



# Pacemakers and the ECG

Failure to capture on electrocardiogram

---

---

---

---

---

---

## Failure to capture



Failure to capture can cause symptomatic pauses. So it is important to be able to recognize when it is occurring.

---

---

---

---

---

---

## Important clues



- Below base rate
- Pointless pacing spikes
- Refractory events

---

---

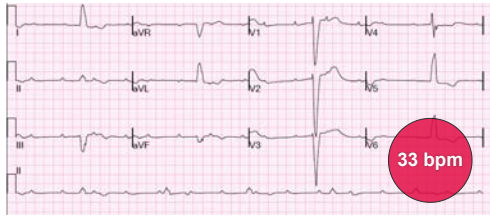
---

---

---

---

DDD pacemaker base rate of 60 bpm



**Below base rate**

---

---

---

---

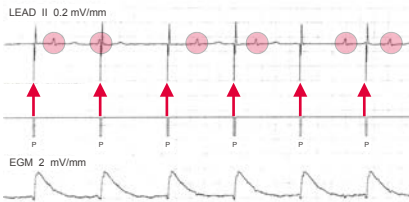
---

---

---

---

Ventricular failure to capture



**Pointless pacing spikes**

---

---

---

---

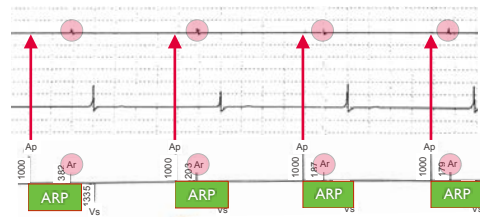
---

---

---

---

Visible on a device electrogram



**Refractory events**

---

---

---

---

---

---

---

---



Latency is not failure to capture

---

---

---

---

---

---

---

---

### Takeaway message



On an ECG, a pacing spike with **no subsequent depolarization** is the strongest evidence of failure to capture.

---

---

---

---

---

---

---

---