



Pacemakers and the ECG

Undersensing on the electrogram

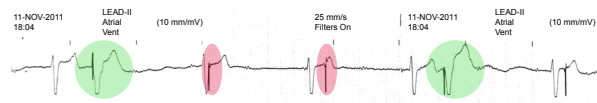
Undersensing



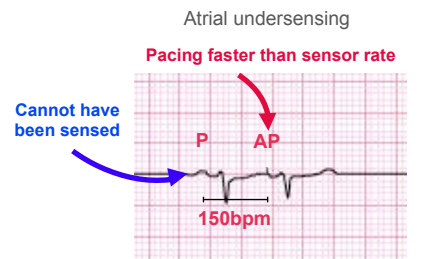
Undersensing can cause unnecessary and poorly timed output pulses that have the potential to cause dangerous arrhythmias.



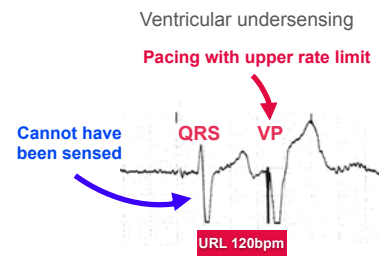
3 important clues



Pacing in refractory periods

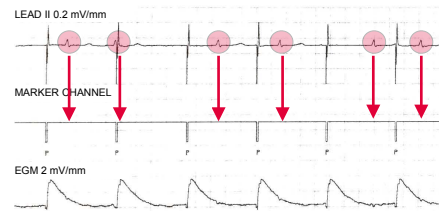


Exceeds upper sensor rate



Exceeds upper rate limit

Absence of sensed markers

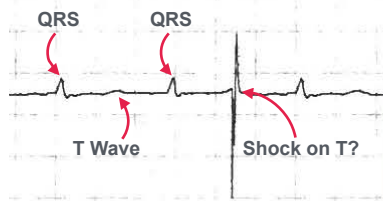


No marker on e-gram

3 important clues



- Pacing in refractory periods
- Exceeding upper sensor rate
- Exceeding upper rate limit



Danger of undersensing

Takeaway message



On an ECG, a pacing spike during an obvious refractory period is a clear sign of undersensing.
