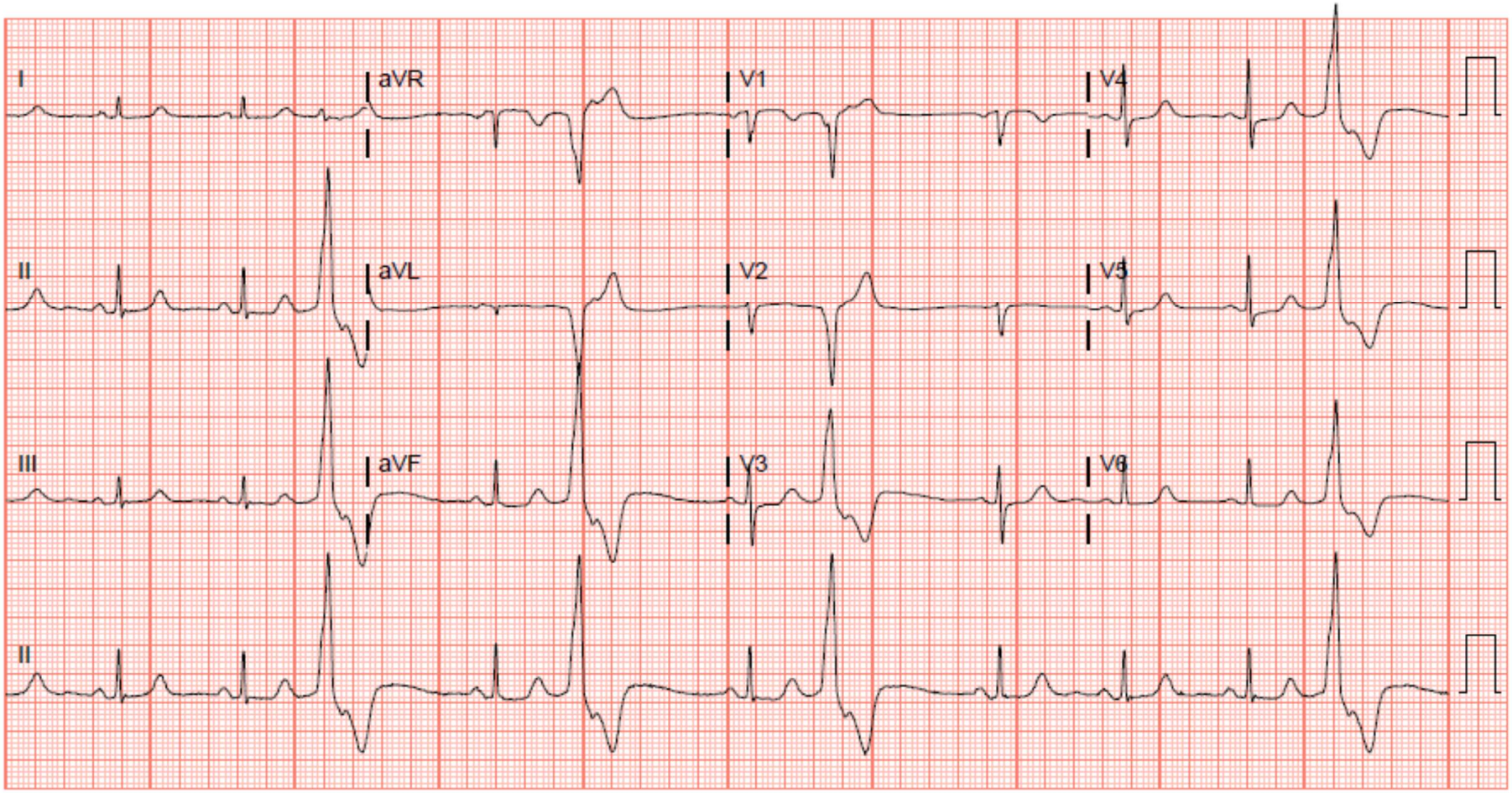
- Ventricular premature complex(es) (VPC)



Requires all of the following:

- A wide, notched or slurred QRS complex that is:
  - Premature relative to the normal RR interval, *and*
  - Not preceded by a P wave (except when late coupled VPCs follow a sinus P wave; in this case, the PR interval is usually ≤ 110 msec)

  QRS is almost always > 120 msec, but VPCs originating high in the interventricular septum may have a relatively normal QRS duration.

  When a VPC occurs just distal to the site of BBB and near the interventricular septum, the QRS of the VPC may be narrower than the QRS of the BBB.

