

EKG of the Week for October 4, 2010

History: 14 year old girl with anxiety, referred by pediatrician for suspected irregular heart rate

1. What is the rhythm? (Hint: To define rhythm, assess the P wave axis, PR interval, and whether every P wave is followed by a QRS wave)
2. Is this rhythm considered a problem, or a normal variant?
3. Does this patient need an echocardiogram?



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1. What is the rhythm? (Hint: To define rhythm, assess the P wave axis, PR interval, and whether every P wave is followed by a QRS wave)
 - Note that the P waves vary and have 2 different morphologies (see the V1 and II rhythm strips on the bottom of the EKG; i.e. 2 pacemakers). The PR intervals are normal (i.e. no first degree block) and every P is followed by a QRS (i.e. no complete heart block). The rate is not too fast or too slow. This is called a “wandering atrial pacemaker.”
2. Is this rhythm considered a problem, or a normal variant?
 - This is a normal variant, and is present in many children at rest. With exercise, a dominant pacemaker usually takes over so the varying morphologies disappear at higher heart rates.
 - Like “sinus arrhythmia,” this is a normal variant that is important to recognize so you can avoid time-consuming referrals for the patient.
3. Does this patient need an echocardiogram?
 - No. This is a normal variant and requires no further evaluation.