HPI: A 22 year-old male presented to the emergency department with a chief complaint of retrosternal chest pain that started yesterday. He described the pain as a constant, sharp and pleuritic. The pain was worsened by lying flat, and improves with leaning forward. He reported having a sore throat and other cold symptoms earlier in the week. The patient’s exam was notable for a faint pericardial friction rub. A bedside echocardiogram demonstrated normal cardiac function without pericardial effusion. The patient’s ECG is shown.
**Significant findings:** The ECG shows diffuse ST-elevation. The patient also has mild PR-depression, most notably in the inferior and lateral leads. The patient also has minimal PR elevation in lead aVR. The patient was diagnosed with acute pericarditis (ECG stage 1).

**Discussion:** Pericarditis is inflammation or infection of the pericardial sac. There most common etiologies are viral or idiopathic\(^1,2\). While it is rarely fatal, acute pericarditis can cause severe, disabling pain\(^2\). Furthermore, concomitant myocarditis can cause significant morbidity and mortality. Classic ECG findings include diffuse ST-elevations and PR-segment depression, without reciprocal ST-segment depression (as shown in this image). The ECG of pericarditis may move through various stages when followed over time\(^1,2\). These include stage 1: diffuse ST-elevations with concave-upwards contour, PR-depressions (most common in II, aVF, V4-6); stage 2: ST segments become isoelectric and T waves flatten; stage 3: symmetric T wave inversion throughout ECG; and stage 4: ECG normalization\(^2\). These ECG changes have variable sensitivity and specificity depending on the stage, with less than 50% of patients progressing through the classic stages\(^2\).

**Topics:** Cardiology, Cards, ECG, ST elevation, acute pericarditis, abnormal ECG, PR depression

**References:**