Alberta Health Services

PROTOCOL

TITLE
SUSPECTED ISCHEMIC CHEST PAIN

SCOPE
Provincial: Emergency Departments and Urgent Care Centres

DOCUMENT #
HCS-195-01

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Vice President, Provincial Clinical Excellence

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Not applicable

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NOTE: The first appearance of terms in bold in the body of this document (except titles) are defined terms – please refer to the Definitions section.

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OBJECTIVES

- To assist **health care professionals** when implementing specific diagnostics, therapeutics, and interventions for **patients**, prior to the initial Physician or Nurse Practitioner (NP) assessment.
- This protocol is intended for patients who present to an Emergency Department / Urgent Care Centre with suspected ischemic chest pain.

APPLICABILITY

Compliance with this document is required by all Alberta Health Services employees, members of the medical and midwifery staffs, students, volunteers, and other persons acting on behalf of Alberta Health Services (including contracted service providers as necessary).

ELEMENTS

1. Points of Emphasis

1.1 The health care professional shall immediately notify the Physician or NP of any patient that is unstable.

1.2 An **order** from an **authorized prescriber** is not required for interventions and acetylsalicylic acid (ASA) when administered as outlined in this protocol.

1.3 This protocol may be implemented when:

a) there may be a delay in initial Physician or NP assessment; and

b) when the patient is in an appropriate location to manage ongoing assessment and reassessment.

1.4 Ensure that the patient has been triaged no lower than a CTAS Level 2.

1.5 A 12-lead electrocardiogram (ECG) should be completed within 10 minutes of triage assessment.

1.6 When this protocol has been implemented for a patient who subsequently leaves prior to the initial Physician or NP assessment, follow local processes, including documentation requirements and patient follow-up of abnormal results.

2. Inclusion Criteria

2.1 This protocol applies to patients with one (1) or more of the following symptoms:

a) chest pain, pressure, or discomfort;

b) arm, shoulder, or jaw pain;

c) shortness of breath;

d) diaphoresis;

e) nausea; or

f) epigastric pain.

g) Some patient populations (such as elderly, female, or diabetic patients) may not present with pain but with atypical symptoms. For example:

(i) weakness;

(ii) anxiety;

(iii) light-headedness;

(iv) syncope; and/or

(v) confusion (especially in the elderly).

3. Exclusion Criteria

3.1 This protocol is not intended for patients presenting with the following:

a) non-ischemic chest pain;

b) life-threatening cardiac symptoms such as those associated with aortic dissection;

c) traumatic abdominal pain/injury; or

d) pregnancy.

4. Assessment and Treatment

4.1 A complete nursing assessment is required including Provocation, Quality, Radiation, Severity, and Time (PQRST) assessment of the pain and associated symptoms. Obtain a full set of vital signs including blood pressure, temperature, pulse, respiratory rate, and oxygen saturation. (Refer to the AHS *Assessment and Reassessment of Patients Guideline* [ESCN]).

4.2 Routine administration of oxygen may be harmful. Only provide oxygen to keep SpO2 greater than or equal to 90% or with clinical signs of hypoxemia.

a) If the patient states or the health care professional suspects that they have chronic hypercapnia (a CO2 retainer), an oxygen saturation of 88% may be reasonable and oxygen therapy may not be required. A Physician or NP order for oxygen is required in this population.

4.3 Pulse should be palpated during initial assessment as it can provide important clinical information such as pulse quality, rate, rhythm, and skin temperature. A manual blood pressure measurement (if available) is recommended for patients with an irregular heart rhythm.

4.4 Complete a 12-lead ECG (within 10 minutes of arrival).

a) If ST segment elevation or depression is present, the health care professional shall bring the ECG to the attention of the Physician or NP as soon as possible.

b) For ECGs without ST elevation, follow local process:

(i) bring ECG to the attention of the Physician or NP; or

(ii) assess ECG for abnormalities that deviate from normal sinus rhythm. Compare current ECG with previous ECG, if available. If any new abnormalities (e.g., bundle branch block, flipped t-waves, atrial fibrillation) are present or there are abnormalities present and no previous ECG to compare with, bring ECG to the attention of the Physician or NP.

c) Perform a 15-lead ECG or a right-sided and posterior ECG for patients with ST segment elevation in leads II, III and AVF (Augmented Voltage Foot), and/or ST segment depression in V1, V2, or V3 to identify a right ventricular and/or posterior ST segment elevation infarction (STEMI).

