Banner Baywood
Heart Hospital
and
Medical Center

Acute Coronary Syndrome

Proposed
Process of Care

Physicians and Staff

Mark R. Starling, MD., BBHeart Medical Director
Karen Bonamase, Director, Cath Lab, Clinical Lead for ACS Project
Alphonse Ambrosia, MD
Charles Breed, MD
David Skloven, MD
Jean Chatham, MD
Joseph Chatham, MD
Duane Crist, MD
Ernesto Cruz, MD
Charles Jost, MD
Neil Kramer, MD
David Wilcoxson, MD
Larry Burnett, RN, CNO
Susan Dolezal, RN, Director of Telemetry
Terry Bustamante, RN, Educator Cath Lab/CVOPS/IU
Carol Collins, Director, Medical Staff Services Department
Hope Dunn, Director of Nursing
Denise Erickson, Clinical Pharmacist
Amy Fierro, Quality Specialist
Darlene Friedman, Director, Quality Management
Suzanne Gusella, Clinical Nurse Specialist
Jill Hammer, Medical Staff Assistant
Betty Malling, BBMC, Director of Nursing/CPU
Angela Parris, RN, Cardiac Services
Katie Raife, NP, emergency Services/CPU
Kristen Richards, Director, Cardiopulmonary Services
Mindy Richardson, BBMC, Assistant Administrator
Laura Robertson, Director CVICU
Sharon Wilhalme, RN, Chest Pain Unit, BBMC
Patty Wilson, Quality Specialist
Karen Chaudier, Director of Management Engineering
Ann Mitchell, Clinical Nurse Specialist

GUIDELINES - DEFINITION

This guideline is designed for the general use of most cardiac patients, but it may need to be adapted to meet the special needs of an individual patient as determined by the patient's care giver.

Statement of Purpose

Review and improve the process of care from the ED to discharge for patients with an Acute Coronary Syndrome.

Goals

For all ACS patients, our goals are as follows:
To standardize the processes of care to coordinate hospital resources;
To make the process of care simple and efficient for the cardiologists to manage their ACS patients;
To guarantee a consistent and high level of care to all ACS patients;
To establish a smooth, efficient working/transfer process between the BBMC Emergency Department and the BBHeart Hospital for all ACS patients:
To perform in the top 10^{th} percentile for CMS/JCAHO core measure quality indicators.

Acute Coronary Syndrome
October 26, 2005
Banner Baywood Heart Hospital and Medical Center

Table of Contents

General Chest Pain Orders

1. STAT 12-lead ECG. PRN recurrent chest pain
   - If inferior AMI, do a 15 lead ECG to rule out RV infarct
2. Pulse oximetry, O_2 2 L per NC, titrate to maintain $SpO_2 \geq 92\%$
3. Obtain initial set of vital signs and repeat as needed. Continuous ECG monitoring.
4. Obtain IV access(s)
5. Medications:
   - STAT Aspirin 325 mg chew PO if not already given and not allergic
     If unable to take PO, give Aspirin 300mg PR
   - Nitroglycerin 0.4 mg SL every 5 minutes X 3 PRN chest pain
   - Morphine 2-4 mg IV every 5 minutes PRN ongoing chest pain to a max of 10 mg every 1 hour
6. Labs:
   - CMP, CBC, Magnesium
   - Cardiac Markers: CK-MB, Troponin-I, Myoglobin
   - PT/INR if patient previously on warfarin (Coumadin®)
7. STAT Portable CXR.
8. Old charts / ECGs to Emergency Department
9. Diet and Activity: NPO except medications; strict bed rest
10. Additional Orders: _____

