

## The Manitoba ACS Network

### **MISSION**

Our mission is to improve the outcomes of Manitoba Acute Coronary Syndrome (ACS) patients by providing the highest standard of patient-centred care, education and research.

### **VISION**

To be recognized locally, nationally and internationally for clinical and academic excellence in ACS care.

### **VALUES**

Caring, Excellence, Innovation, Collaboration, Respect, Health Equity and Accountability

### **GOALS AND OBJECTIVES:**

- 1) To ensure optimal adherence to national Canadian Cardiovascular Society (CCS) guidelines and best contemporary practice for patients
- 2) To facilitate appropriate reperfusion and revascularization in all ACS patients
- 3) To improve and maximize effective and efficient communication between health care providers managing ACS patients
- 4) To ensure timely, appropriate, and safe transport of patients to St. Boniface Hospital (SBH), the primary cardiac care centre for the province
- 5) To facilitate early repatriation back to the referring hospital when clinically appropriate post coronary angiography in ACS patients
- 6) To extend prehospital ECG performed by local Emergency Medical Services (EMS) to regional authorities outside the Winnipeg Regional Health Authority (WRHA)
- 7) To ensure optimal medical therapy and follow up of ACS patients post discharge
- 8) To track outcomes of ACS patients within Manitoba
- 9) To Report Key Performance Indicators of ACS Care to Regional Authorities
- 10) To develop an accreditation program for health care facilities within Manitoba treating ACS
- 11) To provide education to health care providers through a number of modalities
- 12) To educate the public regarding important issues in ACS
- 13) To Work with First Nations and their healthcare services to ensure best practice of ACS care is provided in their communities
- 14) To work with key provincial stakeholders to assist with achieving our mission

## **BACKGROUND AND METHODS**

The term acute coronary syndrome (ACS) defines a range of acute myocardial ischemic states due to athero-thrombosis and includes unstable angina (UA), non-ST segment elevation myocardial infarction (NSTEMI) and ST segment elevation infarction (STEMI). The patient's medical history, physical examination, 12 lead ECG, and cardiac biomarker tests facilitate diagnosis and aid in early risk stratification, which is essential for guiding treatment. Non ST elevation ACS (NSTEMI-ACS) refers to either UA or NSTEMI. The mere finding of elevation in cardiac biomarkers without other supportive evidence on history, physical examination or electrocardiography should not be labeled as or treated as ACS.

A series of 17 provincial Recommended Standards and 2 Algorithms have been developed. These Recommended Standards and Algorithms are evidence based and congruent with national and international guidelines. The goal of these Recommended Standards and Algorithms is to optimize and harmonize assessment & management of ACS in Manitoba and thus improve patient outcomes. The Recommended Standards and Algorithms have been reviewed and agreed to by WRHA Cardiac Sciences Program and various provincial stakeholders.

The Recommended Standards will be monitored and reported by the Manitoba ACS Network employing linkages with existing databases. Accurate and complete data collection is crucial to the success of the ACS Network. Data collection will allow each health care facility to have its adherence to these Recommended Standards assessed and benchmarked compared to other sites. This information will be reported minimally yearly to each site. Monitoring of adherence to these Recommended Standards is part of facilitating quality patient delivery for ACS within our province. The ACS Network will collaborate with stakeholders and be a resource to analyze sub-optimal patient outcomes and recommend remedial action.

The ACS Network will promote optimal and harmonized care of ACS through ongoing education, accreditation of health facilities providing ACS care. These endeavors will be endorsed by Shared Health.

Patient engagement is critical to ensure the aims of the MB ACS Network are achieved. The ACS Network will elicit ACS patient experience through periodically surveys. In addition, patient partners will be recruited to be members on the MB ACS Steering Committee.

The ACS Network will promote public awareness and understanding of ACS including how and when to access the health care system. The MB ACS Network will collaborate with partners locally and nationally to accomplish this priority.

The ACS Network will develop comprehensive protocols and standing orders to identify ACS patients (including STEMI) and to guide all phases of patient management from initial assessment to discharge including safe transport to the cardiac centre, if necessary. The protocols will be developed in collaboration with EMS, Emergency, Critical Care, Internal Medicine Programs, First Nations and Inuit Health Branch (FNIB) and other stakeholders responsible for the care of patients with ACS.

The ACS Network will have a Physician Medical Director and a Clinical Nurse Specialist Co Director. These individuals will report to the Cardiac Sciences Medical Director.

The ACS Network will maintain a Steering Committee. The role of the steering committee is to assist in the planning and oversight of the MB ACS Network strategic priorities.