4.5 Give non-enteric coated ASA 160 milligrams (mg) to chew, providing that there is no history of severe allergy (i.e., difficulty breathing or airway swelling) or anaphylaxis.

a) Notify the Physician or NP responsible for the patient if the ASA was not given and provide rationale. ASA is given to those patients that can tolerate it even if the patient reported taking ASA.

4.6 Apply cardiac monitor to continuously monitor the patient in lead II. Interpret the rhythm strip and place on patient's **health record**.

4.7 Initiate intravenous (IV) and infuse 0.9% sodium chloride (normal saline) at 30 millilitres per hour (mL/hour), or a saline lock as per local practice guidelines.

a) Avoid potential for fluid overload by either hanging a small volume 0.9% sodium chloride (normal saline) bag or use an IV pump to control the rate.

b) Where site operations allow, blood may be collected for laboratory testing at the time of IV initiation.

c) If possible, avoid use of medial to distal aspect of right forearm or right wrist when initiating IV, as this site may be used for angiograms and/or primary percutaneous coronary interventions.

4.8 Review pertinent medical records in accordance with the *Health Information Act* (Alberta) (e.g., documentation from previous encounters, specifically ECGs, and consider data from Primary Care Physicians).

5. Laboratory Tests

5.1 The following laboratory tests shall be drawn and sent:

a) complete blood count (CBC);

b) electrolytes (sodium, potassium, chloride);

c) carbon dioxide;

d) creatinine;

e) glucose;

f) troponin; and

g) prothrombin time / international normalized ratio (PT, INR) for patients who are on warfarin therapy, have liver disease, or have a bleeding disorder.

5.2 Local practice guidelines may determine the laboratory tests that are included as part of this protocol.

6. Documentation

6.1 The health care professional shall document on the patient's health record:

a) initiation of this protocol;

b) assessments, including ECG and time presented to Physician or NP;

c) medications, including the signature and designation of the health care professional who administered the medication;

d) interventions including evaluation of cardiac monitoring of lead II and 12-lead and/or 15-lead ECG;

e) reassessments; and

f) patient's responses to interventions.

6.2 All orders shall be entered on the patient's health record as per local practices.

DEFINITIONS

Authorized prescriber means a health care professional who is permitted by federal and provincial legislation, their regulatory college, Alberta Health Services, and practice setting (where applicable) to prescribe medications.

Health care professional means an individual who is a member of a regulated health discipline, as defined by the *Health Disciplines Act* (Alberta) or the *Health Professions Act* (Alberta), and who practices within scope or role.

Health record means the collection of all records documenting individually identifying health information in relation to a single person.

Order means a direction given by a regulated health care professional to carry out specific activity(-ies) as part of the diagnostic and/or therapeutic care and treatment to the benefit of a patient. An order may be written (including handwritten and/or electronic), verbal, by telephone, or facsimile.

Patient means an adult or child who receives or has requested health care or services from Alberta Health Services and its health care providers or individuals authorized to act on behalf of Alberta Health Services. This term is inclusive of residents, clients and outpatients.

REFERENCES

- Alberta Health Services Governance Documents:
  - *Assessment and Reassessment of Patients* Guideline (ESCN) (#HCS-181-01)
  - *Consent to Treatment/Procedure(s)* Policy (#PRR-01)
- Alberta Health Services Resources:
  - *Provincial Clinical Knowledge Topic Chest Pain, Suspected Cardiac - Adult Emergency Department V 1.1* (March 2017)
- Non- Alberta Health Services Documents:
  - *Highlights of the 2019 Focused Updates to the American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care*

- *Web-based Integrated Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care (2015)* (American Heart Association)