Cardiac Emergencies - Triage/Transfer Process

Note: For emergencies occurring on MD Anderson campus locations not supported by the Code Blue Team, contact 911 (Code Blue Team vs. 911 Response Map)

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PRESENTATION AND ASSESSMENT

ACS symptoms may include:
- Chest pain or discomfort
- Shortness of breath
- Pain or discomfort in one or both arms, jaw, neck, back, or stomach
- Dizziness or lightheadedness
- Nausea
- Diaphoresis

ACCC physician = Medical Screening Examiner (MSE)/triage physician, if available and EKG completed on triage, physician assigned to the patient, or if neither is available, the Clinical Coordinator

DISPOSITION

Note: Patient should be transferred < 30 minutes of initial presentation [door in-door out (DIDO)] since the “door to device time” for STEMI is < 120 minutes

ACCC physician to contact Cardiology to determine disposition to a higher level of care

Transfer patient to outside hospital for higher level of care (see Page 5)

ACCC physician to perform the following only if able to complete within 10 minutes; DO NOT DELAY TRANSFER

- STAT EKG (12-lead)
- EKG technician, Registered Nurse, or Patient Care Technician (PCT) to deliver EKG

Patient has STEMI per ACCC physician?

Yes

ACCC physician to contact Case Manager and Off Shift Administrator for transfer to outside hospital for higher level of care within goal time of 30 minutes

Initiate medical management, consult Cardiology, and notify primary team

No

ACCC physician to contact Cardiology to determine disposition to a higher level of care

See Page 4 for Suspected ACS

Patient presents with symptoms of ACS

Complete the following within 10 minutes:

- STAT EKG (12-lead)
- EKG technician, Registered Nurse, or Patient Care Technician (PCT) to deliver EKG

Patient has STEMI per Cardiology?

Yes

Cardiology to contact Case Manager and/or Off Shift Administrator for transfer to outside hospital for higher level of care (see Page 5)

Cardiology to contact primary team within 10 minutes regarding prognosis, suitability for intervention/transfer and resuscitation status (should not delay transfer)

No

Cardiology to determine disposition to a higher level of care

See Page 4 for Suspected ACS

ACCS = acute coronary syndrome
STEMI = ST-elevation myocardial infarction

ACS symptoms may include:
- Chest pain or discomfort
- Shortness of breath
- Pain or discomfort in one or both arms, jaw, neck, back, or stomach
- Dizziness or lightheadedness
- Nausea
- Diaphoresis

ACCC physician = Medical Screening Examiner (MSE)/triage physician, if available and EKG completed on triage, physician assigned to the patient, or if neither is available, the Clinical Coordinator

3 ACCC physician to perform the following only if able to complete within 10 minutes; DO NOT DELAY TRANSFER

- If no contraindications, initiate medical management:
  - Aspirin 162-325 mg PO once
  - P2Y12 inhibitor loading dose: Clopidogrel 600 mg PO once or Ticagrelor 180 mg PO once
  - Anticoagulation-unfractionated heparin (UFH) with additional boluses if needed to maintain therapeutic activated clotting time (ACT)
  - Contact Cardiology for confirmation of STEMI
  - Contact primary team regarding prognosis, suitability for intervention/transfer and resuscitation status

Department of Clinical Effectiveness V4
Approved by the Executive Committee of the Medical Staff on 01/16/2024
PRESENTATION AND ASSESSMENT

Note: Patient should be transferred < 30 minutes of initial presentation [door in-door out (DIDO)] since the “door to device time” for STEMI is < 120 minutes

DISPOSITION

- Code Blue Team or Responding Provider contacts EMS (911) for transfer to outside facility for higher level of care
- Code Blue Team or Responding Provider to notify clinical or administrative leaders in the ambulatory area of patient disposition, if applicable
- Ambulatory team to notify available family and primary team as appropriate

EMS = Emergency Medical Services
STEMI = ST-elevation myocardial infarction

1 Appropriate provider may include: On-call Provider, Attending Physician, Anesthesiologist, Radiation Oncology Team, or Diagnostic Imaging Team/Radiologist

2 For ambulatory and public spaces, Code Blue Team (713-792-7099) and/or EMS to evaluate and determine disposition as clinically indicated

3 If EKG not available, the Code Blue Team or Responding Provider will determine disposition based on clinical presentation

