6.8 ± 1.2</td>
<td>160 ± 8</td>
</tr>
<tr>
<td>50–59</td>
<td>26.3 ± 4.2</td>
<td>23.8 ± 4.9</td>
<td>3.9 ± 1.5</td>
<td>7.1 ± 1.3</td>
<td>155 ± 9</td>
</tr>
<tr>
<td>60–69</td>
<td>27.8 ± 5.2</td>
<td>26.1 ± 5.8</td>
<td>4.2 ± 1.6</td>
<td>7.4 ± 1.4</td>
<td>150 ± 10</td>
</tr>
</tbody>
</table>

Note: BMI, body mass index; % body fat, percentage of body fat; VO₂peak, peak oxygen uptake; VO₂max, maximum oxygen uptake; HR, heart rate.
Definitions

1. In this Regulation,
   “automatic sensing device” means a device that,
   (a) determines and continuously displays,
       (i) sanitizer residual in a public spa’s water, and
       (ii) pH value of a public spa’s water, and
   (b) regulates the operation of chemical feeders to maintain sanitizer
       and pH levels in accordance with this Regulation;
   “circulation system” means a system that,
   (a) maintains circulation of water through a public spa by pumps,
(b) draws water from a public spa for treatment and returns it to the spa as clean water, and

(c) provides continuous treatment that includes filtration and chlorination or bromination and other processes that may be necessary for the treatment of the water;

“clean water” means water added to a public spa after treatment in the circulation system;

“daily use period” means the period of time during which a public spa is open for use in an operating day;

“deck” means the area immediately surrounding a public spa;

“hotel” means a hotel, inn, motel, resort or other building or premises operated to provide sleeping accommodation for the public;

“make-up water” means water added to a public spa from an external source;

“operating day” means a day on which the public spa is in operation and open for use;

“operator” means a person designated by the owner of a public spa as being responsible for the operation of the spa;

“owner” means a person who is the owner of a public spa;

“public spa” means a hydro-massage pool containing an artificial body of water that is intended primarily for therapeutic or recreational use, that is not drained, cleaned or refilled before use by each individual and that utilizes hydrojet circulation, air induction bubbles, current flow or a combination of them over the majority of the pool area. O. Reg. 428/05, s. 1.

Application

2. (1) In this section,

“Class A pool” has the same meaning as in Regulation 565 of the Revised Regulations of Ontario, 1990 (Public Pools) made under the Act;

“Class B pool” has the same meaning as in Regulation 565 of the Revised Regulations of Ontario, 1990. O. Reg. 428/05, s. 2 (1).

(2) This Regulation applies to the following public spas, whether or not they are operated in conjunction with a Class A pool or a Class B pool, and to all buildings, appurtenances and equipment used in their operation:

1. A public spa operated on the premises of an apartment building that contains more than five dwelling units or suites, a mobile home park or a nurses’ residence, for the use of the occupants and their visitors.

2. A public spa operated as a facility to serve a community of more than five single-family private residences, for the use of the residents and their visitors.

3. A public spa operated on the premises of a hotel for the use of the hotel’s guests and their visitors, subject to subsection (3).

4. A public spa operated on the premises of a campground, for the use of the campground’s tenants and their visitors.

5. A public spa operated in conjunction with,

   i. a club, for the use of its members and their visitors, or

   ii. a condominium, co-operative or commune property that contains more than five dwelling units or suites, for the use of the owners or members and their visitors.
6. A public spa operated in conjunction with a day nursery, a day camp or
an establishment or institution for the care or treatment of persons who are ill,
infirm or aged or for persons in custodial care, for the use of such persons and
their visitors. O. Reg. 428/05, s. 2 (2).

(3) A public spa operated on the premises of a hotel that contains five or fewer
units or suites, for the use of its guests and their visitors, is exempt from this Regulation,
if the following notice is displayed in a conspicuous place within the public spa
enclosure, printed in letters at least 25 millimetres high with a minimum five millimetre
stroke:

CAUTION
USE SPA AT YOUR OWN RISK
THIS SPA IS NOT SUBJECT TO THE REQUIREMENTS OF ONTARIO
REGULATION 428/05 (PUBLIC SPAS)

O. Reg. 428/05, s. 2 (3).

Operator, designation and training

3. (1) Every owner shall designate an operator. O. Reg. 428/05, s. 3 (1).