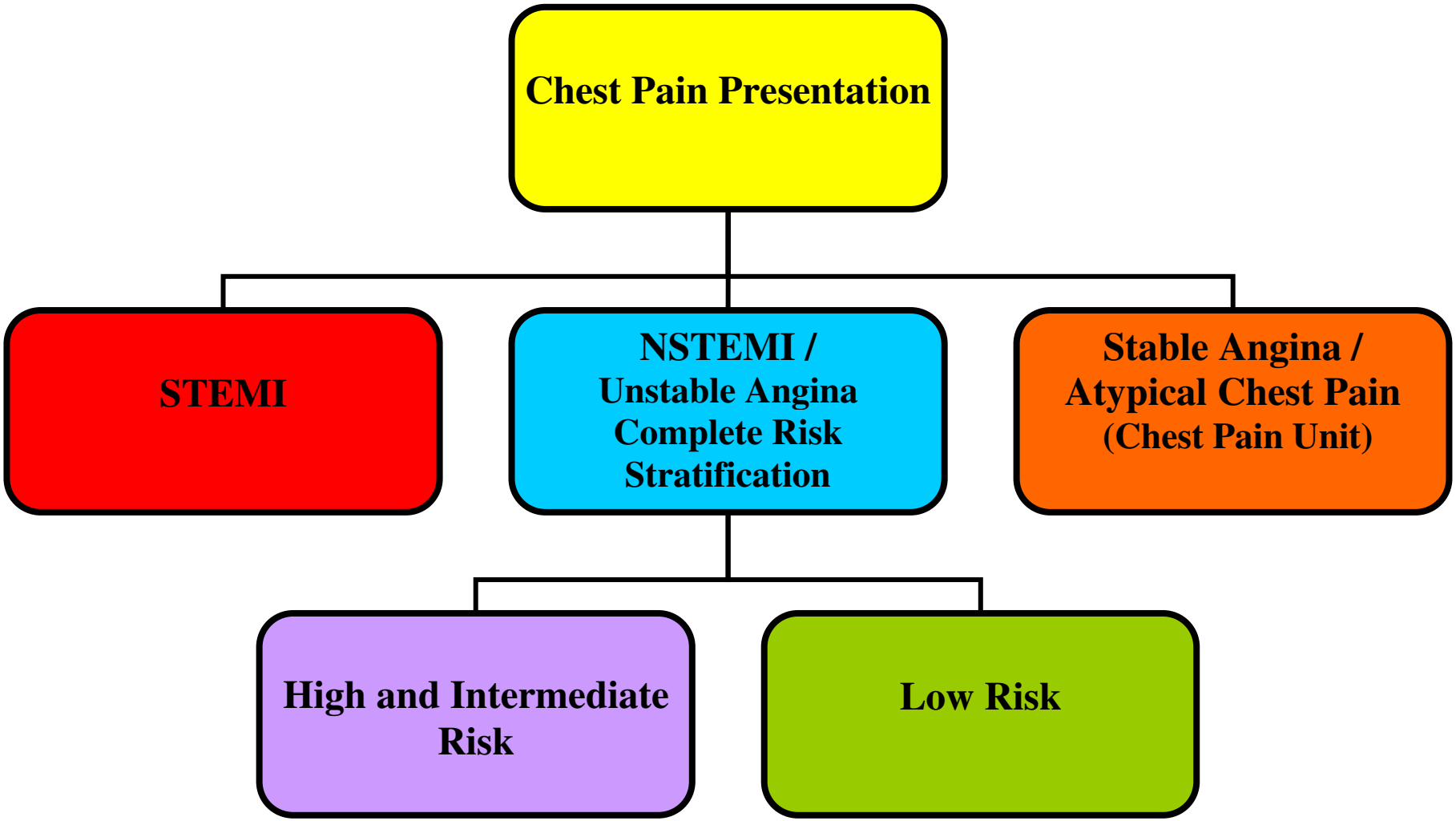
_____

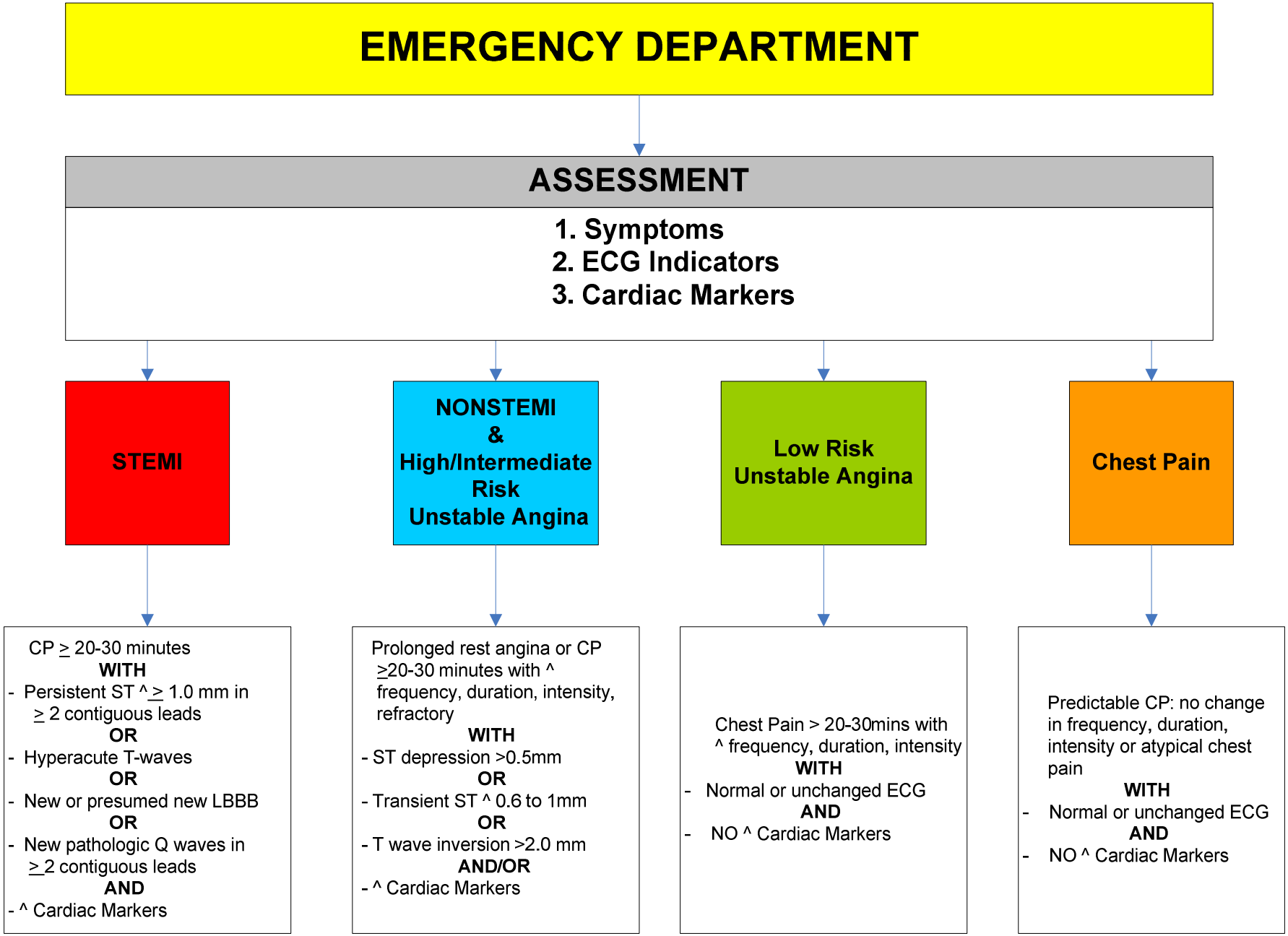
_____

_____

Physician Signature_____ **Date/Time**_____

Revision 11.16.05


Chest Pain Presentation
STEMI
NSTEMI / Unstable Angina Complete Risk Stratification
Stable Angina / Atypical Chest Pain (Chest Pain Unit)
High and Intermediate Risk
Low Risk


EMERGENCY DEPARTMENT
ASSESSMENT
1. Symptoms
2. ECG Indicators
3. Cardiac Markers
STEMI
NONSTEMI & High/Intermediate Risk Unstable Angina
Low Risk Unstable Angina
Chest Pain
CP ≥ 20-30 minutes
WITH
- Persistent ST ^ ≥ 1.0 mm in ≥ 2 contiguous leads
OR
- Hyperacute T-waves
OR
- New or presumed new LBBB
OR
- New pathologic Q waves in ≥ 2 contiguous leads
AND
- ^ Cardiac Markers
Prolonged rest angina or CP ≥20-30 minutes with ^ frequency, duration, intensity, refractory
WITH
- ST depression >0.5mm
OR
- Transient ST ^ 0.6 to 1mm
OR
- T wave inversion >2.0 mm
AND/OR
- ^ Cardiac Markers
Chest Pain > 20-30mins with ^ frequency, duration, intensity
WITH
- Normal or unchanged ECG
AND
- NO ^ Cardiac Markers
Predictable CP: no change in frequency, duration, intensity or atypical chest pain
WITH
- Normal or unchanged ECG
AND
- NO ^ Cardiac Markers

ST-SEGMENT ELEVATION INFARCTION

Assessment

1. Time since onset of symptoms
2. ECG Indicators
*New or presumed ST elevation in two or more contiguous leads
*Hyperacute T-waves(may precede ST elevation)
*New or presumed new LBBB
*Development of any Q waves in leads V1 through V3, or the development of a Q-wave >or=to 30 ms in leads I, II, aVL, aVF, V4, V5, or V6.(Q wave changes must be present in any two contiguous leads and be >or= to 1mm in depth)
3. Risk of Thrombolytics +
4. Time window to obtain Primary PCI
- Door to balloon time < 90 minutes
- Door to balloon time minus door to needle time < 60 minutes

Onset Of Symptoms: *LESS than 3 hours*

Treatment (Either Option Appropriate)

Primary PCI

To Cath Lab Immediately

Thrombolytics +
-Door to balloon time > 90 minutes

Positive Response
(Facilitated PCI)
-Resolution of chest pain
-Normal ST segments

Admit to ICU
To cath lab within 24 hours or with recurrent chest pain or ECG changes

Negative Response
(Rescue PCI)
-Continued chest pain
-No ST segments response

To cath lab immediately

Time is irrespective: PCI is Optimal
- Age > 75
- Shock
- Hypotension/Poor Perfusion
-Contraindications to Thrombolytics +

Contraindication for Thrombolytics +

-Absolute
1. Active Bleeding
2. Any prior intercranial hemorrhage
3. CVA, closed-head or facial trauma within 3 months
4, CNS neoplasm
5. Suspected Aortic Dissection
6. Pericarditis
7. Bleeding Diathesis

-Relative
1. History of chronic, severe, poorly controlled hypertension
2. Severe uncontrolled hypertension on presentation (SBP greater than 180 mm Hg or DBP greater than 110 mm Hg)
3. History of ischemic stroke greater than 3 months
4. Active peptic ulcers
5. Pregnancy
6. Age >75

+ Based on recommendations from the ACC/AHA 2002 Guideline Update for the Management of Patients with ST-Segment Elevation Myocardial Infarction

Onset Of Symptoms: *MORE than 3 hours*

Treatment (Either Option Appropriate)

Thrombolytics +
-Door to balloon time > 90 minutes

Primary PCI (Preferred Option)

To Cath Lab Immediately

Positive Response
(Facilitated PCI)
-Resolution of chest pain
-Normal ST segments

Admit to ICU
To cath lab within 24 hours or with recurrent chest pain or ECG changes

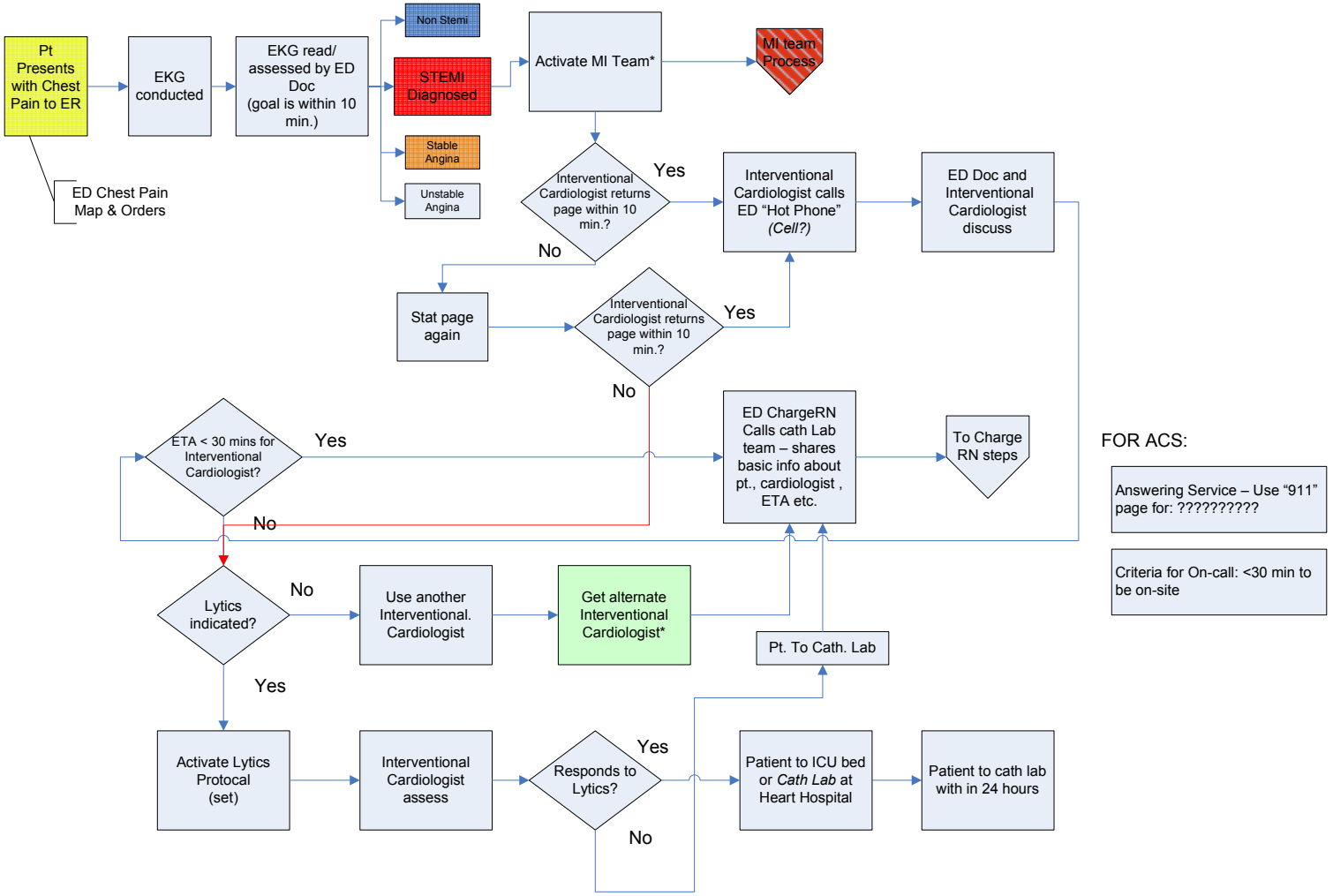
Negative Response
(Rescue PCI)
-Continued chest pain
-No ST segments response

To cath lab immediately

STEMI

Updated 4-4-05

ED Doctor Focus 1



FOR ACS:

