

## **Family Medicine Clerkship Plain Language Summary**

**Title:** Procalcitonin: a blood test that can help the doctor know if your cough can be treated with antibiotics.

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### **Plain Language Summary:**

Often times when a patient come to the physician's office with a cough and runny nose during flu season it is difficult for the doctor to know if giving antibiotic medication will help the patient feel better. Respiratory tract infections occur when a patient comes into contact with a virus or bacteria that then goes into the lungs and can cause the patient to have a cough and feel sick. It is not obvious if a patient has an infection from a bacteria or virus because it can cause the patient to have the same symptoms. If the patient has a respiratory tract infection caused by a bacteria, antibiotic medication can help reduce the time the patient is sick. If the respiratory tract infection is caused by a virus, antibiotics will not help. In addition, taking antibiotic medication has risks like side-effects, such as diarrhea or rashes, or if they are used too often they can stop working because the bacteria change so that they can beat the medication. Because of these risks, doctors only want to prescribe antibiotic medication to a patient that is sick because of bacteria.

Procalcitonin is a protein in a patient's blood that increases if a patient is sick with an infection caused by bacteria. Doctors can measure this protein in the blood by taking a sample of the patient's blood and sending it to the laboratory. If procalcitonin is high, the patient will most likely feel better with antibiotic medication. If the level of procalcitonin is not high, then it is likely a virus causing the patient to feel sick and antibiotics will not help. Measuring this protein in the blood can decrease the number of patients that get antibiotics that might not need them by 42-72%. In addition, using this test can reduce the length of time a patient has to take antibiotics by up to 13%. Taking other medication such as ibuprofen will not change the test result.

### **Additional Resources:**

<http://www.cdc.gov/drugresistance/index.html>

<http://www.cdc.gov/flu/>

### **Key Words:**

Upper Respiratory Tract Infections

Procalcitonin

Antibiotics

Prevention of resistant antibiotics

Viral vs. bacterial infection

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