

## Week 3

# Clinical Decision-Making Discussion

**A 79-year-old male presents to the Emergency Department with acute onset of chest pain, shortness of breath, diaphoresis, and vomiting that started 4 hours prior to arrival. The EKG obtained demonstrates an acute ST-Elevation Myocardial Infarction (STEMI). Discuss the medications (dose, route, frequency) you would prescribe for this patient. Explain your rationale for each agent prescribed.**

The management of this patient should be swift, and the goal should be to improve oxygenation while restoring normal blood flow to the coronary arteries. The first issue that should be addressed is the use of fibrolytic therapy and if the facility is able to perform a percutaneous coronary intervention (PCI) (Partow-Navid et al., 2021, p.68). As this patient's symptoms started four hours prior to their emergency department arrival, and medication should be administered within two hours of the start of symptoms, fibrolytic therapy can be ruled out for our patient (Partow-Navid et al., 2021, p. 68). The patient's age should also be considered, as he may have other diagnoses and conditions that are contraindications for fibrolytic use (Partow-Navid et al., 2021, p.69).

Firstly, as one of the complaints for the patient was shortness of breath, oxygen should be ordered for this patient, preferably through nasal cannula and starting at 2L to keep oxygen saturation levels >90 (Antman et al., 2004, p.596). Sublingual Nitroglycerin 0.4mg should be administered every 5 minutes for chest pain, not exceeding 3 doses (Antman, 2004, p. 596). IV infusion may be initiated if there is no chest discomfort relief from sublingual dose (Katzung & Vanderah, 2021). Nitroglycerin is a vasodilator and helps to relieve chest pain by dilating the coronary arteries and hopefully improving blood flow (Katzung & Vanderah, 2021). Morphine sulfate 2-4mg IV push every 5-15 min for pain should be administered for pain (Antman et al., 2004, p.597). A STEMI can be very painful, and Nitroglycerin may not alleviate all the pain, so it is important to continually reassess your patients' pain levels. Morphine also helps to lower respiratory rate, which can help if a patient is hyperventilating from fear, shortness of breath or pain (Katzung & Vanderah, 2021).

An immediate loading dose of Aspirin 75-325 mg is given orally (Katzung & Vanderah, 2021, ch.34); typically, an order for Aspirin 81mg 4 tablets, 324mg, is given, as they are chewable and typically quickly available. Aspirin