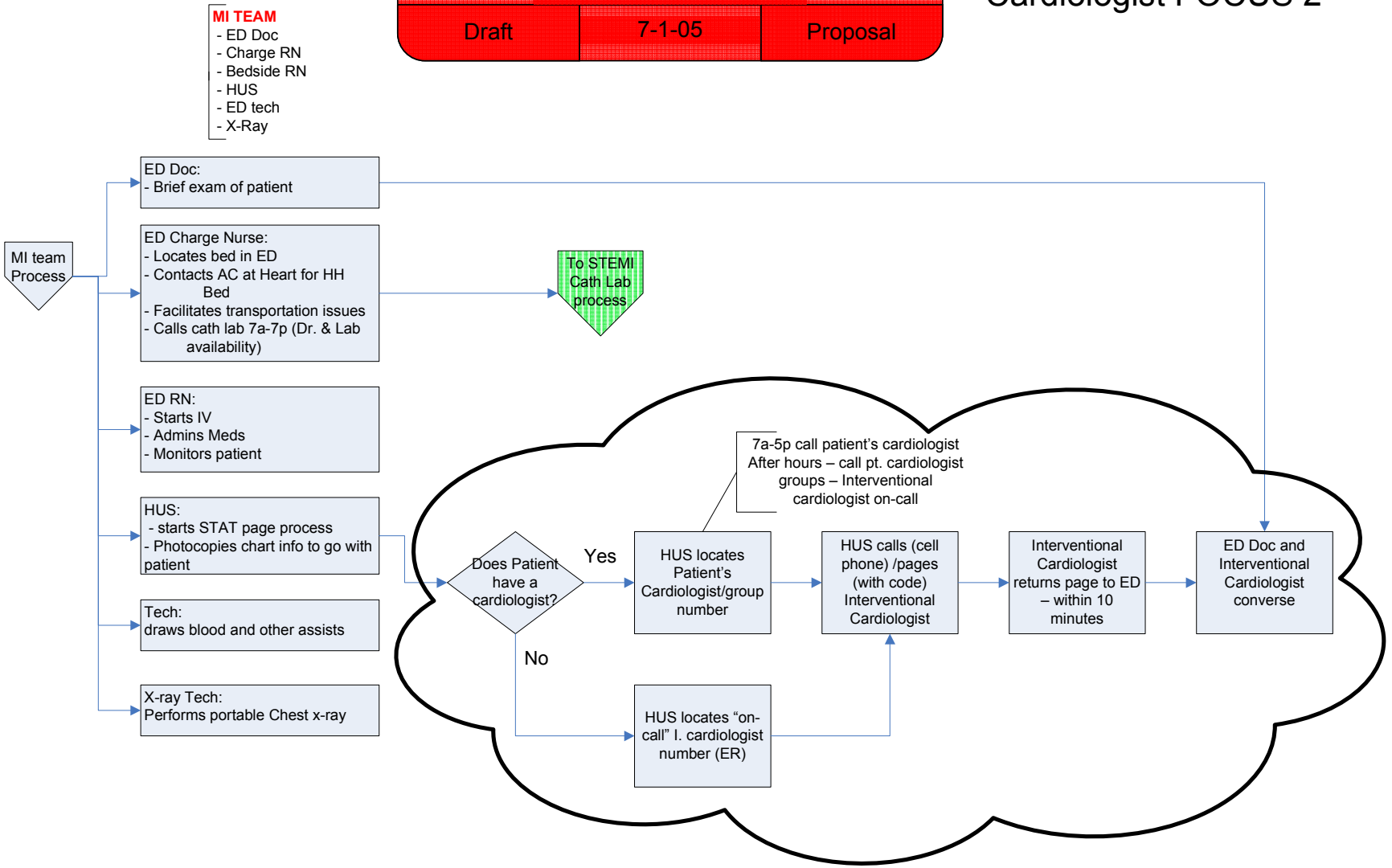
Answering Service – Use "911" page for: ??????????