(2) Every operator shall be trained in public spa operation and maintenance,
filtration systems, water chemistry and all relevant safety and emergency procedures.
O. Reg. 428/05, s. 3 (2).

Use after construction, alteration or closure

4. (1) In this section,
“alteration” does not include routine maintenance or repair or replacement of existing
equipment. O. Reg. 428/05, s. 4 (1).

(2) Before a public spa is put into use after construction or alteration, the owner
or the owner’s agent shall give to the medical officer of health in the health unit where the
spa is located written notice of,
(a) the building permit number issued for the construction or alteration of
the spa;
(b) whether or not all the preparations necessary to operate the spa in
accordance with this Regulation have been completed;
(c) the date that the spa is intended to be opened or reopened for use; and
(d) the operator’s name and address. O. Reg. 428/05, s. 4 (2).

(3) An owner who proposes to open or reopen a spa for use as a public spa
after construction or alteration shall not open or reopen the spa without first obtaining
permission in writing from the medical officer of health in the health unit where the spa is
located. O. Reg. 428/05, s. 4 (3).

(4) Every owner who intends to reopen a public spa after any closure of more
than four weeks duration shall first give to the medical officer of health in the health unit
where the spa is located written notice of,
(a) the date that the spa is intended to be reopened; and
(b) the operator’s name and address. O. Reg. 428/05, s. 4 (4).

Operation, general requirements

5. (1) Every owner and operator shall,
(a) maintain the public spa and its equipment in a safe and sanitary
condition;
(b) ensure that all components of the public spa and its equipment are
maintained in proper working order;
(c) ensure that all emergency equipment required by this Regulation is maintained in proper working order;

(d) ensure that all surfaces of the public spa deck and walls are maintained in a sanitary condition and free from potential hazards;

(e) ensure that carpeting or other water-retentive material is not installed or used in any area that becomes or may become wet during the daily use period;

(f) if they are provided, ensure that dressing rooms, water closets and shower facilities are,

(i) available for use of the bathers before entering the deck,

and

(ii) maintained in a sanitary condition and free from potential hazards;

(g) ensure that no person brings a glass container onto the deck or into the public spa; and

(h) ensure that no food or beverage except water is supplied or consumed in the public spa or on the deck. O. Reg. 428/05, s. 5 (1).

(2) Every owner and operator shall ensure that, except during the daily use period, the public spa is inaccessible to persons who are not involved with its operation, inspection or maintenance. O. Reg. 428/05, s. 5 (2).

Water treatment

6. (1) Every owner and operator shall ensure that the public spa water is treated with chlorine, a chlorine compound or a bromine compound by means of a chemical feeder, and is maintained so that in every part of the spa, and at all times during the daily use period,

(a) the total alkalinity is not less than 80 milligrams per litre;

(b) the pH value is within the range of 7.2 to 7.8;

(c) there is a residual of free available chlorine or total bromine of at least five but not more than 10 milligrams per litre;

(d) if the public spa is equipped with an automatic sensing device, the Oxidation Reduction Potential value is not less than 700 mV; and

(e) where cyanurate stabilization is maintained, there is a cyanuric acid concentration of not greater than 150 milligrams per litre. O. Reg. 428/05, s. 6 (1).

(2) Every operator shall ensure that cyanurate stabilizer is not added to a public spa if the spa and its deck are totally or partially covered by a roof. O. Reg. 428/05, s. 6 (2).

(3) Every owner and operator shall ensure that the public spa water is of a clarity to permit the owner or operator to see the lowest water outlet drain when the spa water is in a non-turbulent state. O. Reg. 428/05, s. 6 (3).

