High sensitivity troponin cheat sheet

1. This test is designed to quickly rule out acute myocardial infarction, but weakly positive results may require subsequent troponin testing.

2. A worrisome EKG or a suspicious story will always supersede hsTnT.

3. A “delta T” is the absolute change in hsTnT from one reading to the next.

4. If the initial hsTnT is positive but less than 14, please perform a 3-hour hsTnT.
   a. If the 3 hour hsTnT is less than 14, can safely discharge home +/- test*
   b. If the 0-3 hour delta T is 5 – 19, please perform a 6-hour hsTnT.
   c. If the 0-3 hour delta T is more than 20, you likely have an AMI.

5. If the initial hsTnT is 14 – 150, please perform a 3-hour hsTnT.
   a. If the delta T is less than 5, AMI is very unlikely, but consider test*
   b. If the 0-3 hour delta T is 5 – 19, please perform a 6-hour hsTnT.
   c. If the 0-3 hour delta T is 20 or greater, you likely have an AMI.

6. If the initial hsTnT is greater than 150, you likely have an AMI, but if there is any concern about alternative causes, please perform a 3-hour hsTnT.
   a. If the 0-3 hour delta T is less than 5, AMI is very unlikely.
   b. If the 0-3 hour delta T is 5 – 19, please perform a 6 – hour hsTnT
   c. If the 0-3 hour delta T is 20 or greater, you have an AMI.

7. Management of the 6 – hour delta hsTnT is currently uncertain. To be conservative, if the overall change (0-6 hours) is 5 – 19, AMI can be excluded; if the overall change is 20 or greater, AMI is likely.

8. Common reasons for hsTnT elevation include age > 75, kidney disease, pulmonary embolus, heart failure, sepsis, etc. Patients without AMI but elevated hsTnT are at high risk and should be referred accordingly.

9. The asterisk in 3/4a refers to outpatient testing. Please keep ordering stress tests, perfusions scans, and coronary CT angiography as previously.

10. I will be on call from January 26, 2016 to January 29, 2016 (first four days) from 8 am to 8 pm. Please let me know your specific question and I will try to get back to you as soon as possible. Texting is preferred. 778 899 3502
High sensitivity troponin sample cases

Having worked with hsTnT before, it is actually quite straightforward. Most of the issues will come from older non-AMI patients that require non-cardiology referrals. Here are a few common sample cases.

1. 45-year-old female presents with vague intermittent chest discomfort and normal EKG. The zero hour hsTnT is 6 and the 3h hsTnT is 9. (Delta T = 3) This patient is safe to discharge home, with optional follow-up testing.

2. 55-year-old male smoker presents with pulling sensation in chest and normal EKG. The zero hour hsTnT is 17 and the 3h hsTnT is 13. (Delta T = 4) This patient is safe to discharge home, and should have follow-up testing.

3. 60-year-old male presents with clinical crescendo angina and normal EKG. The zero hour hsTnT is 6 and the 3-hour hsTnT is 7. (Delta T = 1) This patient should be referred to cardiology to rule out unstable angina.

4. 65-year-old male presents with chest burning and normal EKG. The zero hour hsTnT is 35 and the 3-hour hsTnT is 70. (Delta T = 35) This is a likely AMI.

5. 70-year-old female with prior cardiac stent has chest pain a little bit different from her prior angina. The zero hour hsTnT is 55 and the 3-hour hsTnT is 70. (Delta =15) The six-hour hsTnT is 80. (Overall delta T = 25) This is a likely AMI.

6. 70-year-old female from previous case has a zero hour hsTnT of 55 and a 3-hour hsTnT of 70. The six-hour hsTnT is 60. (Overall delta T = 15) This is unlikely to be AMI, but may warrant referral based on clinical suspicion. Please note that this scenario is also very unlikely.

7. 75-year-old resident of nursing home with heart failure, chronic kidney disease, COPD, dementia, osteoporosis, hepatitis C, and a prior stroke presents with slightly greater weakness than normal. The zero hour hsTnT is 170 and the 3-hour hsTnT is 185. (Delta T = 15) This is unlikely to be an AMI, but non-cardiology referral should be considered for other issues.