17 Recommended Standards of Care: Suspect Cardiac Chest Pain/NSTEACS/STEMI

	Standard	Data Source: Wpg EMS	Data Source: MB EMS or STARS	Data Source: Wpg ED	Data Source: MB ED	Data Elements
1	The time of first medical contact (ED or EMS on scene) is recorded. Includes: ED: Registration and Triage Time EMS: Arrival at scene and arrival at patient side (when available)	<ul style="list-style-type: none"> <li>WFPS Database</li> <li>Primary PCI Form</li> </ul>	<ul style="list-style-type: none"> <li>Primary PCI Form</li> </ul>	<ul style="list-style-type: none"> <li>Triage Record</li> <li>ATD</li> </ul>	<ul style="list-style-type: none"> <li>Triage Record</li> <li>ATD</li> </ul>	<ul style="list-style-type: none"> <li>Time of first medical contact</li> </ul>
2	A 12-lead ECG will be performed within <b>target of</b> 10 minutes of first medical contact.	<ul style="list-style-type: none"> <li>WFPS Database</li> <li>Primary PCI Form</li> </ul>	<ul style="list-style-type: none"> <li>Primary PCI Form</li> </ul>	<ul style="list-style-type: none"> <li>MUSE</li> <li>Triage Record/ATD</li> </ul>	<ul style="list-style-type: none"> <li>Chart Review</li> <li>MUSE: (Selkirk, Brandon)</li> </ul>	<ul style="list-style-type: none"> <li>Time of first medical contact.</li> <li>Time of 12 lead ECG obtained</li> </ul>
3	The 12 lead ECG will be interpreted within <b>target of</b> 5 minutes by a health care professional with appropriate skills. If not available by local staff, or if ECG interpretation is uncertain, the ECG will be transmitted to the Cardiac Sciences Program (CSP) for interpretation. The CSP physician will provide assistance in the diagnosis within ten minutes of request.	<ul style="list-style-type: none"> <li>Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>Time 12 lead ECG done</li> <li>Time of request</li> <li>Time of communication of the interpretation of the ECG</li> </ul>
4	Patients with suspected STEMI and persistent ST elevation should be transferred immediately to the cardiac centre (SBH heart cath lab) for primary PCI if the estimated time from diagnostic EKG to arrival at SBH Cardiac Centre is less than 100 minutes.	<ul style="list-style-type: none"> <li>WFPS Database</li> <li>Primary PCI Form</li> </ul>	<ul style="list-style-type: none"> <li>Primary PCI Form</li> <li>EMS Form</li> </ul>	<ul style="list-style-type: none"> <li>MUSE</li> <li>WFPS Database</li> </ul>	<ul style="list-style-type: none"> <li>Chart Review</li> <li>(Selkirk, Brandon, MUSE)</li> <li>EMS Form</li> </ul>	<ul style="list-style-type: none"> <li>Time of diagnostic 12 lead ECG</li> <li>Time of arrival at the SBH (EMS destination time)</li> </ul>
5	For patients with suspected STEMI and persistent ST elevation, the time from arrival to SBH Cardiac Centre (SBH Heart cath lab) to device and coronary guide wire in culprit vessel is less than 20 minutes.	<ul style="list-style-type: none"> <li>Mac lab</li> <li>WFPS Database</li> <li>Primary PCI Form</li> </ul>	<ul style="list-style-type: none"> <li>Primary PCI Form</li> <li>Mac lab</li> <li>EMS Form</li> </ul>	<ul style="list-style-type: none"> <li>WFPS Database</li> <li>Mac lab</li> </ul>	<ul style="list-style-type: none"> <li>Chart Review</li> <li>EMS Form</li> <li>Mac lab</li> </ul>	<ul style="list-style-type: none"> <li>Time of arrival at SBH</li> <li>Time of wire crossing the lesion</li> <li>Time of device in vessel (time of balloon, aspiration catheter or stent whichever comes first).</li> </ul>



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Final Updated: January 2, 2020

