

Chest Pain Care Guide

September 2011



CALIFORNIA CORRECTIONAL
HEALTH CARE SERVICES

SUMMARY

GOALS

- ✓ Appropriately identify and refer patients when Acute Coronary Syndrome (ACS) or other life-threatening emergencies suspected
- ✓ Identify and manage patients with non-life threatening causes of chest pain
- ✓ Appropriately document clinical decision-making whether evaluating patient by phone or onsite
- ✓ Coordinate with cardiologist to appropriately evaluate, and manage patients with recurrent chest pain.

DIAGNOSTIC CRITERIA/EVALUATION

- **History (description of CP, cardiac risk factors, prior cardiac hx), Brief PE, 12 lead EKG to be addressed with each patient with chest pain whether taking call from home or on-site evaluation.**
- ***No single feature of a patient's history, risk factors, exam or EKG can rule out or rule in ACS***

ASSESS CHEST PAIN

Quality, location, radiation, duration, provoking or relieving factors or associated symptoms (See p.7)

ASSESS CARDIAC RISK FACTORS

Traditional: DM, hyperlipidemia, HTN, Smoking, male, age >40 years, family history of premature CHD

Nontraditional: Obesity, sympathomimetic drug use, coronary artery spasm, estrogen or Birth Control Pill use, collagen vascular disease, cardiomyopathy, H/O chest radiation, sickle cell, chronic kidney disease, rheumatoid arthritis/inflammatory arthritides

PRIOR CARDIAC HX

History of ischemic heart disease and any previous treatment or investigations of chest pain

PHYSICAL EXAM

Vital signs including oxygen saturation, cardiac (murmur, rubs, edema), pulmonary (rhonchi, rales, wheezes): per nursing report if not on-site evaluation

EKG

A normal EKG markedly reduces the probability that chest pain is due to acute myocardial infarction, but it does not exclude a serious cardiac etiology (particularly unstable angina).

ACS MEDICAL DECISION MAKING

- No one chest pain descriptor, history or exam element, or EKG finding can rule in or rule out ACS.
- Use medical decision making/clinical judgment when evaluating a patient.
- Tools exist to assist in risk-stratifying patients, see pgs 2 and 6
- Document your medical decision-making including working diagnosis (if available) in the Assessment/Plan both when evaluating patient onsite or by phone

RULE OUT NON-ACS LIFE THREATENING CAUSES OF CHEST PAIN* (SEE PG 10)

Consider serious non-ACS causes especially if co-morbidities and risk factors for disease are present

- Consider aortic dissection if sudden onset ripping/tearing pain
- Consider pulmonary embolus or pneumothorax with sudden onset pain and dyspnea
- Consider pericarditis/pericardial tamponade if pleuritic or positional anterior pain
- Consider esophageal rupture if recent vomiting or EGD or concomitant respiratory and GI symptoms

Prompt (Code 3) transport to ED if above diagnoses suspected based on history and RN evaluation, especially if vital signs abnormal

Consider CXR in addition to EKG and PCP physical exam (document heart sounds and breath sounds) if clinical suspicion lower for above life-threatening conditions, but no alternative diagnosis established.

TREATMENT OPTIONS/MONITORING

If ACS suspected:

- Call for immediate code 3 transport to higher level of care*
- Start patient on oxygen (generally 2L by nasal cannula), give 325 mg of ASA (chewed) if no contraindication
- Establish IV access
- SL NTG (0.3 or 0.4 mg).
 - Watch for signs of hypotension. If not hypotensive may repeat if patient can tolerate doses.
 - Relief of chest pain with NTG is **not specific for angina**; a similar response may be seen w/ GI problems
- Conversely a GI "cocktail" **does not** reliably differentiate between ACS and GI etiologies, which may coexist
- Prepare pertinent records for transport including ECG's, cardiology notes, procedure reports, and recent PC progress notes
- Monitor patients VS every 10 minutes prior to transfer. 12-lead EKG every 15-30 minutes while awaiting transfer.
- Cardiac monitor if available. Have AED and emergency response bag available.

*Alternate (Code 2) transfer of patient to a specific facility is sometimes indicated in cases such as:

- Patients who present with findings consistent with an established diagnoses (such as stable coronary heart disease) who have a relationship with outside hospital/cardiologists and whose cardiologist requests specific facility
- Discussion with accepting Emergency Department physician or cardiologist reveals anticipated care is best provided at a specific facility.
- Patients whose symptoms have resolved though index of suspicion remains increased for unstable angina/ACS

INSTITUTION SUPPORT

- Maintain 24-7 urgent-emergent cardiology consultation contact information in TTA
- Provide scanning capability in TTA. Scanned EKGs can be sent via email to CCHCS employees with CCHCS email addresses. Encryption should be used when available,
- Provide faxing capability in TTA. Patient information including EKGs can be sent to non-CCHCS consultants via fax if no protected health information is contained in the records sent. Patient care documents can also be scanned and sent to non-CCHCS consultants if the email is encrypted and no protected health information is contained in the documents sent.
- Provide access to prior EKGs in the TTA, limited to the minimum necessary information and those with a need to know

ACS more likely when:

- Primary symptom is pain/discomfort in chest
- Current pain similar to prior documented angina
- Patient has Coronary Heart Disease or equivalent:
 - H/O myocardial infarction, known CHD, AAA
 - Cerebrovascular or peripheral vascular disease
 - Diabetes or chronic renal disease
- Transient mitral regurgitation or hypotension or diaphoresis or pulmonary edema (rales)
- New (or presumably new) ST deviation (≥ 1 mm)
 - Either depression or elevation
- New T wave inversion in multiple precordial leads
- New left bundle branch block treated as ST elevation

ACS less likely when:

- Primary or sole location in the mid or lower abdominal region
- Any discomfort localized with one finger
- Any discomfort reproduced by movement or palpation
- Constant pain lasting for days

- Fleeting pains lasting for a few seconds or less
- Pain radiating into lower extremities or above the mandible
- Under Age 40
- No known Coronary Heart Disease or no equivalent:
 - No H/O myocardial infarction, known CHD, AAA
 - No cerebrovascular or peripheral vascular disease
 - No diabetes or chronic renal disease
- Pain not worsened during exercise
- Patient assumes pain is not cardiogenic
- Normal EKG

*"Identifying Chest Pain Emergencies in the Primary Care Setting" in Primary Care Winters and Katzen
33(2006) 625-642