Criteria for On-call: <30 min to be on-site

STEMI Process

Draft | 7-1-05 | Proposal

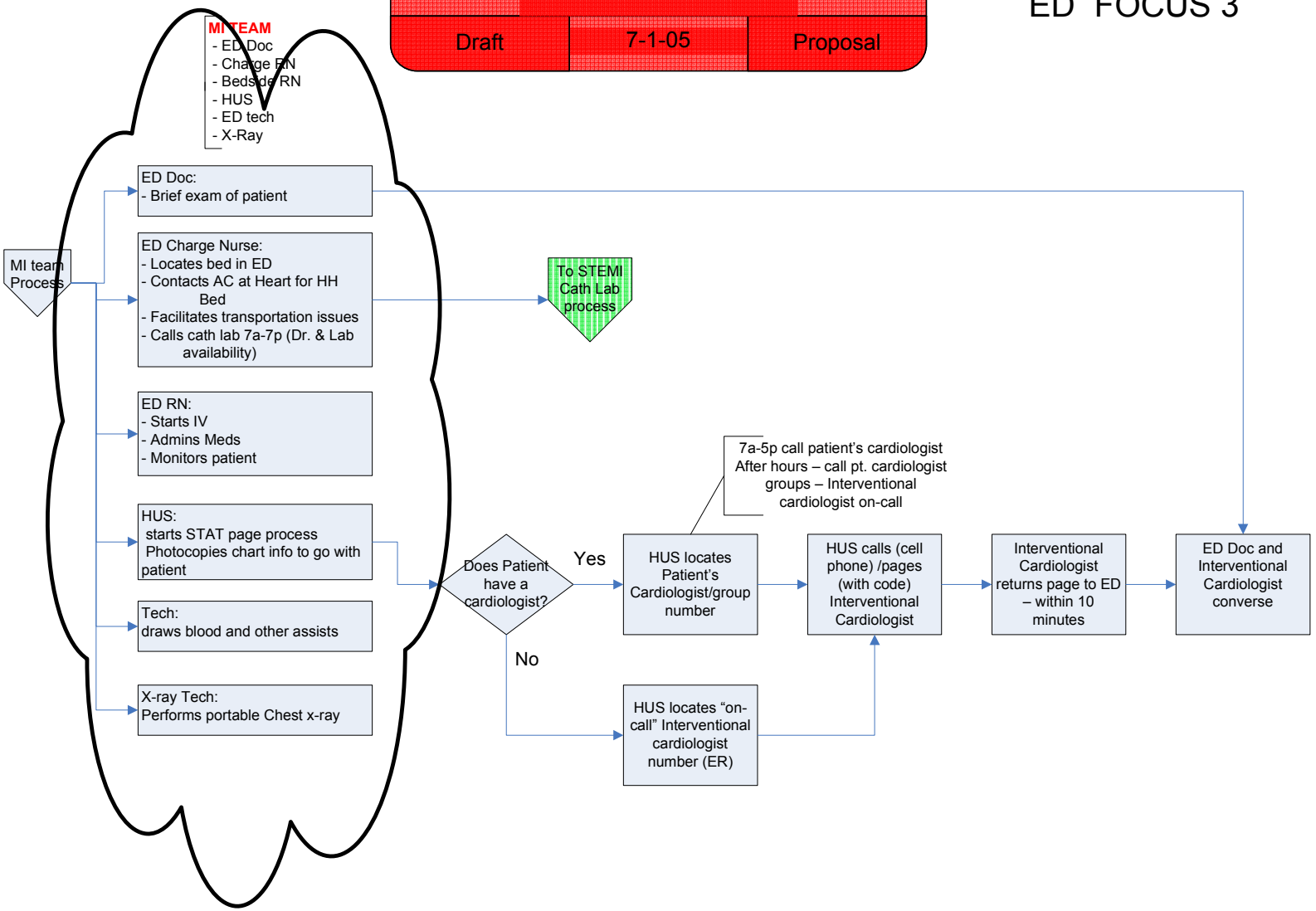
Cardiologist FOCUS 2

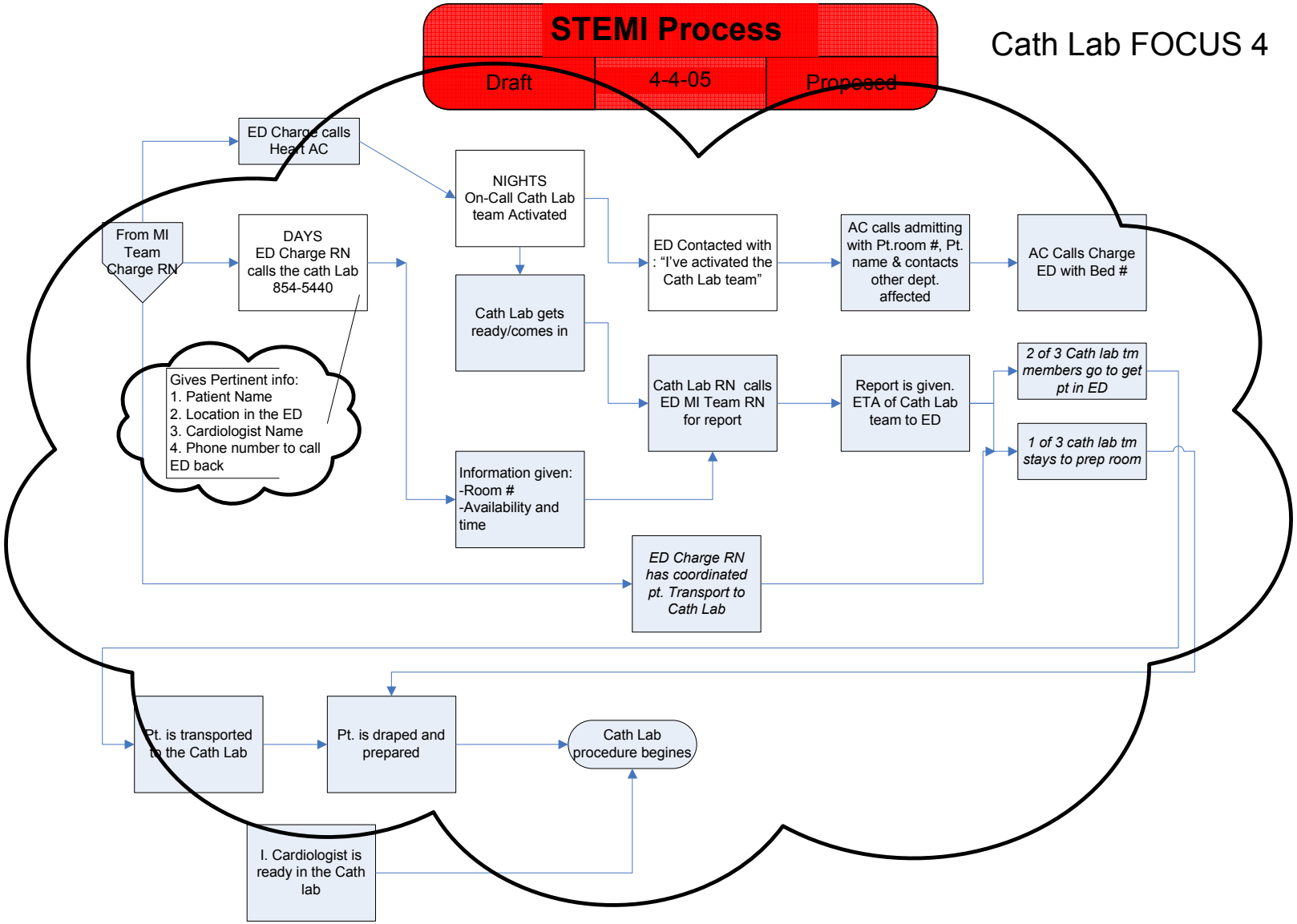


STEMI Process

Draft | 7-1-05 | Proposal

ED FOCUS 3




STEMI Process
Draft
4-4-05
Proposed
Cath Lab FOCUS 4
ED Charge calls Heart AC
From MI Team Charge RN
DAYS
ED Charge RN calls the cath Lab 854-5440
NIGHTS
On-Call Cath Lab team Activated
Cath Lab gets ready/comes in
ED Contacted with : "I've activated the Cath Lab team"
AC calls admitting with Pt.room #, Pt. name & contacts other dept. affected
AC Calls Charge ED with Bed #
Gives Pertinent info:
1. Patient Name
2. Location in the ED
3. Cardiologist Name
4. Phone number to call ED back
Information given:
-Room #
-Availability and time
Cath Lab RN calls ED MI Team RN for report
Report is given. ETA of Cath Lab team to ED
2 of 3 Cath lab tm members go to get pt in ED
1 of 3 cath lab tm stays to prep room
ED Charge RN has coordinated pt. Transport to Cath Lab
Pt. is transported to the Cath Lab
Pt. is draped and prepared
Cath Lab procedure begines
I. Cardiologist is ready in the Cath lab

ER STEMI Orders

1. STAT call to Cardiologist: _____
2. Allergies: _____
3. Patient's Weight_____ kg ☐ estimated ☐ actual

Check all appropriate boxes

4. Medications:
   - STAT Aspirin 325 mg chew PO if not already given and not allergic
     If unable to take PO, give Aspirin 300mg PR
     If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO
     ☐ **DO NOT GIVE ASPIRIN. Reason:** _____
   - Metoprolol 5 mg IV every 5 minutes X 3 doses
     Hold if HR< 55, SBP < 90, Radiographic or Clinical Evidence of Active CHF
   - Metoprolol 25 mg PO X 1, give 15 minutes **after last IV dose**
     Hold if HR< 55, SBP < 90, Radiographic or Clinical Evidence of Active CHF
     ☐ **DO NOT GIVE A BETA BLOCKER. Reason:** _____
   - Nitroglycerin 0.4 mg SL every 5 minutes X 3 PRN chest pain
     If chest pain not relieved, start Nitroglycerin IV at 10 mcg/min and titrate for pain relief maintaining SBP ≥ 90 mmHg.
   - Morphine 2-4 mg IV every 5 minutes PRN ongoing chest pain to a max of 10 mg every 1 hour
   - Lorazepam 0.5-1 mg IV/PO one time PRN anxiety
   - Ondansetron 4 mg IV one time PRN nausea
   - Acetaminophen 650 mg PO/PR one time PRN discomfort / headache
5. Thrombolytic Therapy **(Goal: Administer within 30 minutes of arrival to ED)**
   - ☐ Reteplase (RPA, Retavase®) 10 + 10 Units IV 30 minutes apart
   - ☐ Half Dose Reteplase (RPA, Retevase®) 10 units IV for facilitated or rescue PCI
6. Anticoagulation:
   - ☐ Enoxaparin 30mg IV bolus followed by Enoxaparin 1mg/kg Subcutaneous (Round to the nearest 10 mg)
   - ☐ Heparin dosing (Round to nearest 50 units)
     1. Intravenous Heparin Loading Dose: If lytic ordered, **give heparin bolus prior to lytic**
        Dose (60 units/kg) = _____ units (maximum dose of 4000 units)
     2. Intravenous Heparin Infusion Rate:
        Infusion rate (12 units/kg/hr) = _____ units/hr (maximum of 1000 units/hr)
     3. Obtain aPTT 6 hours after infusion begins

7. IV Fluids: _____
8. Additional Meds /

   Orders:_____

   _____

   _____

   _____

Physician Signature_____**Date/Time**_____

Revision 11.16.05

STEMI Care Map – Emergency Department

CONSULTATION	□ Interventional Cardiologist
ASSESSMENT	Brief, targeted history and physical performed by physician Continuous telemetry with ST segment monitoring System assessment, pain assessment Vital signs with pulse ox I&O Weight □ Bleeding precautions with thrombolytics
LABS	• CK-MB, Troponin, Myoglobin • CMP, Magnesium, CBC • PT (if patient previously on warfarin) • Guiac all stools
DIAGNOSTICS / INTERVENTIONS	• 12 Lead EKG completed and read within 10 minutes • PCXR stat • Obtain IV access □ PCI (Primary Coronary Intervention) □ Facilitated PCI/Rescue PCI □ Thrombolytics
MEDICATIONS	**MONA** □ STAT ASA (325 mg – chew) □ Ntg (0.4 mg sublingual STAT X 3, IV) □ Morphine □ Lopressor 5 mg IV every 5 minutes X 3 □ Lopressor 25 mg PO (give 1st dose 15 minutes after last IV dose) □ Heparin / Lovenox
RESPIRATORY CARE	O2 @ 2L NC Maintain O2 sats > 92%, titrate O2 as indicated
ACTIVITY / SELF-CARE	Strict bedrest
NUTRITION	NPO, except medications
EDUCATION	Diagnosis and Treatment Plan for disposition Pain scale
	Patient is pain free

STEMI Admission Orders

OUTCOMES	Door to balloon time < 90 minutes (cardiac cath lab) Door to needle time < 30 minutes (thrombolytics)

Admit to: ☐ ICU ☐ Telemetry ☐ IU

1. Diagnosis: Acute Coronary Syndrome:_____
2. Admitting Specialist: _____ Admitting Internist:_____

Initiate orders 3-13

3. Initiate STEMI care map
4. Emergency Protocol
5. Cardiac Rehab Consult
6. Oxygen 2 Liters per NC. Titrate to maintain SpO_2 >92%
7. Cardiac Diet
8. Peripheral IV, saline lock if not in use
9. Labs:
   - Admit Labs: **IF NOT DONE IN ED**: Troponin-I and CK-MB at 0, 6, and 12 hours, CBC, CMP, Magnesium, PT/INR if patient previously on warfarin, Fasting Lipid Profile, UA
   - Daily Labs: CBC, BMP, Magnesium, PT/INR if patient on warfarin ☐ Phosphorus ☐ Other_____
   - PRN Labs: RN may obtain as clinically indicated: CXR, ABG, Hgb/Hct, BMP, Magnesium, aPTT, PT/INR, CKMB until enzymes peak
10. ECG on Admission, Daily for 3 days, and PRN Chest Pain
11. Chest X-Ray: Daily for 2 days or _____
12. Finger Stick Blood Glucose AC and HS. Initiate moderate sliding scale insulin protocol. If patient not diabetic and has a Fasting Blood Sugar <110, discontinue blood glucose monitoring.
13. Follow Potassium and Magnesium Protocol.

