



SMART AMI-ACS USER GUIDE

A fast, secure, easy to use, privacy compliant smartphone app for real-time ECG review and decision making for STEMI activation

BACKGROUND

Why is the SMART AMI-ACS App necessary?

- ECGs are essential for diagnosing STEMI and activating the STEMI team at Hamilton Health Sciences (HHS).
- Current processes for sharing ECGs between Emergency Medicine physicians and Interventional Cardiologists consists of fax (secure but slow, and sometimes unavailable) and text message (not compliant with privacy standards).
- The SMART AMI-ACS App has been tested since May 2020 in a pilot study in the Niagara region and has shown feasibility of ECG transmission and acceptability of ECG image quality in decision making.

When to use the SMART AMI-ACS App?

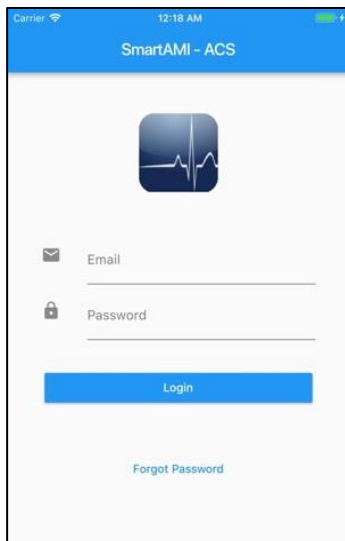
1. An ECG is performed on a patient demonstrating symptoms of STEMI (by an Emergency Medicine physician) and confirmation is needed from an HHS Interventional Cardiologist to initiate a STEMI activation protocol.
2. To access step-by-step ACS protocols.

STEP 1: DOWNLOADING THE APP

- To download the App, visit the Apple or Google Play store and search “SMART AMI-ACS” (dark blue icon)
- Allow SMART AMI-ACS access to your camera.



STEP 2: LOGGING-IN



Log-in using the email address your invitation was sent to, and the temporary password provided in the invitation email.

- Email address must be entered in all lower case.

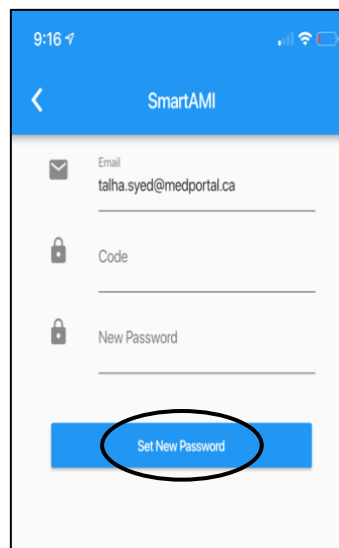
E.g.: john.doe@medportal.ca

You will then be prompted to set a unique password.

Your password must contain at least:

- 1 upper case letter,
- 1 lowercase letter,
- 1 number, and
- Be at least 8 characters long

STEP 3: RESETTING THE PASSWORD



If you forget your password, enter your email and click “Forgot Password”.

You will receive an email with a code. Type in that code

Enter a new password



Click on “Set New Password”

SUPPORT:

- For support, please contact: cebi@hhsc.ca
- Support is available Monday-Friday 8:30am-4:30pm with a 24-hour email response time
- Please do not send any PHI

NOTE:

Data on App use, ECG image quality, and effect on STEMI activation/transfer will be collected on group-level, and utilized for impact assessment and improvement purposes.

STEP 4: USING THE APP

NSTEMI

(1) Troponin baseline + 6 hours + serial ECG's and refer to cardiology/medicine as per hospital practice

(2) High risk NSTEMI Features?

Absolute

- High risk NSTEMI ECG:
 - Transient ST elevation
 - ST Depression in AVR + diffuse ST depression
- STEMI \geq 12hrs
- Refractory symptoms and/or dynamic ECG changes on medical therapy
- Hemodynamic instability or Killip 3, 4 status
- Return of spontaneous circulation with neurologic recovery

Relative

- Recurrent ventricular arrhythmias
- Grace score \geq 140

Calculate Grace Score

Any high risk Features?

YES NO

Calculate Sgarbossa Criteria

Concordant ST elevation $>$ 1mm in leads with a positive QRS Complex (Score 5)

Concordant ST depression $>$ 1mm in leads V1 - V3 (Score 3)

Excessively discordant ST elevation $>$ 5mm in leads with a negative QRS complex (Score 2)

Your patient's score: 0

A score of \geq 3 has a specificity of 90% for Myocardial Infarction

Ready to Diagnose?

Diagnose

Diagnose Cardiac Event

(1) Symptoms/chest pain (cardiac ischemia)

(2) ECG within 10 minutes + ASA (MANDATORY)

(3) STEMI on ECG + symptom onset of less than 12 hours since occurring

Define STEMI

Is this a STEMI?

YES NO

Fibrinolysis

(1) Recommended administration within 30 mins of presentation

(2) The following contraindications must be considered:

Absolute

- Intercranial hemorrhage
- Cerebral vascular lesion
- Intercranial neoplasm
- Ischemic stroke within 3 month, except acute ischemic stroke $<$ 3 hours
- Suspected aortic dissection
- Active bleeding or bleeding diathesis
- Severe head/face trauma within 3 months

Relative

- Cardiac arrest with prolonged CPR
- Cardiogenic shock
- Killip class \geq 3
- Symptom onset $>$ 3 hours
- Severe uncontrolled hypertension
- Recent or high risk of bleeding
- Active peptic ulcer
- Diagnosis of STEMI is in doubt
- Oral anticoagulant therapy

Proceed

EXISTING MECHANISMS TO INITIATE A CODE STEMI WILL CONTINUE TO REMAIN IN PLACE

IN THE EVENT OF A DOWNTIME OF THE APP, PLEASE REVERT TO YOUR CURRENT PROCESS OF SENDING THE ECG

Step-By-Step ACS Protocols

Activate STEMI Protocol NOW

Send ECG

(1) Take a photo of the ECG
You can send a max of 3

Upload

(3) You MUST speak to the interventionalist to initiate the STEMI protocol

Call Interventionalist

Proceed

1. Take a photo of the ECG, including date and time of the ECG

Send ECG

(1) Take a photo of the ECG
You can send a max of 3

Upload

(3) You MUST speak to the interventionalist to initiate the STEMI protocol

Call Interventionalist

Proceed

2. Select "Upload"

Send ECG

(1) Take a photo of the ECG
You can send a max of 3

Upload

(3) You MUST speak to the interventionalist to initiate the STEMI protocol

Call Interventionalist

Proceed

3. Select "Call interventionalist" to initiate the STEMI protocol.

*ECGs will **not** be reviewed without a phone call*