(4) Every operator shall ensure that the filtration system and the chemical feeders are in continuous operation without regard to the daily use period except during,

(a) maintenance or repairs that require the filtration system or chemical feeders to be stopped;

(b) draining of the public spa;

(c) backwashing of filters; and

(d) a closure of the public spa, if it is closed for a period of seven or more consecutive days. O. Reg. 428/05, s. 6 (4).
Water temperature

8. Every owner shall ensure that the public spa water heater is equipped with a tamper-proof upper limit cut-off switch that,
   (a) limits the maximum temperature of the spa water to 40°C; and
   (b) is independent of the spa’s water temperature thermostat. O. Reg. 428/05, s. 8.

Timing device

9. (1) Every owner and operator of a public spa containing hydro-massage jet fittings shall ensure that the spa is equipped with a timing device that,
   (a) controls the period of operation of the jet pump;
   (b) can be set to a maximum of 15 minutes; and
   (c) is placed in a location that requires a bather to exit the spa to reset it.
   O. Reg. 428/05, s. 9 (1).

   (2) Every owner and operator shall ensure that a notice, in letters at least 25 millimetres high with a minimum five millimetre stroke, is posted at the timing device that identifies it as a timing device. O. Reg. 428/05, s. 9 (2).

Suction system

10. Every owner shall ensure that the suction system that serves the public spa is equipped with a vacuum relief mechanism that includes,
   (a) a vacuum release system;
   (b) a vacuum limit system; or
   (c) another engineered system designed, constructed and installed to conform to good engineering practice appropriate to the circumstances.
   O. Reg. 428/05, s. 10.
Clock

11. Every owner shall ensure that a clock is installed in a conspicuous location that can be viewed from anywhere in the public spa. O. Reg. 428/05, s. 11.

Steps

12. Every owner shall ensure that, if a set of steps is provided for entry into and exit from the spa water, the set of steps,
   (a) are equipped with a handrail;
   (b) have a non-slip surface on their treads; and
   (c) have a band of contrasting colour applied along the entire juncture of the side and top of the edges of each step. O. Reg. 428/05, s. 12.

Emergency telephone

13. (1) Every owner shall ensure that there is a land line emergency telephone located within 30 metres of the public spa that connects directly to an emergency service or the local telephone utility. O. Reg. 428/05, s. 13 (1).

   (2) Every owner shall ensure that a notice indicating the location of the emergency telephone, in letters not less than 25 millimetres high with a minimum five millimetre stroke, is posted in a conspicuous location near the entrance to the public spa. O. Reg. 428/05, s. 13 (2).

   (3) Every owner shall ensure that a notice is posted at the emergency telephone that,
       (a) identifies the telephone as an emergency telephone in letters not less than 25 millimetres high with a minimum five millimetre stroke;

(b) lists the names, telephone numbers and addresses of persons who are available for resuscitation, medical aid and fire services; and

(c) lists the full name and address of the public spa facility location and all of the facility’s emergency telephone numbers. O. Reg. 428/05, s. 13 (3).

Emergency stop button

14. (1) Every owner shall ensure that all pumps used in the operation of the public spa are capable of being deactivated by an emergency stop button that,

   (a) is separate from the spa’s timing device;
   (b) is located within the immediate vicinity of the spa; and
   (c) activates an audible and visual signal when used. O. Reg. 428/05, s. 14 (1).

   (2) Every owner shall ensure that the following notice, in letters at least 25 millimetres high with a minimum five millimetre stroke, is posted above the emergency stop button:

   IN THE EVENT OF AN EMERGENCY PUSH EMERGENCY STOP BUTTON AND USE EMERGENCY PHONE. AN AUDIBLE AND VISUAL SIGNAL WILL ACTIVATE.

   O. Reg. 428/05, s. 14 (2).

Other emergency equipment

15. (1) This section applies to an owner of a public spa that has an inner horizontal dimension greater than three metres. O. Reg. 428/05, s. 15 (1).

   (2) Subject to subsection (3), every owner shall ensure that there are provided, in places conveniently located for emergency use,
(a) an electrically insulated or non-conducting reaching pole that is at least 3.65 metres in length;

(b) a buoyant throwing aid to which is securely attached a six millimetre diameter rope of a length not less than one-half the width of the pool plus three metres; and

(c) a spine board or other device designed for transporting a person who has incurred a spinal injury.  O. Reg. 428/05, s. 15 (2).