Initiate the Following Medications, Check All Appropriate Boxes:

14. Medications
    - STAT Aspirin 325 mg chew PO if not already given in ED and not allergic, then start 81 mg PO daily
      If unable to take PO, give Aspirin 300 mg PR
      If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO daily
      ☐ **DO NOT GIVE ASPIRIN. Reason:** _____
    - ☐ Give Clopidogrel 75 mg PO daily, in addition to aspirin therapy
    - Metoprolol 25 mg PO every 6 hours x 48 hours total, then 50mg PO BID,
      Hold for HR < 55 or SBP < 90, Radiographic or Clinical Evidence of Active CHF
      or: _____, Hold for HR < _____ or SBP < _____
      ☐ **DO NOT GIVE A BETA BLOCKER. Reason:** _____
    - Captopril 6.25 mg PO every 8 hours, begin within 24 hours of STEMI, Hold for SBP < 100
      or: _____, Hold for SBP < _____
      ☐ **DO NOT GIVE AN ACE INHIBITOR. Reason:** _____
    - ☐ Losartan 25mg PO daily, Hold for SBP < 100

or: _____, Hold for SBP < _____

☐ **DO NOT GIVE AN ARB. Reason:** _____

- Pravastatin 80 mg PO at bedtime or:

  _____

  ☐ **DO NOT GIVE A STATIN. Reason:**

_____

- Senakot 1 tablet PO BID. If no results use BCOC.
- Lorazepam 1 mg PO/IV every 4 hours PRN anxiety/sleep
- Temazepam 15 mg PO at bedtime PRN sleep, may repeat x 1
- Acetaminophen 650 mg PO/PR every 4 hours PRN discomfort / headache
  (Do NOT exceed 4 gm/day total acetaminophen)
- Ondansetron 4 mg IV every 6 hours PRN nausea
- Antacid of Choice

15. Anticoagulation:
    - ☐ Regular Dose Enoxaparin 1 mg/kg Subcutaneous every 12 hours (Round to the nearest 10 mg)
    - ☐ Renal Dose Enoxaparin (CrCl <30 ml/min)
      Enoxaparin 1 mg/kg Subcutaneous every 24 hours (Round to the nearest 10 mg)
    - ☐ Heparin dosing (Round to nearest 50 units)
      1. Target aPTT is 57-80 seconds
      2. Obtain aPTT 6 hours after infusion begins
      3. **If aPTT OBTAINED within 12 HOURS of initiation of thrombolytic therapy:**
         - **DO NOT** discontinue or decrease infusion unless significant bleeding occurs or aPTT is >150
         - **DO ADJUST** rate of infusion if aPTT < 57 seconds
      4. Heparin Dosage Adjustments:

aPTT (sec)	Bolus Dose	Hold Infusion	Rate change	Repeat aPTT
<45	70 units/kg	No	↑ 2 ml/hr (200 units/hr)	6 hrs
45-56	None	No	↑ 1 ml/hr (100 units/hr)	6 hrs
57-80	None	No	None	12 hours x 1, then daily
81-100	None	No	↓ 1 ml/hr (100 units/hr)	12 hours
>100	None	60 min	↓ 2 ml/hr (200 units/hr)	6 hrs

*Repeat aPTT draw time is to begin at the time the adjustment is made (ie when infusion held or changed)

16. IV Fluids: _____
17. Additional Meds/Orders:

_____

_____

_____

_____

_____

_____

_____

Physician Signature_____**Date/Time**_____

Revision 11.16.05

Thrombolytics **STEMI** Primary PCI

Aspect of Care	Admission / Day 1 Date ________	Day 2 Date ________	Day 3 through Discharge Date(s): ________________	Discharge Date ________
CONSULTATIONS	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified
ASSESSMENT	□ Admission Database □ COA □ Advance Directive □ Bleeding precautions with thrombolytics Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment: • ICU = every 1 hr • Tele = every 4 hr I&O every shift Daily AM weight	□ Bleeding precautions with thrombolytics Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment: • ICU = every 1 hr • Tele = every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight
LABS	□ Review of ED labs □ CK-MB, Troponin (0. 6, 12 hr) □ Fasting lipid profile □ UA H/H, plts with thrombolytics PTT per Heparin protocol FS blood glucose if diabetic	H/H, plts with thrombolytics BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	H/H, plts with thrombolytics BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	H/H, plts with thrombolytics BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools

	Guiac all stools			
DIAGNOSTICS / INTERVENTIONS **EF% = _____**	□ Cath lab procedure: _____ □ IABP 12 lead EKG am/prn PCXR prn	□ IABP 12 lead EKG am/prn	□ Echocardiogram (at the discretion of the cardiologist) 12 lead EKG am/prn	12 lead EKG am/prn
MEDICATIONS **Protocols –** • **Emergency** □ • **Potassium** □ • **Magnesium** □ • **Insulin** □ • **BCOC** □	**MONA** □ IV Ntg □ Heparin / Enoxaparin Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	**MONA** □ IV Ntg □ Heparin / Enoxaparin Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy
RESPIRATORY CARE	Maintain O_2 sats > 92% Titrate O_2 as indicated	Maintain O_2 sats > 92% Titrate O_2 as indicated	Maintain O_2 sats > 92% Wean O_2 to room air	Maintain O_2 sats > 92% Wean O_2 to room air
ACTIVITY / SELF-CARE	Bedrest until enzymes have peaked and removal of sheaths – position of comfort BRP if no discomfort/distress	Bedrest until sheath removal, then OOB as tolerated Chair for meals Monitored ambulation: 25-100 feet (1-2 times) Distance walked: _____	Chair for meals Monitored ambulation: 50-200 feet (2-4 times) Distance walked: _____	Chair for meals Monitored ambulation: 150-300 feet (2-4 times) Distance walked: _____
	NPO until stable, then progress	Cardiac diet – progress from	Cardiac diet (ADA if indicated)	Cardiac diet (ADA if indicated)

NUTRITION	to clear liquids (N/V, CP free)	NPO as tolerated		
ADDITIONAL ELEMENTS OF CARE	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:
COMFORT CARE	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _______________	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _______________	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _______________	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _______________
EDUCATION *** Document on Patient Education Record - see reverse**	□ Change of Heart Book □ Smoking cessation Diagnosis and Treatment Pain Scale Cardiac Rehab for MI education and activity	□ Smoking cessation Diet / Weight / Exercise Risk factor modification Cardiac Rehab for MI education and activity Films as appropriate	□ Smoking cessation Reinforce education Home activity / exercise plan Cardiac Rehab for MI education and activity Films as appropriate	□ Smoking cessation Reinforce education
CARE COORDINATION	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse □ Patient's nurse □ Case Manager □ Social Work □ Other -	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse □ Patient's nurse □ Case Manager □ Social Work □ Other - □ Home health referral	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse □ Patient's nurse □ Case Manager □ Social Work □ Other - □ Arrangements for discharge	□ Discharge instructions given to patient: • Medications • Diet • Activity • Home exercise • S/S to report to doctor • Follow-up • Smoking cessation • Outpatient cardiac rehab

		□ Community health referral □ Outpatient cardiac rehab order obtained and arranged	discussed with patient and significant other(s)	
OUTCOMES	Patient pain free (without angina) Hemodynamic stability – • SBP > 90 mmHg • HR > 50 • Stable cardiac rhythm	Patient pain free (without angina) Hemodynamic stability	Patient without arrhythmias Patient and significant other verbalize understanding of all education and teaching	Medications appropriately prescribed Patient and significant other verbalize understanding of all medications Smoking cessation counseling provided
SIGNATURES	AM RN: _____ PM RN: _____ _____ _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____ _____ _____

NON ST-SEGMENT ELEVATION ACS

RISK STRATIFICATION*

Use TIMI Risk Score(1 point/prediction factor)

History
- Age ≥ 65
- ≥3 CAD risk factors
- Known CAD (stenosis ≥50%)
- ASA in past 7 days

Presentation
- Recent severe angina (last 24 hours)
- Elevated Cardiac Markers
- ST deviation ≥ 0.5 mm

***Consider also inflammatory markers: BNP, CHF, deep T-wave inversion on ECG, etc.**

HIGH RISK
TIMI Risk Score 5-7 points

INTERMEDIATE RISK
TIMI Risk Score 3-4 points

LOW RISK
TIMI Risk Score 0-2 points

Recommended Treatment
- Aspirin
- LMWH (enoxaparin)+ or UFH
- Nitroglycerin/morphine sulfate
- Clopidogrel*****
- GP IIb/IIIa receptor blocker *(in high or intermediate risk and going to catheterization lab within 24 hours)* eptifibatide
- Beta-Blockers
- Statin+

HIGH RISK | INTERMEDIATE RISK

*******If catheterization is planned within 24 hours of admission, clopidogrel is not started until coronary anatomy is defined and it is clear that CABG will not be scheduled. A loading dose of clopidogrel can be given to the patient in the cath lab if a PCI is to be performed immediately.**

Recommended Treatment
- Aspirin
- LMWH (enoxaparin)+ or UFH.
- Nitroglycerin/morphine sulfate
- Beta Blockers
- Statin+

LOW RISK

Catheteriization Lab Available
- Continue above therapies
- Define coronary anantomy and proceed to revascularization if feasible

Catheterization Lab Not Available
- Admit to monitored bed
- Stabilize with above therapies
- Prepare for urgent transfer to center with a catheterization lab to define coronary anatomy and proceed to revascularization if feasible within 24hours

Continue Risk-Oriented Evaluation
In accordance with protocols among departments of emergency medicine, cardiology, radiology, and catheterization lab

- Perform further non-invasive testing/provocative testing (exercise MPI, pharmacological stress imaging or echo)
- Lower risk patients may not require an extended observation period

CABG candidate
If possible, omit clopidogrel within 5 days of planned CABG

PCI candidate
- Abciximab or eptifibatide periprocedurally
- Clopidogrel at time of PCI

Inducible Ischemia

No Ischemia

Secondary Prevention
ASA, Clopidogrel++. Beta-blocker, ACE inhibitors, Statins

+ Based on Class I recommendations from the ACC/AHA 2002 Guideline Update for the Management of Patients with Unstable Angina and Non-ST-Segment Elevation Myocardial Infarction

ER NSTEMI/UA High to Intermediate Risk Orders

1. STAT call to Cardiologist: _____
2. Allergies: _____
3. Patient's Weight: _____ kg ☐ estimated ☐ actual
4. TIMI Risk Score: _____