6	Patients with suspected STEMI and persistent ST elevation for whom transfer to the cardiac centre cannot be accomplished within <b>target of 100 minutes</b> from diagnostic EKG be administered fibrinolysis and appropriate adjunctive therapy (as specified in clinical practice tools) within <b>target of 30 minutes</b> of first medical contact.	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• STARS Run Sheet</li> </ul>	<ul style="list-style-type: none"> <li>• Chart Review</li> <li>• MUSE</li> </ul>	<ul style="list-style-type: none"> <li>• Chart Review</li> <li>• MUSE: (Selkirk, Brandon)</li> </ul>	<ul style="list-style-type: none"> <li>• Time of diagnostic 12 lead</li> <li>• Time of TNK</li> </ul>
7	All patients who received fibrinolysis for STEMI should have arrangements made for the immediate transfer to the cardiac centre.	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Time of request for transport</li> <li>• Time of arrival at SBH</li> </ul>
8	Patients with suspected ACS (NSTEMI-ACS) are risk stratified using the TIMI Risk Score as soon as possible after first medical contact.	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• TIMI risk score completed</li> </ul>
9	Unstable ACS (NSTEMI-ACS) patients (with refractory angina, heart failure, life threatening arrhythmias or hemodynamic instability) with no contradictions should have coronary angiography within <b>target of 120 minutes</b> of first medical contact. Remote medical facilities should arrange immediate air transport.	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Time of first medical contact</li> <li>• History of refractory angina, heart failure, life threatening arrhythmias or hemodynamic instability</li> <li>• Time to first dye injection</li> </ul>
10	High risk ACS (NSTEMI-ACS) patients (with recurring chest pain and/or dynamic ST changes) without contraindication should have coronary angiography within <b>target of 24 hours</b> of first medical contact. Remote medical facilities should arrange immediate air transport.	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Time of first medical contact</li> <li>• History of recurring chest pain and/or dynamic ST changes</li> <li>• Time to first dye injection</li> </ul>
11	ACS (NSTEMI-ACS) patients (TIMI Risk Score 3 or higher) without contraindication, should receive ASA, a P2Y12 Inhibitor (ticagrelor preferred), an anticoagulant (heparin, enoxaparin or fondaparinux), a statin and a beta blocker with appropriate loading doses within <b>target of 90 minutes</b> of arrival to emergency room.	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Time of first medical contact</li> <li>• TIMI Score</li> <li>• Administration of each medication</li> </ul>
12	ACS (NSTEMI-ACS) patients (TIMI Risk Score 3 or higher) excluding unstable (#9 above) or high risk (#10 above), without contraindications, should receive a coronary angiography within <b>target of 72 hours</b> of first medical contact.	<ul style="list-style-type: none"> <li>• NA</li> </ul>	<ul style="list-style-type: none"> <li>• N/A</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Currently not measured</li> </ul>	<ul style="list-style-type: none"> <li>• Time of first medical contact.</li> <li>• TIMI Score</li> <li>• Time to 1<sup>st</sup> dye injection</li> </ul>

Discharge practices:						
13	ACS patients who are current smokers will be offered Nicotine Replacement Therapy (NRT) to start while in hospital to manage nicotine withdrawal.	• NA	• N/A	• Periodic Audit	• Periodic Audit	<ul style="list-style-type: none"> <li>• Number of current smokers</li> <li>• Number referrals for NTR.</li> </ul>
14	ACS patients who are current smokers will be provided referral for smoking cessation counseling after discharge. <b><i>If unavailable in your community consider referral to smoker's Helpline</i></b> ( <a href="http://www.smokershelpline.ca">www.smokershelpline.ca</a> ).	• NA	• N/A	• Periodic Audit	• Periodic Audit	<ul style="list-style-type: none"> <li>• Number of current smokers</li> <li>• Number referrals for smoking cessation provided</li> </ul>
15	Patients with an ACS diagnosis will be referred to a cardiac rehabilitation program (CR), <b><i>if available in your community.</i></b>	• NA	• N/A	• Periodic Audit	• Periodic Audit	<ul style="list-style-type: none"> <li>• Number of patients admitted with ACS</li> <li>• Number of ACS patients who received a referral to CR.</li> </ul>
16	ACS patients without contraindication will be discharged with prescriptions for 90 days' supply of ASA, a P2Y12 Inhibitor (ticagrelor preferred), a high dose statin, a beta-blocker, and an ACEI or ARB. <b><i>Repeats for 1 year should be indicated.</i></b>	• NA	• N/A	• Currently not measured	• Currently not measured	<ul style="list-style-type: none"> <li>• Number of patients admitted with ACS</li> <li>• Number of patients discharge of each medication</li> </ul>
17	ACS patients will have a follow-up appointment scheduled with health care provider within 90 days. <b><i>If no family physician is available for the patient please use <a href="http://www.gov.mb.ca/health/familydoctorfinder">www.gov.mb.ca/health/familydoctorfinder</a></i></b> Decision for referral to cardiologist should be based on the complexity of the patient condition.	• NA	• NA	• Currently not measured	• Currently not measured	<ul style="list-style-type: none"> <li>• Number of patients with follow up appointment within 90 days of hospital discharge</li> </ul>