(3) Where an item described in clause (2) (a), (b) or (c) is provided under subsection 20 (1) of Regulation 565 of the Revised Regulations of Ontario, 1990 (Public Pools) made under the Act to a public pool that operates in the immediate vicinity of the public spa, an owner is not required to provide a duplicate item as long as the item is conveniently located for emergency use to the spa.  O. Reg. 428/05, s. 15 (3).

(4) Every owner shall ensure that markings in figures not less than 100 millimetres high that set out the water depths indicating the deep points, the breaks between gentle and steep bottom slopes and the shallow points, and the words DEEP AREA and SHALLOW AREA are displayed at the appropriate locations on the deck.  O. Reg. 428/05, s. 15 (4).

First-aid box

16. Every owner and operator shall ensure that there is provided in a place conveniently located for emergency use a first-aid box containing, at a minimum,

(a) a current copy of a standard First Aid Manual;
(b) 12 safety pins;
(c) 24 adhesive dressings, individually wrapped;
(d) 12 sterile gauze pads, each 75 millimetres square;

(e) four rolls of 50 millimetre gauze bandage;
(f) four rolls of 100 millimetre gauze bandage;
(g) four sterile surgical pads suitable for pressure dressings, individually wrapped;
(h) six triangular bandages;
(i) two rolls of splint padding;
(j) one roll-up splint;
(k) one pair of scissors;
(l) two pairs of non-permeable gloves; and
(m) one resuscitation pocket mask.  O. Reg. 428/05, s. 16.

Maximum capacity

17. Every operator shall ensure that the maximum number of persons permitted to use a public spa at any one time is the lesser of,

(a) one person per square metre of surface water area; and
(b) the maximum bather load identified by the manufacturer of the spa.

O. Reg. 428/05, s. 17.

Caution notice

18. (1) Every owner and operator shall ensure that the following notice is posted in a conspicuous place at each entrance to the public spa with the word CAUTION in letters not less than 50 millimetres high, all other lettering not less than 10 millimetres high, and with a minimum five millimetre stroke in either case:

(1) an electrically insulated or non-conducting reaching pole that is at least 3.65 metres in length;

(2) a buoyant throwing aid to which is securely attached a six millimetre diameter rope of a length not less than one-half the width of the pool plus three metres; and

(3) Where an item described in clause (2) (a), (b) or (c) is provided under subsection 20 (1) of Regulation 565 of the Revised Regulations of Ontario, 1990 (Public Pools) made under the Act to a public pool that operates in the immediate vicinity of the public spa, an owner is not required to provide a duplicate item as long as the item is conveniently located for emergency use to the spa.  O. Reg. 428/05, s. 15 (3).

(4) Every owner shall ensure that markings in figures not less than 100 millimetres high that set out the water depths indicating the deep points, the breaks between gentle and steep bottom slopes and the shallow points, and the words DEEP AREA and SHALLOW AREA are displayed at the appropriate locations on the deck.  O. Reg. 428/05, s. 15 (4).

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(d) 12 sterile gauze pads, each 75 millimetres square;
(e) four rolls of 50 millimetre gauze bandage;
(f) four rolls of 100 millimetre gauze bandage;
(g) four sterile surgical pads suitable for pressure dressings, individually wrapped;
(h) six triangular bandages;
(i) two rolls of splint padding;
(j) one roll-up splint;
(k) one pair of scissors;
(l) two pairs of non-permeable gloves; and
(m) one resuscitation pocket mask.  O. Reg. 428/05, s. 16.

Maximum capacity

17. Every operator shall ensure that the maximum number of persons permitted to use a public spa at any one time is the lesser of,

(a) one person per square metre of surface water area; and
(b) the maximum bather load identified by the manufacturer of the spa.

O. Reg. 428/05, s. 17.

Caution notice

18. (1) Every owner and operator shall ensure that the following notice is posted in a conspicuous place at each entrance to the public spa with the word CAUTION in letters not less than 50 millimetres high, all other lettering not less than 10 millimetres high, and with a minimum five millimetre stroke in either case:
CAUTION

Children under the age of 12 are not allowed in the spa unless supervised by a person who is 16 years of age or older.

