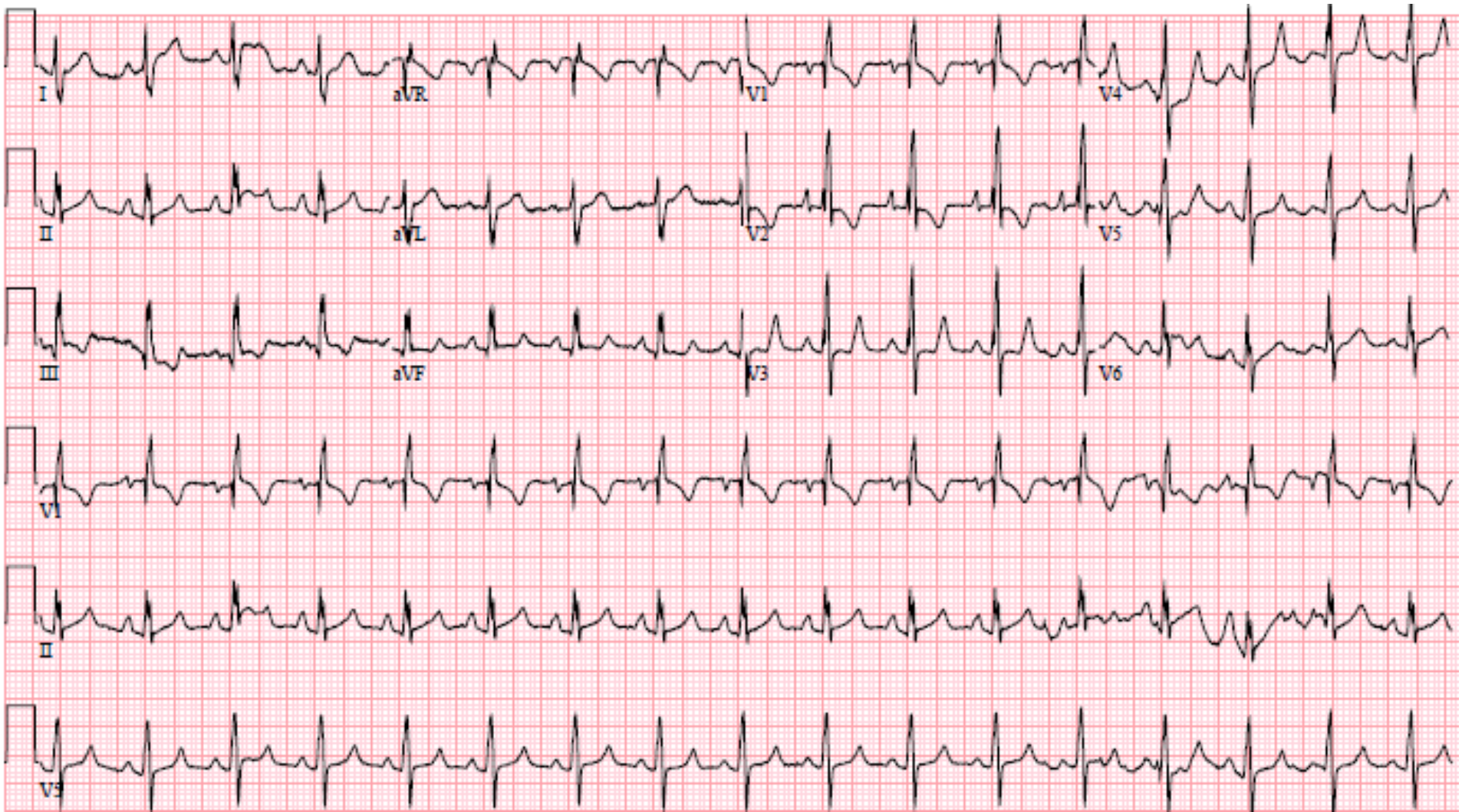
You see a 5 year old girl in your clinic with a heart murmur, and obtain the following ECG:

1) There are at least 2 abnormalities on this ECG. Name one (1 point)
2) When you listen to the patient, you hear a 2-3/6 systolic ejection murmur near the left upper sternal border with radiation to the axillae. There are several diagnoses that are potentially consistent with this exam and ECG. Name any of them (1 point each).



1) There are at least 2 abnormalities on this ECG. Name one (1 point)

This ECG reveals a right axis deviation--more of the QRS area is below baseline than above baseline in lead I. This means the net ventricular electrical force is moving away from lead I, i.e. toward the patient's right. There is either a qR pattern in lead V1, or perhaps an rsR' pattern (there might be a teeny-tiny r wave there), with a prominent R'—either finding is consistent with RVH. Lastly, there is borderline right atrial enlargement, evidenced by P waves nearly 3mm tall in leads II and V2.

2) When you listen to the patient, you hear a 2-3/6 systolic ejection murmur near the left upper sternal border with radiation to the axillae. There are several diagnoses that are potentially consistent with this exam and ECG. Name any of them (1 point each).

Systolic ejection murmurs near the left upper sternal border, particularly ones that radiate out to the axillae, are most consistent with pulmonary-type murmurs. This includes a range of possible diagnoses that result in turbulent blood flow either across the pulmonary valve or into the pulmonary arteries. Diagnoses include pulmonary valve stenosis, peripheral pulmonary artery stenosis, patent ductus arteriosus (flow from aorta into pulmonary artery), and atrial septal defect (too much blood getting squeezed through the pulmonary valve).