Premature Junctional Contractions (PJC)

- PJC: Premature Junctional Contractions
- Junctional Rhythm

PJC: 8 Steps...

1. P wave: inverted (Lead II); occurs immediately before or after QRS (or may be buried in the QRS).
2. Atrial rhythm: irregular as a result of the PJC; underlying rhythm may be regular.
3. Atrial rate: that of the underlying rhythm.
4. PR Interval: short (≤0.10)
5. Ventricular rhythm: irregular as a result of the PJC; underlying rhythm may be regular.
6. Ventricular rate: varies according to the underlying rhythm.
7. QRS complex: early, normal size (≤0.10 sec), normal shape.
8. QT interval: usually within normal limits.

Configurations of Junctional Beats

- P wave can occur before QRS, after QRS, or be buried in QRS

PJCs: 8 Steps...

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PJCs: 8 Steps...

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PJC with inverted p wave

Inverted p wave after QRS complex

P wave buried in QRS complex

Paired PJC

Junctional escape beat

More PJC patterns:
- Isolated
- Pairs
- Bigeminal
- Trigeminal
- Quadrigeminal
- 3 or more: considered a rhythm
  - Junctional rhythm, accelerated junctional, or junctional tachycardia, depending on the rate.

Causes of PJC:
- Excess vagal tone
- Emotional stress
- Caffeine
- Alcohol
- Heart Failure
- Myocardial Infarction
- Valvular Heart disease
- Coronary Artery Disease
- Chronic Pulmonary Disease
- Hyperthyroidism
- Hypokalemia
- Digitalis toxicity

More frequent PJC interventions:
- Isolated PJC: not treated.
- More frequent: eliminate the cause.
Junctional Rhythm

- The area around the AV node has pacemaker cells, and can function as the heart’s secondary pacemaker if needed.
- Sometimes called Junctional Escape Rhythm, as it occurs secondary to depression of SA node.
- Inherent rate: 40–60 beats/minute.
- Impulses are conducted retrograde to depolarize the atria, then antegrade to depolarize the ventricles.
Causes of Junctional Rhythm

- Medication effects
  - Digoxin
  - Beta blocking agents
  - Calcium channel blocking agents
- Acute Inferior wall MI
- Electrolyte imbalances
- Valvular heart disease
- Cardiomyopathy
- Myocarditis

Junctional Rhythm: Interventions

- Increase heart rate:
  - Atropine
  - Pacemaker
- Identify and correct the cause.
- Medication review, D/C offending agent.