

**Initial Approval: December 8, 2021**

**Effective Date: June 1, 2022**

Standards of Practice of Medicine set out the requirements related to specific aspects for the quality of the practice of medicine. Standards of Practice of Medicine provide more detailed information than contained in the *Regulated Health Professions Act*, Regulations, and Bylaws. All members must comply with Standards of Practice of Medicine, per section 86 of the *Regulated Health Professions Act*.

This Standard of Practice of Medicine is made under the authority of section 82 of the *Regulated Health Professions Act* and section 15 of the CPSM Standards of Practice Regulation.

## 1. Preamble and Application

- 1.1 Exercise Cardiac Stress Testing poses sufficient risk of potential harm to a patient to require specific standards of practice.
- 1.2 This Standard applies to all members supervising and interpreting exercise cardiac stress testing for adults and the medical directors of facilities in which such exercise cardiac stress testing occurs, including in hospitals or other health authority facilities or non-hospital medical or surgical facilities or any other facility where performed.
- 1.3 This Standard does not apply to cardiopulmonary exercise testing, myocardial perfusion imaging, or stress echocardiograms.

## 2. Qualifications

- 2.1. Members supervising, interpreting, or serving as medical director for exercise cardiac stress testing must be:
  - 2.1.1. Certificants of the Royal College of Physicians and Surgeons of Canada in Adult Cardiology or have specialist training in Adult Cardiology acceptable to the Registrar or
  - 2.1.2. Approved by CPSM to interpret electrocardiograms and provide satisfactory evidence of training and competence assessment in exercise cardiac stress testing<sup>1</sup>

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<sup>1</sup> For guidance on training and competence, see Clinical Competence Statement on Stress Testing – [A Clinical Competence Statement by the American College of Cardiology and the American Heart Association](#)

### 3. Prior to Supervising Exercise Cardiac Stress Testing

- 3.1. Prior to supervising an exercise cardiac stress test the member must ensure the following are-reviewed:
  - 3.1.1. A clinical history and physical examination, including medications (if not done by the member supervising the test, then the information and findings must be verified).
  - 3.1.2. Baseline electrocardiogram.
  - 3.1.3. A real-time assessment of the risk of stress testing.

### 4. Quality and Patient Safety

- 4.1. The member responsible for supervising the test must remain onsite and available immediately while patients are undergoing exercise cardiac stress testing.
- 4.2. An exercise cardiac stress test may only be undertaken at a location that permits uninterrupted resuscitation to be performed on unstable patients during extrication on a stretcher and loading into an ambulance.
- 4.3. In the event of a death within the facility, the Medical Examiner must be notified prior to moving the body or removal of any lines or tubes from the body and CPSM notified within one week.

### 5. Responsibilities of the Medical Director

- 5.1. Medical Directors<sup>2</sup> of facilities where exercise cardiac stress testing occurs must be responsible to ensure:
  - 5.1.1. staff are adequately qualified and have obtained sufficient training to participate in exercise cardiac stress testing including certification in Basic Life Support
  - 5.1.2. continuous, adequate and effective direction and supervision of clinical staff.
  - 5.1.3. an adequate quality assurance program is in place.<sup>3</sup>
  - 5.1.4. The selection of testing procedures and equipment used.
  - 5.1.5. equipment meets or exceeds the standards of the Canadian Standards Association or its equivalent and is maintained regularly
  - 5.1.6. a manual outlining necessary office protocols and procedures (including those required to meet the standards for exercise cardiac stress testing) is maintained and current
  - 5.1.7. a plan is in place for patient emergencies.

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<sup>2</sup> In large institutional settings it is recognized the medical director may not have authority over all matters and may authorize others to act or the decisions may be made by the institution or the health authority.

<sup>3</sup> For ideas on quality assurance, see Clinical Competence Statement on Stress Testing – [A Clinical Competence Statement by the American College of Cardiology and the American Heart Association](#), page 2 and other resources provided.

- 5.2. Medical Directors of facilities where exercise cardiac stress testing occurs must have at a minimum, the following medical emergency equipment and supplies readily available prior to exercise cardiac stress testing:
  - 5.2.1. Stethoscope and blood pressure measurement device with various cuff sizes
  - 5.2.2. Stretcher and backboard for cardio-pulmonary resuscitation if the stretcher is not suitable
  - 5.2.3. ASA non-coated chewable tablets (81mg or 325 mg), and Nitroglycerin spray
  - 5.2.4. automated external defibrillator

## 6. Documentation

- 6.1. The member supervising exercise cardiac stress testing must ensure a clinical record is created for each patient which contains, at a minimum, the following:
  - 6.1.1. A relevant clinical history and physical examination
  - 6.1.2. Current medication list
  - 6.1.3. 12-lead electrocardiogram before, during and after the test
  - 6.1.4. Name of the test performed
  - 6.1.5. Total exercise time
  - 6.1.6. Clinical response during and after testing
  - 6.1.7. Presence or absence of arrhythmias
  - 6.1.8. Measurement and character of ST-segments
  - 6.1.9. Heart rates: estimated age-predicted target heart rate, and heart rate achieved
  - 6.1.10. Blood pressure measurements before, during and after the test
  - 6.1.11. Reason for stopping the test

## Additional Resources

- College of Physicians and Surgeons of Alberta, [Cardiac Exercise Stress Testing Standards](#)
- Cardiac Care Network – [Standards for the Provision of Electrocardiography \(ECG\) – Based Diagnostic Testing](#) in Ontario 2017
- Recommendations for Clinical Exercise Laboratories – [A Scientific Statement from the American Heart Association](#) (Circulation 2009;119:3144-3161)
- Exercise Standards for Testing and Training – [A Scientific Statement from the American Heart Association](#) (Circulation 2013;128:873-934)
- Clinical Competence Statement on Stress Testing – [A Clinical Competence Statement by the American College of Cardiology and the American Heart Association](#)