4 Criteria for STEMI
- New ST elevation at the J point in two contiguous leads of > 0.1 mV in all leads other than leads V2-V3
- For leads V2-V3 the following cut points apply:
  - Men ≥ 40 years old: ≥ 0.2 mV
  - Men < 40 years old: ≥ 0.25 mV
  - Women regardless of age: ≥ 0.15 mV
- New or presumed new left bundle branch block (LBBB)
**Suspected Acute Coronary Syndrome (ACS)**

- **EKG**
- **STAT** medical management if no contraindications
  - Aspirin 162-325 mg PO once
  - P2Y12 inhibitor loading dose: Clopidogrel 600 mg PO once or Ticagrelor 180 mg PO once
  - Anticoagulation with unfractionated heparin (UFH) or low molecular weight heparin (LMWH)
- **STAT** consult to Cardiology
- **STAT** cardiac panel (CK, CKMB, troponin T) and pro NT-BNP
- Continuous cardiac monitoring

**Cardiology to assess patient [see Appendix A: TIMI (Thrombolysis in Myocardial Infarction) Score] and provide additional medical management as indicated**

- Cardiology to discuss with primary team regarding prognosis, suitability for intervention/transfer and resuscitation status
- Cardiology to determine disposition

**Early invasive strategy**

- Diagnostic catheterization at MD Anderson within 48 hours of presentation
- Cardiology to contact Case Manager and/or Off Shift Administrator (see Page 5)

**Transfer to outside hospital for higher level of care**

- Medical management per Cardiology

**Final disposition per Cardiology**

- Department of Clinical Effectiveness V4
Approved by the Executive Committee of the Medical Staff on 01/16/2024
Cardiac Emergencies - Triage/Transfer Process

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient’s care.

EMERGENCY TRANSFER ADMINISTRATIVE PROCESS

- Case Manager or OSA will:
  - Identify and coordinate ambulance transportation
  - For patients in the ACCC, request ambulance to be dispatched to bedside
  - For inpatients, request ambulance to be placed on standby
  - Inform ambulance service of reason for higher level of care and any special requirements for transfer
  - Contact Transfer Center at the receiving hospital to obtain approval and bed availability. If transfer approval is not promptly obtained, contact alternate hospital to avoid delay.
  - Provide attending physician with contact number for physician at outside hospital

- Attending Physician will:
  - Notify patient and family of intent to transfer
  - Discuss case with physician at outside hospital

- Case Manager or OSA will:
  - Complete the Memorandum of Transfer
  - Ensure proper documentation accompanies patient
  - Notify appropriate nursing unit when the approval to transfer has been obtained along with information such as address and phone numbers for calling clinical report

- Attending Physician will:
  - Inform patient and family of accepted transfer
  - Sign the Memorandum of Transfer
  - Enter discharge order and select Outside Facility or Acute Care Hospital as disposition

- Attending Physician will notify Case Manager and/or OSA to coordinate acceptance at outside hospital
  - Case Manager
    - Monday through Friday 8 AM – 5 PM: Contact Case Manager assigned to patient location
    - Monday through Friday 5 PM – 10 PM or Holidays/Weekends 8 AM – 10 PM: Contact Case Manager via on call calendar
  - OSA
    - Monday through Friday or Weekends/Holidays: 10 PM – 8 AM: Contact OSA via the on call calendar

- Attending Physician will notify Case Manager or OSA to coordinate acceptance at outside hospital
  - OSA = off shift administrator

1 If patient is not stabilized prior to transferring to another facility, continue to pursue a transfer if the individual requests the transfer or the expected benefits outweigh the increased risks of the transfer [see Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy (#CLN3280)]
2 Emergency Medical Treatment and Labor Act (EMTALA) generally does not apply for admitted patients [see Emergency Medical Screening Examination, Stabilization, and Appropriate Transfers Policy (#CLN3280)]
3 See Transfer of Patients To, From, and Within MD Anderson Cancer Center Policy (#CLN0614)
4 Discuss with Attending Physician regarding preference for receiving hospital based on clinical scenario. See Appendix B: Texas Medical Center (TMC) Hospital Contact Information.
5 Discuss with Attending Physician regarding required level of ambulance team (e.g., basic life support, advanced life support, critical care), equipment and special medications (e.g., infusion pumps, oxygen, ventilator), and special patient-specific factors (e.g., large body habitus, isolation status)
6 Documentation: “Face sheet” Other documentation as appropriate
   - Medical records to include a current reconciled medication list and transfer orders per primary care team

OSA = off shift administrator

Acute Cancer Care Center (ACCC)

Inpatient

Attending Physician will notify ACCC assigned Case Manager and OSA to coordinate acceptance at outside hospital

Transfer accepted?