Pregnant women and persons with known health or medical conditions should consult with a physician before using a spa.

Do not use the spa if you have an open sore or rash, or are experiencing nausea, vomiting or diarrhea.

Overexposure may cause fainting. 10 to 15 minutes may be excessive for some individuals. Cool down periodically and leave the spa if nausea or dizziness occurs.

Enter and exit the spa slowly, to prevent slipping.

Do not play or swim near drains or suction devices. Your body, body parts, hair, jewelry and other objects may become trapped and cause injury or drowning.

People with long hair should be especially careful.

Do not enter or remain in a spa if a drain cover or suction fitting is loose, broken or missing. Immediately notify the spa operator.

No food or beverage except water is permitted within the deck or spa. No glass containers of any kind are permitted within the deck or spa.

O. Reg. 428/05, s. 18 (1).

(2) The notice described in subsection (1) shall include the maximum bather capacity of the public spa determined under section 17. O. Reg. 428/05, s. 18 (2).

Bathers shall shower

19. (1) Every bather shall take a cleansing shower using soap and warm water before entering the deck. O. Reg. 428/05, s. 19 (1).

(2) Every operator shall post a sign in a conspicuous location near every entrance to the deck that indicates, in letters not less than 25 millimetres high with a minimum five millimetre stroke, the bather’s duty to shower under subsection (1). O. Reg. 428/05, s. 19 (2).

Daily inspection

20. (1) Every operator shall, by means of manual test methods, determine at the times set out in subsection (2) the following regarding the public spa water:

1. Total alkalinity.
2. pH value.
3. Free available chlorine or total bromine residual.
5. Water temperature. O. Reg. 428/05, s. 20 (1).

(2) Measurements made under subsection (1) shall be made one-half hour before the public spa is opened for use on an operating day, and thereafter,

(a) at time intervals not exceeding one hour until the daily use period has ended; or
(b) at least once more during the daily use period, if the public spa is equipped with an automatic sensing device. O. Reg. 428/05, s. 20 (2).

(3) If the public spa is equipped with an automatic sensing device, every operator shall determine the spa water’s Oxidation Reduction Potential one-half hour before the spa is opened for use on an operating day, and thereafter, at least once more during the daily use period. O. Reg. 428/05, s. 20 (3).
21. (1) Every operator shall keep and sign a daily record that sets out, in relation to an operating day,

(a) the results of the tests required under subsections 20 (1) and (3), and the times they were performed;

(b) the time of day that the emergency phone test and ground fault circuit interpreter test were performed;

(c) the reading of the make-up water meter, if applicable;

(d) the type and amount of any chemicals added manually to the public spa;

(e) the estimated number of bather uses during the daily use period;

(f) whether the public spa was drained, inspected and refilled in accordance with subsections 7 (3) and (4), if those subsections apply; and

(g) any emergencies, rescues or breakdowns of equipment that have occurred. O. Reg. 428/05, s. 21 (1).

(2) The daily record shall be retained for a period of one year from the date of making the record and shall be available for viewing by a medical officer of health or a public health inspector at any time. O. Reg. 428/05, s. 21 (2).

Other inspections

22. (1) Every operator shall ensure that,

(a) where a public spa has gravity and suction outlet covers, the outlet covers are inspected at least once within each period of 30 operating days;

(b) the emergency stop button and vacuum release mechanisms, if any, are tested and inspected at least once within each period of 30 operating days; and

(c) where cyanurate stabilization is maintained, the concentration of cyanuric acid is determined not less than once per week. O. Reg. 428/05, s. 22 (1).

(2) Every operator shall ensure that,

(a) a written record of the inspections required by subsection (1) is made and signed by the person who performed the inspections; and

(b) the written record of the inspections is retained by the operator for at least one year from the date the record is made and is available for viewing by a medical officer of health or a public health inspector at any time. O. Reg. 428/05, s. 22 (2).

23. Omitted (provides for coming into force of provisions of this Regulation). O. Reg. 428/05, s. 23.
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