Check all appropriate boxes

5. Medications:
   - STAT Aspirin 325 mg chew PO if not already given and not allergic
     If unable to take PO, give Aspirin 300mg PR
     If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO
     ☐ **DO NOT GIVE ASPIRIN. Reason:** _____
   - Metoprolol 5 mg IV every 5 minutes X 3 doses
     Hold if HR< 55, SBP < 90, Radiologic or Clinical Evidence of Active CHF
     Metoprolol 25 mg PO X 1, give 15 minutes **after last IV dose**
     Hold if HR< 55, SBP < 90, Radiologic or Clinical Evidence of Active CHF
     ☐ **DO NOT GIVE A BETA BLOCKER. Reason:** _____
   - Nitroglycerin 0.4 mg SL every 5 minutes X 3 PRN chest pain
     If chest pain not relieved, start Nitroglycerin IV at 10 mcg/min and titrate for pain relief maintaining SBP ≥ 90 mmHg.
   - Morphine 2-4 mg IV every 5 minutes PRN ongoing chest pain to a max of 10 mg every 1 hour
   - Lorazepam 0.5-1 mg PO one time PRN anxiety
   - Ondansetron 4 mg IV every 6 hours PRN nausea
   - Acetaminophen 650 mg PO/PR every 4 hours PRN discomfort / headache
     (Do NOT exceed 4 gm/day total acetaminophen)
6. Anticoagulation:
   - ☐ Enoxaparin 1 mg/kg Subcutaneous every 12 hours (Round to the nearest 10 mg)
   - ☐ Renal Dose Enoxaparin (CrCl <30 ml/min)
     Enoxaparin 1mg/kg Subcutaneous every 24 hours (Round to the nearest 10mg)
   - ☐ Heparin dosing (Round to nearest 50 units)
     1. Intravenous Heparin Loading Dose:
        Dose (60 units/kg) = _____ units (maximum dose of 4000 units)
     4. Intravenous Heparin Infusion Rate:
        Infusion rate (12 units/kg/hr) = _____ units/hr (maximum of 1000 units/hr)
     5. Obtain aPTT 6 hours after infusion begins
7. Initiate Glycoprotein IIb/IIIa inhibitors as requested by cardiologist
   - ☐ Eptifibatide (Integrelin®) **For normal renal function**:
     Eptifibatide 180 mcg/kg IV bolus over 2 minutes, then 2 mcg/kg/min IV infusion
   - ☐ Eptifibatide (Integrelin®) **For CrCl < 50 ml/min**:
     Eptifibatide 180 mcg/kg IV bolus over 2 minutes, then 1 mcg/kg/min IV infusion

8. IV Fluids: _____
9. Additional Meds /

   Orders:_____

   _____

   _____

   _____

Physician Signature _____**Date/Time**_____
Revision 11.16.05

ER Unstable Angina Low Risk Orders

1. STAT call to Cardiologist: _____
2. Allergies: _____
3. Patient's Weight: _____ kg ☐ estimated ☐ actual
4. TIMI Risk Score: _____

Check all appropriate boxes

5. Medications:
   - STAT Aspirin 325 mg chew PO if not already given and not allergic
     If unable to take PO, give Aspirin 300mg PR
     If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO
     ☐ **DO NOT GIVE ASPIRIN. Reason:** _____
   - Metoprolol 25 mg PO one time
     Hold if HR< 55, SBP < 90, Radiographic or Clinical Evidence of Active CHF
     ☐ **DO NOT GIVE A BETA BLOCKER. Reason:** _____
   - Nitroglycerin 0.4 mg SL every 5 minutes X 3 PRN chest pain
     If chest pain not relieved, start Nitroglycerin IV at 10 mcg/min and titrate for pain relief maintaining SBP ≥ 90 mmHg.
   - Morphine 2-4 mg IV every 5 minutes PRN ongoing chest pain to a max of 10 mg every 1 hour
   - Lorazepam 0.5-1 mg PO one time PRN anxiety
   - Ondansetron 4 mg IV every 6 hours PRN nausea
   - Acetaminophen 650 mg PO/PR every 4 hours PRN discomfort / headache
     (Do NOT exceed 4 gm/day total acetaminophen)
6. Anticoagulation:
   - ☐ Enoxaparin 1 mg/kg Subcutaneous every 12 hours (Round to the nearest 10 mg)
   - ☐ Renal Dose Enoxaparin (CrCl <30 ml/min)
     Enoxaparin 1mg/kg Subcutaneous every 24 hours (Round to the nearest 10mg)
   - ☐ Heparin dosing (Round to nearest 50 units)
     1. Intravenous Heparin Loading Dose:
        Dose (60 units/kg) = _____ units (maximum dose of 4000 units)
     6. Intravenous Heparin Infusion Rate:
        Infusion rate (12 units/kg/hr) = _____ units/hr (maximum of 1000 units/hr)
     7. Obtain aPTT 6 hours after infusion begins
7. IV Fluids: _____
8. Additional Meds /

   Orders:_____

   _____

   _____

   _____

Physician Signature _____**Date/Time**_____

Revision 11.16.05

Non-STEMI / Unstable Angina Care Map – Emergency Department

CONSULTATION	□ Cardiologist
ASSESSMENT	Brief, targeted history and physical performed by ED physician Risk stratification to - ↑ High/Intermediate Risk ↑ Low Risk Continuous telemetry with ST segment monitoring System assessment, pain assessment Vital signs with pulse ox I&O Weight
LABS	• CK-MB, Troponin, Myoglobin • CMP, Magnesium, CBC • PT (if patient previously on warfarin) • Guiac all stools
DIAGNOSTICS / INTERVENTIONS	• 12 Lead EKG completed and read within 10 minutes • PCXR stat • Obtain IV access
MEDICATIONS	**MONA** □ STAT ASA (325 mg – chew) □ Ntg (0.4 mg sublingual STAT X 3, IV) □ Lopressor 5 mg IV every 5 minutes X 3 □ Lopressor 25 mg PO (hold HR < 55, SBP<90, CHF) □ Heparin / Lovenox □ GP IIb/IIIa (High and intermediate risk patients only)
RESPIRATORY CARE	O2 @ 2L NC Maintain O2 sats > 92%, titrate O2 as indicated
ACTIVITY / SELF-CARE	Bedrest
NUTRITION	NPO, except medications
EDUCATION	Diagnosis and Treatment Plan for disposition Pain scale
OUTCOMES	Patient is pain free Patient hemodynamically stable Cardiologist to direct patient care

NSTEMI / UA High to Intermediate Risk Admission Orders

Admit to: ☐ ICU ☐ Telemetry ☐ IU

1. Diagnosis: Acute Coronary Syndrome:_____
2. Admitting Specialist: _____ Admitting Internist:_____

Initiate orders 3-13

3. Initiate NSTEMI/UA High/Intermediate Risk care map
4. Emergency Protocol
5. Cardiac Rehab Consult
6. Oxygen 2 Liters per NC. Titrate to maintain SpO_2 >92%
7. Cardiac Diet
8. Peripheral IV, saline lock if not in use
9. Labs:
   - Admit Labs: **IF NOT DONE IN ED**: Troponin-I and CK-MB at 0, 6, and 12 hours, CBC, CMP, Magnesium, PT/INR if patient previously on warfarin, Fasting Lipid Profile, UA
   - Daily Labs: CBC, BMP, Magnesium, PT/INR if patient on warfarin ☐ Phosphorus ☐ Other_____
   - PRN Labs: RN may obtain as clinically indicated: CXR, ABG, Hgb/Hct, BMP, Magnesium, aPTT, CKMB until enzymes peak
10. ECG on Admission, Daily for 3 days, and PRN Chest Pain
11. Chest X-Ray: Daily for 2 days or _____
12. Finger Stick Blood Glucose AC and HS. Initiate moderate sliding scale insulin protocol. If patient not diabetic and has a Fasting Blood Sugar <110, discontinue blood glucose monitoring.
13. Follow Potassium and Magnesium Protocol.

Initiate the Following Medications, Check All Appropriate Boxes:

14. Medications
    - STAT Aspirin 325 mg chew PO if not already given in ED and not allergic, then start 81 mg PO daily
      If unable to take PO, give Aspirin 300 mg PR
      If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO daily
      ☐ **DO NOT GIVE ASPIRIN. Reason:** _____
    - ☐ Give Clopidogrel 75 mg PO daily, in addition to aspirin therapy
    - Metoprolol 25 mg PO every 6 hours x 48 hours total, then 50mg PO BID,
      Hold for HR < 55 or SBP < 90, Radiographic or Clinical Evidence of Active CHF
      or: _____, Hold for HR < _____ or SBP < _____
      ☐ **DO NOT GIVE A BETA BLOCKER. Reason:**
      _____
    - Captopril 6.25 mg PO every 8 hours, Hold for SBP < 100
      or: _____, Hold for SBP < _____
      ☐ **DO NOT GIVE AN ACE INHIBITOR. Reason:**
      _____
    - ☐ Losartan 25mg PO daily, Hold for SBP < 100
      or: _____, Hold for SBP < _____
      ☐ **DO NOT GIVE AN ARB. Reason:** _____
    - Pravastatin 80 mg PO at bedtime or: _____
      ☐ **DO NOT GIVE A STATIN. Reason:**
      _____

- Senakot 1 tablet PO BID, If no results use BCOC.
- Lorazepam 1 mg PO/IV every 4 hours PRN anxiety/sleep
- Temazepam 15 mg PO at bedtime PRN sleep, may repeat x 1
- Acetaminophen 650 mg PO/PR every 4 hours PRN discomfort / headache
  (Do NOT exceed 4 gm/day total acetaminophen)
- Ondansetron 4 mg IV every 6 hours PRN nausea
- Antacid of Choice