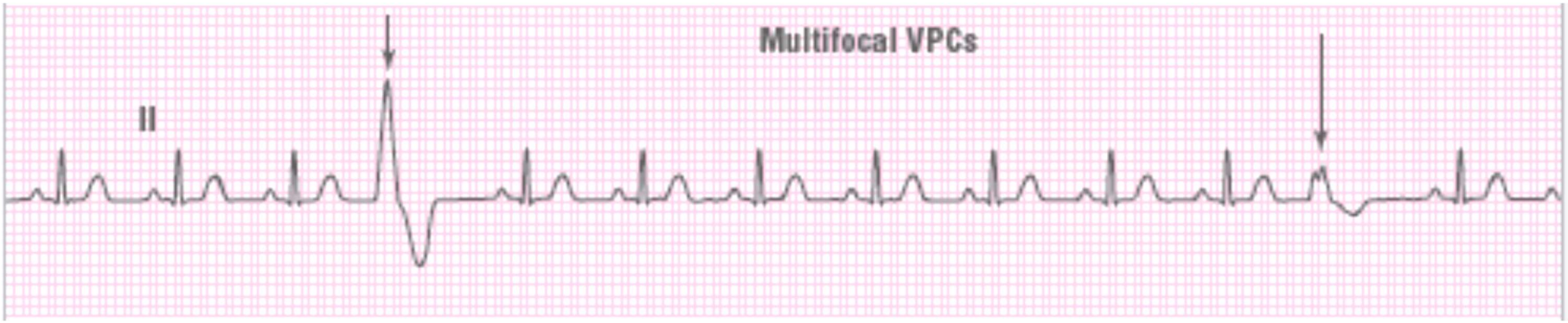
  Initial direction of the QRS is usually different from the QRS during sinus rhythm.

- Secondary ST-T changes in a direction opposite to the major deflection of the QRS (i.e., ST depression and T wave inversion in leads with a dominant R wave; ST elevation and upright T wave in leads with a dominant S wave or QS complex)

- Coupling interval (relation of VPCs to the preceding QRS) may be constant or variable

  Non-fixed coupling with regular inter-ectopic interval should raise the suspicion of ventricular parasystole.

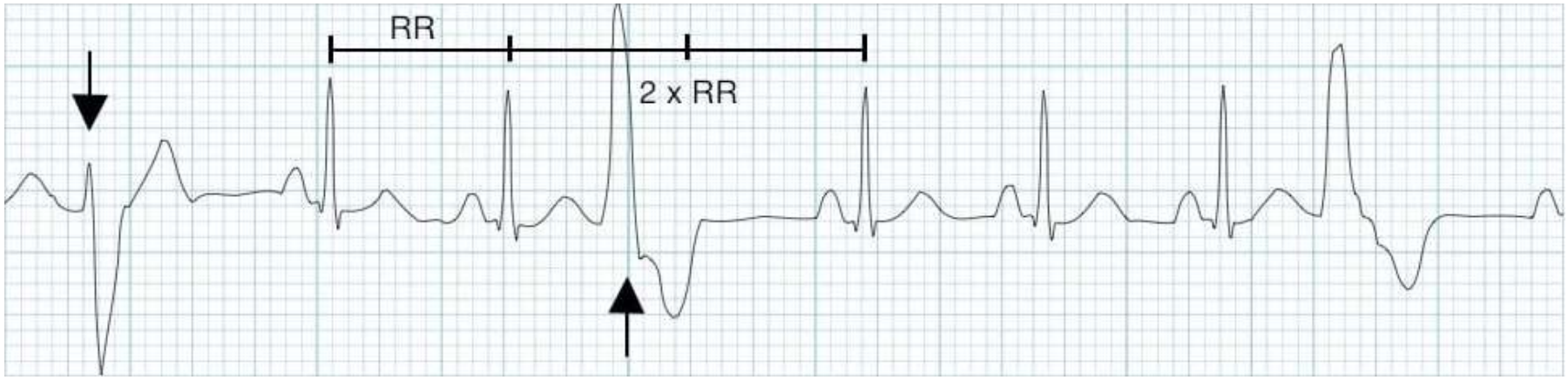
- Morphology of VPCs in any given lead may be the same (uniform) or different (multiform)



Although multiform VPCs are usually multifocal in origin (i.e., originate from more than one ventricular focus), a single ventricular focus can produce VPCs of varying morphology.

Retrograde capture of atria may occur.

A full compensatory pause (PP interval containing the VPC is twice the normal PP interval) is usually evident, but this relationship may be altered if sinus arrhythmia is present. A partial compensatory pause may follow a VPC when ventriculoatrial (VA) conduction penetrates and resets the sinus node. Less commonly, interpolated VPCs occur manifesting as VPCs that are interposed between two consecutive sinus beats without disrupting the basic sinus rhythm; interpolated VPCs result in neither a partial nor a full compensatory pause.



Compensatory pause (the RR interval containing the VPC from one normal QRS to next normal QRS interval is 2x normal RR)

Clues of a ventricular (rather than atrial) origin of an ectopic beat include an initial QRS vector different from the sinus beats, QRS duration > 120 msec, retrograde P waves (caused by retrograde conduction through the AV node), and the presence of a full compensatory pause.

Seen in normals and all causes of VT.