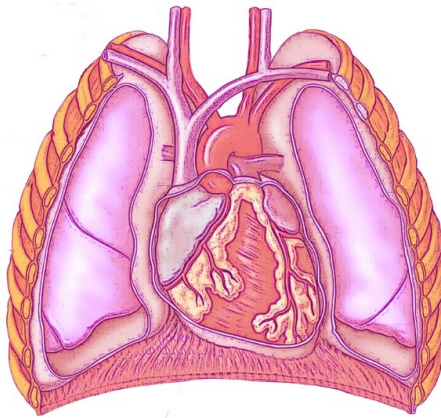




Internal Medicine



Topic : CVS - diagnostic tools mnemonic
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How to Recognize and Read a Normal EKG (Electrocardiogram)

Mnemonic: "PQRST Normal"

The normal EKG waveform is made up of the following components:

1. **P-wave:** Represents atrial depolarization.
 - **Mnemonic:** "*P for Pushing*". The P-wave is a small, upward deflection showing that the atria are "pushing" electrical activity.
2. **QRS Complex:** Represents ventricular depolarization.
 - **Mnemonic:** "*QRS for Quick Response*". The QRS complex is the fast, sharp electrical response that occurs as the ventricles contract.
3. **T-wave:** Represents ventricular repolarization.
 - **Mnemonic:** "*T for Taking a break*". The T-wave is a smaller deflection that indicates the ventricles are resetting before the next beat.
4. **PR Interval:** Time between the P-wave and the beginning of the QRS complex. Represents the time it takes for electrical signals to travel from the atria to the ventricles.
 - **Mnemonic:** "*PR for Prepping Right*" (prepping the right ventricle).
 - Normal: 120-200 milliseconds (0.12-0.20 seconds).
5. **QT Interval:** Represents the time for the ventricles to contract and reset.
 - **Mnemonic:** "*QT for Quick Time*". It should be less than 440 milliseconds in males and 460 milliseconds in females.
6. **RR Interval:** The time between two consecutive R-waves, indicating heart rate.
 - **Mnemonic:** "*RR for Rate*". The RR interval determines the heart rate. A normal heart rate is typically 60-100 beats per minute.
7. **Heart Rate:** Count the number of R-waves in a 6-second strip, then multiply by 10.
 - **Mnemonic:** "*Count and Multiply by 10*"

Normal EKG Interpretation:

- Regular rhythm (regular spacing between R-waves).
- Normal heart rate (60-100 bpm).
- Normal P-wave, QRS complex, and T-wave.
- The PR interval and QT interval fall within normal time ranges.
- No ST elevation or depression.

How to Recognize and Read a Normal Chest X-ray

Mnemonic: “**I SEE PA**”

1. **I: Inspiration** – Ensure the patient took a full breath. A good quality chest X-ray will show the diaphragm at about the 8th or 9th rib on the right side.
 - **Mnemonic:** “*Inhale*”: The lungs should be fully inflated.
2. **S: Symmetry** – Check that both sides of the chest are symmetrical.
 - **Mnemonic:** “*Symmetry matters*”: Ensure both sides are balanced in appearance and the mediastinum is central.
3. **E: Exposure** – Make sure the X-ray is neither underexposed nor overexposed.
 - **Mnemonic:** “*Equal Exposure*”: Check the quality of the X-ray to avoid missed pathology due to overexposure or underexposure.
4. **E: Edges** – Check the edges of the lungs, diaphragm, and heart for abnormalities like consolidation or pleural effusion.
 - **Mnemonic:** “*Edges clear*”: The lungs should appear clear, and no abnormal opacities should be present at the edges.
5. **P: Positioning** – The chest X-ray should be in a PA (posterior-anterior) or lateral view. For a PA view, the heart should appear about the size of the thoracic cavity.
 - **Mnemonic:** “*Proper Position*”: Ensure the patient was positioned correctly.
6. **A: Alignment** – The clavicles should be aligned horizontally, and the spine should be straight.
 - **Mnemonic:** “*Align the Airway*”: The trachea should be midline and not deviated.

Normal Chest X-ray Interpretation:

- **Lungs:** Clear, with no visible opacities, masses, or consolidation.
- **Heart:** Normal size and shape, not enlarged (heart-to-thorax ratio < 50%).
- **Mediastinum:** Central and symmetrical with no widening.
- **Diaphragm:** Smooth and located at about the 8th rib on the right.
- **Ribs:** Visible but not overlapping in a normal pattern.