15. Anticoagulation:
    - ☐ Regular Dose Enoxaparin 1 mg/kg Subcutaneous every 12 hours (Round to the nearest 10 mg)
    - ☐ Renal Dose Enoxaparin (CrCl <30 ml/min)
      Enoxaparin 1 mg/kg Subcutaneous every 24 hours (Round to the nearest 10 mg)
    - ☐ Heparin dosing (Round to nearest 50 units)
      1. Target aPTT is 57-80 seconds
      2. Obtain aPTT 6 hours after infusion begins
      3. Heparin Dosage Adjustments:

aPTT (sec)	Bolus Dose	Hold Infusion	Rate change	Repeat aPTT
<45	70 units/kg	No	↑ 2 ml/hr (200 units/hr)	6 hrs
45-56	None	No	↑ 1 ml/hr (100 units/hr)	6 hrs
57-80	None	No	None	12 hours x 1, then daily
81-100	None	No	↓ 1 ml/hr (100 units/hr)	12 hours
>100	None	60 min	↓ 2 ml/hr (200 units/hr)	6 hrs

*Repeat aPTT draw time is to begin at the time the adjustment is made (ie when infusion held or changed)

16. Glycoprotein IIb/IIIa Inhibitor:
    - ☐ Eptifibatide (Integrelin®) **For normal renal function**:
      Eptifibatide 180 mcg/kg IV bolus over 2 minutes, then 2 mcg/kg/min IV infusion
    - ☐ Eptifibatide (Integrelin®) **For CrCl < 50 ml/min**:
      Eptifibatide 180 mcg/kg IV bolus over 2 minutes, then 1 mcg/kg/min IV infusion

17. IV Fluids: _____

18. Additional Meds/Orders:

_____

_____

_____

_____

_____

_____

_____

19. Cardiac Diagnostic Procedures:
    - ☐ Exercise Stress Test
    - ☐ Adenosine Stress Test
    - ☐ Dobutamine Stress Test

Test to be scheduled and performed if enzymes are negative and there is no ongoing chest pain.
If either present, contact Attending Cardiologist

☐ Transthoracic ECHO
☐ Stress ECHO

Diagnostic Test to be read by _____Number _____

☐ Cardiac Catheterization (Cardiologist to schedule procedure)

Physician Signature_____Date/Time_____
Revision 11.16.05

Non-STEMI / Unstable Angina (High & Intermediate Risk)

Aspect of Care	Admission / Day 1 Date _____	Day 2 Date _____	Day 3 through Discharge Date(s) _____	Discharge Date _____
CONSULTATIONS	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist dAddress needs as identifie	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified
ASSESSMENT	□ Admission Database □ COA □ Advance Directive Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment: • ICU = every 1 hr • Tele = every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight
LABS	□ Review of ED labs □ CK-MB, Troponin (0, 6, 12 hr) □ Fasting lipid profile □ UA PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	CBC, BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	CBC, BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	CBC, BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools

DIAGNOSTICS / INTERVENTIONS **EF% =** _____	□ Echocardiogram □ Cath lab procedure: _____ □ IABP □ Adenosine Stress Test (at the discretion of the cardiologist) 12 lead EKG am/prn PCXR prn	□ Echocardiogram (if not done on Day 1) □ Cath lab procedure: _____ □ IABP □ Adenosine Stress Test (at the discretion of the cardiologist) 12 lead EKG am/prn PCXR prn	12 lead EKG am/prn	12 lead EKG am/prn
MEDICATIONS **Protocols –** • **Emergency** □ • **Potassium** □ • **Magnesium** □ • **Insulin** □ • **BCOC** □	**MONA** □ IV Ntg □ Heparin / Enoxaparin □ GP IIb/IIIa Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	**MONA** □ IV Ntg □ Heparin / Enoxaparin □ GP IIb/IIIa Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy
RESPIRATORY CARE	Maintain O_2 sats > 92% Titrate O_2 as indicated	Maintain O_2 sats > 92% Titrate O_2 as indicated	Maintain O_2 sats > 92% Wean O_2 to room air	Maintain O_2 sats > 92% Wean O_2 to room air
ACTIVITY / SELF-CARE	BRP if no discomfort/distress	Bedrest until sheath removal, then OOB as tolerated Chair for meals Monitored ambulation: 25-100 feet (1-2 times)	Chair for meals Monitored ambulation: 50-200 feet (2-4 times)	Chair for meals Monitored ambulation: 150-300 feet (2-4 times)

		Distance walked: ____________	Distance walked: ____________	Distance walked: ____________
NUTRITION	Cardiac diet – progress from NPO as tolerated	Cardiac diet (ADA if indicated)	Cardiac diet (ADA if indicated)	Cardiac diet (ADA if indicated)
ADDITONAL ELEMENTS OF CARE	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:
COMFORT CARE	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: ______________	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: ______________	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: ______________	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: ______________
EDUCATION *** Document on Patient Education Record - see reverse**	□ Change of Heart Book □ Smoking Cessation Diagnosis and Treatment Pain Scale Cardiac Rehab for ACS education and activity	□ Smoking cessation Diet / Weight / Exercise Risk factor modification Films as appropriate	□ Smoking cessation Reinforce education Home activity / exercise plan Films as appropriate	□ Smoking cessation Reinforce education
CARE COORDINATION	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse □ Patient's nurse	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse □ Patient's nurse	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse □ Patient's nurse	□ Discharge instructions given to patient: • Medications • Diet • Activity • Home exercise • S/S to report to doctor

	□ Case Manager □ Social Work □ Other -	□ Case Manager □ Social Work □ Other - □ Home health referral □ Community health referral □ Outpatient cardiac rehab order obtained and arranged	□ Case Manager □ Social Work □ Other - □ Arrangements for discharge discussed with patient and significant other(s)	• Follow-up • Smoking cessation • Outpatient cardiac rehab
OUTCOMES	Patient pain free (without angina) Hemodynamic stability – • SBP > 90 mmHg • HR > 50 • Stable cardiac rhythm	Patient pain free (without angina) Patient with stable cardiac rhythm	Patient with stable cardiac rhythm Patient and significant other verbalize understanding of all education and teaching	Medications appropriately prescribed Patient and significant other verbalize understanding of all medications Smoking cessation counseling provided
SIGNATURES	AM RN: _____ PM RN: _____ _____ _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____ _____ _____

Unstable Angina Low Risk Admission Orders

Admit to: ☐ ICU ☐ Telemetry ☐ IU

1. Diagnosis: Acute Coronary Syndrome:_____
2. Admitting Specialist: _____ Admitting Internist:_____

Initiate orders 3-13

3. Initiate NSTEMI/UA Low Risk care map
4. Emergency Protocol
5. Cardiac Rehab Consult
6. Oxygen 2 Liters per NC. Titrate to maintain SpO_2 >92%
7. Cardiac Diet
8. Peripheral IV, saline lock if not in use
9. Labs:
   - Admit Labs: **IF NOT DONE IN ED**: Troponin-I and CK-MB at 0 and 6 hours, Myoglobin at 0 and 3 hours, CBC, CMP, Magnesium, PT/INR if patient previously on warfarin, Fasting Lipid Profile, UA
   - Daily PT/INR if patient on warfarin
   - PRN Labs: RN may obtain as clinically indicated: CXR, ABG, Hgb/Hct, BMP, Magnesium, aPTT, CKMB until enzymes peak
10. ECG on Admission, and PRN Chest Pain
11. Chest X-Ray **IF NOT DONE IN ED**
12. Finger Stick Blood Glucose AC and HS. Initiate moderate sliding scale insulin protocol. If patient not diabetic and has a Fasting Blood Sugar <110, discontinue blood glucose monitoring.
13. Follow Potassium and Magnesium Protocol

Initiate the Following Medications, Check All Appropriate Boxes:

14. Medications
    - STAT Aspirin 325 mg chew PO if not already given in ED and not allergic, then start 81 mg PO daily
      If unable to take PO, give Aspirin 300 mg PR
      If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO daily
      ☐ **DO NOT GIVE ASPIRIN. Reason:** _____
    - ☐ Give Clopidogrel 75 mg PO daily, in addition to aspirin therapy
    - Metoprolol 25 mg PO BID, Hold for HR <55, SBP <90, Radiographic or Clinical Evidence of Active CHF
      or: _____, Hold for HR < _____ or SBP < _____
      ☐ **DO NOT GIVE A BETA BLOCKER. Reason:** _____
    - ☐ Captopril 6.25 mg PO every 8 hours, Hold for SBP < 100
      or: _____, Hold for SBP < _____
      ☐ **DO NOT GIVE AN ACE INHIBITOR. Reason:**
      _____
    - ☐ Losartan 25mg PO daily, Hold for SBP < 100
      or: _____, Hold for SBP < _____
      ☐ **DO NOT GIVE AN ARB. Reason:** _____
    - Pravastatin 80 mg PO at bedtime or: _____
      ☐ **DO NOT GIVE A STATIN. Reason:**
      _____
    - Senakot 1 tablet PO BID. If no results use BCOC.
    - Lorazepam 1 mg PO/IV every 4 hours PRN anxiety/sleep
    - Temazepam 15 mg PO at bedtime PRN sleep, may repeat x 1
    - Acetaminophen 650 mg PO/PR every 4 hours PRN discomfort / headache
      (Do NOT exceed 4 gm/day total acetaminophen)
    - Ondansetron 4 mg IV every 6 hours PRN nausea

- Antacid of Choice

15. Anticoagulation:
    - ☐ Regular Dose Enoxaparin 1 mg/kg Subcutaneous every 12 hours (Round to the nearest 10 mg)
    - ☐ Renal Dose Enoxaparin (CrCl <30 ml/min)
      Enoxaparin 1 mg/kg Subcutaneous every 24 hours (Round to the nearest 10 mg)
    - ☐ Heparin dosing (Round to nearest 50 units)
        1. Target aPTT is 57-80 seconds
        2. Obtain aPTT 6 hours after infusion begins
        3. Heparin Dosage Adjustments:

aPTT (sec)	Bolus Dose	Hold Infusion	Rate change	Repeat aPTT
<45	70 units/kg	No	↑ 2 ml/hr (200 units/hr)	6 hrs
45-56	None	No	↑ 1 ml/hr (100 units/hr)	6 hrs
57-80	None	No	None	12 hours x 1, then daily
81-100	None	No	↓ 1 ml/hr (100 units/hr)	12 hours
>100	None	60 min	↓ 2 ml/hr (200 units/hr)	6 hrs