Yes

Case Manager and/or OSA will:
- Complete the Memorandum of Transfer
- Ensure proper documentation accompanies patient
- Notify appropriate nursing unit when the approval to transfer has been obtained along with information such as address and phone numbers for calling clinical report
- Attending Physician will:
  - Inform patient and family of accepted transfer
  - Sign the Memorandum of Transfer
  - Enter discharge order and select Outside Facility or Acute Care Hospital as disposition

No

Attending Physician will:
- Inform patient and family of accepted transfer
- Sign the Memorandum of Transfer
- Enter discharge order and select Outside Facility or Acute Care Hospital as disposition

OSA = off shift administrator

1 If patient is not stabilized prior to transferring to another facility, continue to pursue a transfer if the individual requests the transfer or the expected benefits outweigh the increased risks of the transfer [see Emergency Medical Screening Examination Stabilization, and Appropriate Transfers Policy (#CLN3280)]
2 Emergency Medical Treatment and Labor Act (EMTALA) generally does not apply for admitted patients [see Emergency Medical Screening Examination, Stabilization, and Appropriate Transfers Policy (#CLN3280)]
3 See Transfer of Patients To, From, and Within MD Anderson Cancer Center Policy (#CLN0614)

DISPOSITION

- Case Manager and/or OSA will:
  - Complete the Memorandum of Transfer
  - Ensure proper documentation accompanies patient
  - Notify appropriate nursing unit when the approval to transfer has been obtained along with information such as address and phone numbers for calling clinical report

- Attending Physician will:
  - Inform patient and family of accepted transfer
  - Sign the Memorandum of Transfer
  - Enter discharge order and select Outside Facility or Acute Care Hospital as disposition

- Attending Physician will notify Case Manager or OSA to coordinate acceptance at outside hospital
  - Case Manager
    - Monday through Friday 8 AM – 5 PM: Contact Case Manager assigned to patient location
    - Monday through Friday 5 PM – 10 PM or Holidays/Weekends 8 AM – 10 PM: Contact Case Manager via on call calendar
  - OSA
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  - OSA = off shift administer
APPENDIX A: TIMI (Thrombolysis in Myocardial Infarction) Score

TIMI score calculation (1 point for each):
- Age ≥ 65 years old
- Aspirin use in the last 7 days (patient experiences chest pain despite aspirin use in past 7 days)
- At least 2 angina episodes within the last 24 hours
- ST changes of at least 0.5 mm in contiguous leads
- Elevated serum cardiac biomarkers
- Known coronary artery disease (CAD) (coronary stenosis ≥ 50%)
- At least 3 risk factors for CAD, such as:
  - Hypertension > 140/90 mmHg or on anti-hypertensives
  - Current cigarette smoker
  - Low HDL cholesterol (< 40 mg/dL)
  - Diabetes mellitus
  - Family history of premature CAD:
    - Male first-degree relative or father younger than 55 years old
    - Female first-degree relative or mother younger than 65 years old
APPENDIX B: Texas Medical Center (TMC) Hospital Contact Information

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<th>Memorial Hermann TMC</th>
<th>CHI St. Luke’s TMC</th>
<th>Methodist TMC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>For Transfers:</strong></td>
<td>Transfer Center (713) 704-2500</td>
<td>Transfer Center (832) 355-2233</td>
<td>Transfer Center (713) 441-6804</td>
</tr>
</tbody>
</table>

**Additional contacts:**

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<th>Memorial Hermann TMC</th>
<th>CHI St. Luke’s TMC</th>
<th>Methodist TMC</th>
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</thead>
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<tr>
<td>ACS/STEMI</td>
<td>Fax EKG to (713) 704-0665 (for ACCC patients)</td>
<td>On-call STEMI fellow via page operator (832) 355-4146 On-call STEMI attending via transfer center (888) 875-1434 Catheterization Lab (832) 355-6650 Dr. George Younis (Catheterization Lab Med Director) (832) 816-7324</td>
<td>On-call STEMI attending via page operator (713) 790-2201 Catheterization Lab (713) 441-5292</td>
</tr>
</tbody>
</table>
SUGGESTED READINGS


MD Anderson Institutional Policy #CLN0614 – Transfer of Patients To, From, and Within MD Anderson Cancer Center Policy

MD Anderson Institutional Policy #CLN3280 – Emergency Medical Screening Examination, Stabilization, and Appropriate Transfers Policy
Cardiac Emergencies - Triage/Transfer Process

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DEVELOPMENT CREDITS

This practice consensus statement is based on majority opinion of the Emergent Triage/Transfer Process experts at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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