Emergency Scenario

Chest Pain

This emergency scenario reviews chest pain in a primary care patient, and is set up for roleplay and case review with your staff.

- 1) The person facilitating scenarios can print out the pages below.
- 2) Cut up the "role" pages, and assign several roles, distributing the "roles" to appropriate participants in clinic.

Patient who gets chest pain Medical Assistant Nurse Patient's friend Doctor or Clinician 2nd Clinic Assistant Manager or Administrator

- 3) If your staff is smaller, you can cut extra roles. Any additional staff can be asked to observe and discuss.
- 4) Following role-play, gather the staff to review questions for debriefing and teaching.
- 5) Repeat scenario for further practice as time allows.
- 6) Record date of scenario and topic on your emergency scenario log (as appropriate)

Scenario 1 -

Cecilia – Primary Care Client.

You are a 37 y/o G3P3 woman, here for an IUD insertion because you and your partner want no more kids. You had your pre-IUD appointment a few weeks ago, and the work-up was negative for any problems. You've received some Motrin, and are in the exam room waiting for the clinician. You have your good friend with you.

After the long bus ride to clinic and after getting up on the table, you start to have left sided chest pain, which feels like a rapid pounding in your chest, with pain you rate at "5/10". The pain radiates into your left arm, and feels like "pressure". You are somewhat panicky, but have no tingling in your fingers or around your mouth. You do feel mildly nauseated. You develop mild shortness of breath after about 10 minutes of chest pain. You get slightly dizzy after a few minutes. Your symptoms will NOT improve until you are transferred.

When asked about your medical history: you have high blood pressure, high cholesterol, and smoke 1 ½ packs per day. You are mildly obese and have a sedentary life-style (taking the bus to the clinic was the most exercise you've had in months). You have a history of "rapid heart beat sometimes", as well as amphetamine use, but none in the last week. You had 2 cups of coffee this morning. You are not a diabetic. Your father died of a heart attack at the age of 50. Your medications include a blood pressure medication (Atenolol, but you ran out a couple days ago) and and a cholesterol med (Lipitor).

Vitals: Pulse 150, BP 145 / 85, Temp 98.6, O2 Saturation 98% 5 minutes later: Pulse 160, BP 150/95, 02 Saturation 95%.

EKG: (If asked: shows Supraventricular Tachycardia with a rate of 155, but no typical

changes associated with heart attack, and no wide QRS complexes).

Scenario 1 - Medical Assistant 1

You have just brought this client, Cecilia into the exam room, and are setting the room up for an IUD insertion. The Lead Clinician will be placing the IUD shortly when she finished with another patient. This is a primary care / Family Planning day in clinic. You notice the client starts to feel uncomfortable because she is having chest pain.

Scenario 1 - Nurse

You are counseling someone about birth control when you are called because of a client in the other room who is having chest pain. You may be asked to help with vitals, evaluation or treatment.

Scenario 1 – Patient's friend

You've accompanied the client to the clinic today because she's not used to traveling on the bus, and that's a lot of exercise for her. You know she may have some issues with her health (HTN, high cholesterol) but you also share some of her bad habits (smoking and speed, which neither of you have done in the last week).

When the client starts feeling chest pain, you get very worried. You try to call her boyfriend using your cell phone but get frustrated because there is no reception, and you don't want to leave your friend. You are loud and worried.

Scenario 1 – Doctor / Clinician

You just finished a medical abortion session, when you are alerted that your next client is in pain in the next room. This is a Primary Care / Family Planning day in clinic (so there is no MD in house). You will need to go evaluate the pain, history, the vitals and exam, and decide if the patient needs further tests / treatment / transfer / both.

Scenario 1 -

Front Desk Person.

You are at the front desk. You may be asked to help make copies, call EMS or initiate contact with the hospital.

Scenario 1 – 2nd Medical Assistant

You have just bringing another patient back for Medical AB counseling. You may need to leave her to help, but part of your role will be to calm the other patient's who are worried about what is going on.