*Repeat aPTT draw time is to begin at the time the adjustment is made (ie when infusion held or changed)

16. IV Fluids: _____
17. Additional Meds/Orders:

_____

_____

_____

_____

_____

_____

_____

18. Cardiac Diagnostic Procedures:
    - ☐ Exercise Stress Test
    - ☐ Adenosine Stress Test
    - ☐ Dobutamine Stress Test

    Test to be scheduled and performed if enzymes are negative and there is no ongoing chest pain.
    If either present, contact Attending Cardiologist

    - ☐ Transthoracic ECHO
    - ☐ Stress ECHO

    Diagnostic Test to be read by _____Number _____

    - ☐ Cardiac Catheterization (Cardiologist to schedule procedure)

Physician Signature_____**Date/Time**_____

11.16.05

Unstable Angina (Low Risk)

Aspect of Care	Admission / Day 1 Date _____	Day 2 through Discharge Date(s) _____	Discharge Date _____
CONSULTATIONS	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified	□ Cardiac Rehab □ Dietary (Nutrition Screen) □ Social Work □ Chaplain □ Clinical Pharmacist Address needs as identified
ASSESSMENT	□ Admission Database □ COA □ Advance Directive Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight	Continuous Telemetry with ST segment monitoring Systems assessment every 4 hr VS with pulse ox and pain assessment every 4 hr I&O every shift Daily AM weight
LABS	□ Review of ED labs □ Myoglobin (0, 3 hr) □ CK-MB, Troponin (0, 6 hr) □ Fasting lipid profile □ UA PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	CBC, BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools	CBC, BMP, Magnesium PT, PTT per Heparin protocol FS blood glucose if diabetic Guiac all stools
DIAGNOSTICS / INTERVENTIONS **EF% =** _____	□ Echocardiogram □ Stress Test 12 lead EKG am/prn PCXR prn	□ Echocardiogram (if not done on Day 1) □ Cath lab procedure: _____ 12 lead EKG am/prn PCXR prn	12 lead EKG am/prn
MEDICATIONS **Protocols –** • **Emergency** □ • **Potassium** □	**MONA** □ SL Ntg □ Heparin / Enoxaparin Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs)	**MONA** □ SL Ntg □ Heparin / Enoxaparin Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs)	Active Medications: □ ASA □ Plavix (PCI, allergy to ASA) □ Beta blocker □ ACEI/ARB (begin within 24 hrs) □ Statin

• **Magnesium** □ • **Insulin** □ • **BCOC** □	□ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	□ Statin □ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy	□ Insulin protocol (goal BG < 150) □ Discussed with physician for non-active medications □ MAR corrections to pharmacy
RESPIRATORY CARE	Maintain O_2 sats > 92% Titrate O_2 as indicated	Maintain O_2 sats > 92% Titrate O_2 as indicated	Maintain O_2 sats > 92% Wean O_2 to room air
ACTIVITY / SELF-CARE	BRP if no discomfort/distress	Bedrest until sheath removal, then OOB as tolerated Chair for meals Monitored ambulation: 25-100 feet (1-2 times) Distance walked: _____	Chair for meals Monitored ambulation: 150-300 feet (2-4 times) Distance walked: _____
NUTRITION	Cardiac diet NPO for procedures	Cardiac diet (ADA if indicated) NPO for procedures	Cardiac diet (ADA if indicated)
ADDITONAL ELEMENTS OF CARE	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:	□ Pain □ Skin / tissue integrity □ Elimination □ High Fall Risk □ Other:
COMFORT CARE	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _____	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _____	□ Partners in Caring □ Backrub □ Pet Therapy □ Reiki Therapy □ Spiritual Care □ Humor Therapy □ Other: _____
EDUCATION *** Document on Patient Education Record - see reverse**	□ Change of Heart Book □ Smoking Cessation Diagnosis and Treatment Pain Scale Cardiac Rehab for ACS education and activity	□ Smoking Cessation Diet / Weight / Exercise Risk factor modification Films as appropriate	□ Smoking Cessation Reinforce education
CARE	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse	Care Coordination Rounds Care Coordination Team: □ Specialist □ Internist □ Charge Nurse	□ Discharge instructions given to patient: • Medications • Diet • Activity

COORDINATION	□ Patient's nurse □ Case Manager □ Social Work □ Other -	□ Patient's nurse □ Case Manager □ Social Work □ Other - □ Home health referral □ Community health referral □ Outpatient cardiac rehab order obtained and arranged	• Home exercise • S/S to report to doctor • Follow-up • Smoking cessation • Outpatient cardiac rehab
OUTCOMES	Patient pain free (without angina) Hemodynamic stability – • SBP > 90 mmHg • HR > 50 • Stable cardiac rhythm	Patient pain free (without angina) Patient with stable cardiac rhythm	Medications appropriately prescribed Patient and significant other verbalize understanding of all medications Smoking cessation counseling provided
SIGNATURES	AM RN: _____ PM RN: _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____	AM RN: _____ PM RN: _____ _____ _____

Chest Pain Unit: Chest Pain of Possible Cardiac Origin

1. Place in Chest Pain Unit (CPU) on Observation Status Time: _____
2. Diagnosis: _____
3. Consult Cardiologist upon movement to CPU: _____
4. Allergies: _____
5. Patient's Weight_____ kg ☐ estimated ☐ actual

Initiate orders 5-12

6. Initiate Chest Pain Unit care map
7. Oxygen 2 Liters per NC. Titrate to maintain SpO_2 >92%
8. Cardiac Diet
9. Peripheral IV, saline lock if not in use
10. Labs:
    - Cardiac Markers: Troponin-I and CK-MB at 0 and 6 hours, Myoglobin at 0 and 3 hours
    - BMP, CBC, Fasting Lipid Profile, PT/INR if patient previously on warfarin (Coumadin®)
    - ☐ TSH
11. Second ECG 6 hours after initial ECG, and PRN for persistent or recurrent chest pain (Notify Physician)
12. Portable CXR. **IF NOT DONE IN ED**
13. Education: Offer materials as appropriate: ☐ Smoking Cessation ☐ Diet ☐ CAD ☐ CHF

Initiate the Following Medications, Check All Appropriate Boxes:

14. Medications:
    - STAT Aspirin 325 mg chew PO if not already given in ED and not allergic, then start 81 mg PO daily
      If unable to take PO, give Aspirin 300 mg PR
      If patient has a **TRUE** Aspirin allergy, give clopidogrel 75 mg PO daily
    - Nitroglycerin 0.4 mg SL every 5 minutes X 3 PRN chest pain
      If chest pain not relieved, start Nitroglycerin IV at 10 mcg/min and titrate for pain relief maintaining SBP ≥ 90 mmHg.
    - Morphine 2-4 mg IV every 5 minutes PRN ongoing chest pain to a max of 10 mg every 1 hour
    - Lorazepam 1 mg PO/IV every 4 hours PRN anxiety/sleep
    - Acetaminophen 650 mg PO/PR every 4 hours PRN discomfort / headache
      (Do NOT exceed 4 gm/day total acetaminophen)
    - Ondansetron 4 mg IV every 6 hours PRN nausea
    - Senakot 1 tablet PO BID PRN constipation. If no results use BCOC.
    - Antacid of Choice
15. IV Fluids: _____
16. Additional Meds / Orders:_____

_____

17. Cardiac Diagnostic Procedures:
    - ☐ Exercise Stress Test
    - ☐ Adenosine Stress Test
    - ☐ Dobutamine Stress Test
    - ☐ Transthoracic ECHO
    - ☐ Stress ECHO

Test to be scheduled and performed if enzymes are negative and there is no ongoing chest pain.
If either present, contact Attending Cardiologist

Diagnostic Test to be read by _____Number _____

☐ Cardiac Catheterization (Cardiologist to schedule procedure)

18. Disposition: Discharge patient if ordered by consultant and cardiac markers are negative

Physician signature: _____Time_____

Revision 11.16.05

Chest Pain Unit Care Map – Emergency Department (Low Risk, Stable Angina, Atypical Chest Pain)	
CONSULTATION	□ Cardiologist: _____
ASSESSMENT	Brief, targeted history and physical performed by ED physician Continuous telemetry with ST segment monitoring System assessment, pain assessment Vital signs with pulse ox I&O Weight
LABS	• Myoglobin at 0, 3 hrs • CK-MB, Troponin at 0, 6, 12 hrs • CMP, Magnesium, CBC • PT (if patient previously on warfarin) • Guiac all stools
DIAGNOSTICS / INTERVENTIONS	• PCXR • Obtain IV access □ Exercise Stress Test □ Adenosine Stress Test □ Dobutamine Stress Test □ Stress ECHO □ TEE □ Cardiac Catheterization
MEDICATIONS	**MONA** □ STAT ASA (325 mg – chew) □ Ntg (0.4 mg sublingual STAT X 3, IV)
RESPIRATORY CARE	O2 @ 2L NC Maintain O2 sats > 92%, titrate O2 as indicated
ACTIVITY / SELF-CARE	Bedrest, advance to BRP as tolerated

NUTRITION	NPO until stable, then advance to cardiac diet as tolerated
EDUCATION	Diagnosis and Treatment Plan for disposition Pain scale
OUTCOMES	Patient is pain free Patient hemodynamically stable Cardiologist to direct patient care