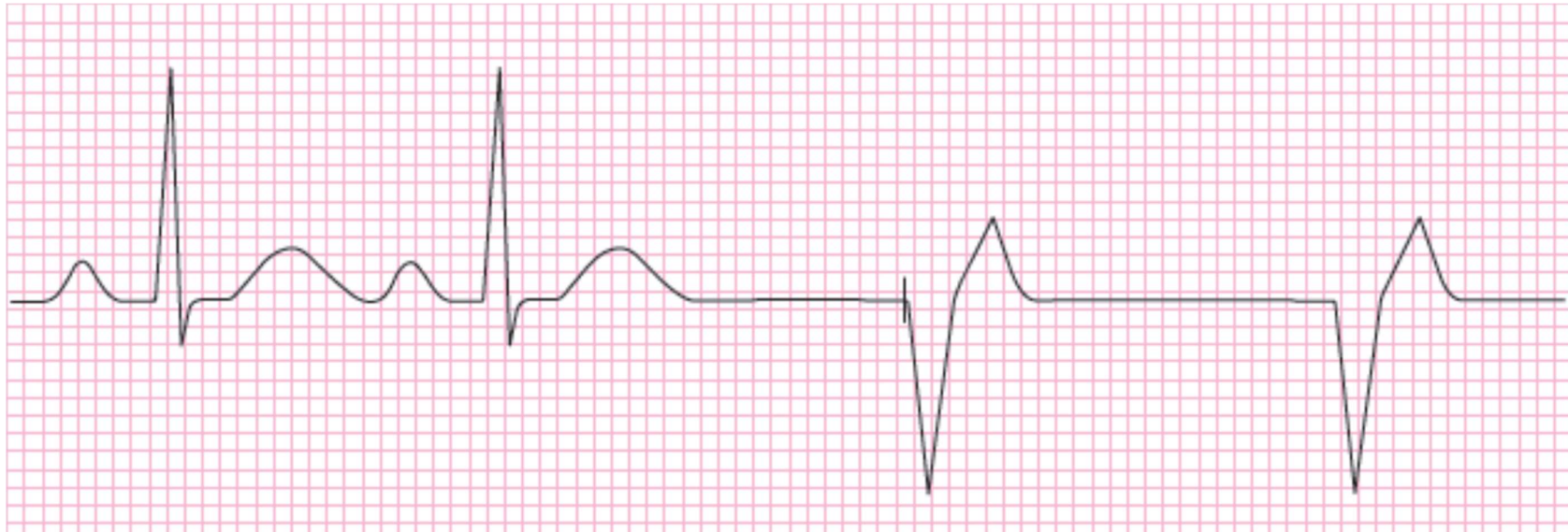


- Ventricular demand pacemaker (VVI), normally functioning



- Pacemaker stimulus followed by a QRS complex of different morphology than intrinsic QRS
- A ventricular demand (VVI) pacemaker senses and paces only in the ventricle and is oblivious to native atrial activity. If constant ventricular pacing is noted throughout the tracing, it is impossible to distinguish ventricular demand from asynchronous ventricular pacing. Thus, the diagnosis of ventricular demand pacing requires evidence of appropriate inhibition of pacemaker output in response to a native QRS (as seen above)
- Appropriately sensed ventricular activity (QRS complex) resets pacemaker timing clock: after an interval of time (V-V interval) with no sensed ventricular activity, a ventricular paced beat is delivered and a new cycle begins
- A spontaneous QRS arising before the end of the V-V interval is sensed and the ventricular output of the pacemaker is inhibited; a new timing cycle begins

- For rate-responsive VVI-R pacemakers, ventricular paced rate increases with activity (up to a defined upper rate limit)

Check the A-V (PR) interval when deciding if a pacemaker is programmed in the ventricular demand (VVI) or dual-chamber (DDD) mode. A changing A-V interval is consistent with VVI pacing while a fixed A-V interval suggests DDD pacing.

Ventricular-paced rhythms present as pacemaker spikes following by widened QRS complexes of different morphology from the native QRS complex. The presence of a ventricular-paced rhythm from the right ventricular apex (LBBB-like QRS morphology in paced beats) affects the ability to identify certain ECG features.