Scenario 1 – Manager or Administrator

You are in your office doing paperwork when someone calls you (or you hear the emergency alarm) because of a patient having chest pain. You are asked to go to the clinic to help. You may be asked to help make copies, call EMS or initiate contact with the hospital, or cover the roles of other people.

Scenario 1 Review: Chest Pain

I) General debriefing questions:

- 1) Did delegation of roles happen smoothly? Without unnecessary delays?
- 2) Did any delays affect the patient outcome?
- 3) Did the alarm system get activated (if appropriate)?
- 4) Were other patients attended properly?
- 5) Was the support person or family alerted to what happened?
- 6) Did transfer occur smoothly? The decision? The communication? The paperwork?

II) 1) What are the most likely causes of chest pain in our clinic population?

Hyperventilation, lung problems (cough, bronchitis, asthma), GI problems (reflux, heartburn, ulcer), amphetamine-associated chest pain, and arrhythmias would all be possible. Because most of our population is young and fairly healthy, coronary artery disease or heart attack would be less common (but because it can be so dangerous for a patient, transfer may be needed to rule it out).

2) Given that a rapid heart rate is present, what must happen for this patient.

- a) Ensure adequate oxygenation and ventilation
- b) Call emergency medical service (EMS)
- c) Check blood pressure, peripheral pulses
- d) If EKG machine is available at center begin monitoring while waiting for the arrival of EMS.

3) What is important for clinic staff to know about arrhythmias?

These represent a broad range of problems beyond the scope of this discussion. For all these patients, **EMS should be rapidly called**. Although uncommon in our generally young and healthy patients, arrhythmias are occasionally present or degenerate into lethal rhythms, in which every minute of delay results in a lower proportion that will resolve after being shocked. Oxygen is helpful, but calling rapidly is imperative.

4) What risk factors and symptoms would concern you for coronary artery disease (CAD)?

Risk Factors: Hypertension, abnormal lipids, sedentary lifestyle, obesity, smoker, and a family history of heart disease. She isn't a diabetic, but otherwise has most known cardiac risk factors. Amphetamine use, stress, and exertion, (particularly in someone who has a sedentary lifestyle) can put their heart at risk for additional events.

Symptoms: Chest pain associated with radiation to the neck, face, or left arm is particularly worrisome for ischemic heart disease, as is nausea. Also associated shortness of breath may be concerning (though hyperventilation can also cause it, but this is usually associated with tingling, dizziness, and panic sensation).

Chest pain associated with CAD also represents a spectrum of disease. Put simply, this spectrum ranges from periods of inadequate blood flow to part of the heart (ischemia) to death of the tissue (heart attack or MI).

4) If the patient had lacked all these risk factors, what symptoms would suggest another cause?

Hyperventilation: tingling mouth & extremities, panic, rapid breathing, normal 02 saturation and VS. If a client with likely hyperventilation-associated chest pain improves rapidly with intervention, s/he may not require transfer. When in doubt, don't waste time to call EMS with chest pain or arrhythmia.

Lung or GI problems: History is key. The combination of associated risk factors, symptoms, and rapid heart beat lead us suspect cardiac (over lung or GI).

Amphetamine-associated chest pain: chest pain is often reproducible with palpation. May have a history of recent stimulants. Patient usually young and without significant cardiac risk factors. (Syndrome is thought to be caused by chest wall muscle breakdown, and its etiology is not clearly understood).

III) 1) Anything you could have added to the diagnosis / management?

O2 saturation and O2 (by Nasal Cannula or mask)
Call EMS (911). Position for Comfort, Check VS.
EKG (if available). Don't wait for results before calling EMS.
IV (heplock in prep for transfer or meds), hold off on IV Fluids.
Record Events, Copy Record, Transfer, Alert family.

IV) Potential Skills to Review:

O2 saturation monitor and therapy EKG (recommend everyone not comfortable setting up an EKG doing so).