



Cardiac Conduction System and Bundle Branch Block



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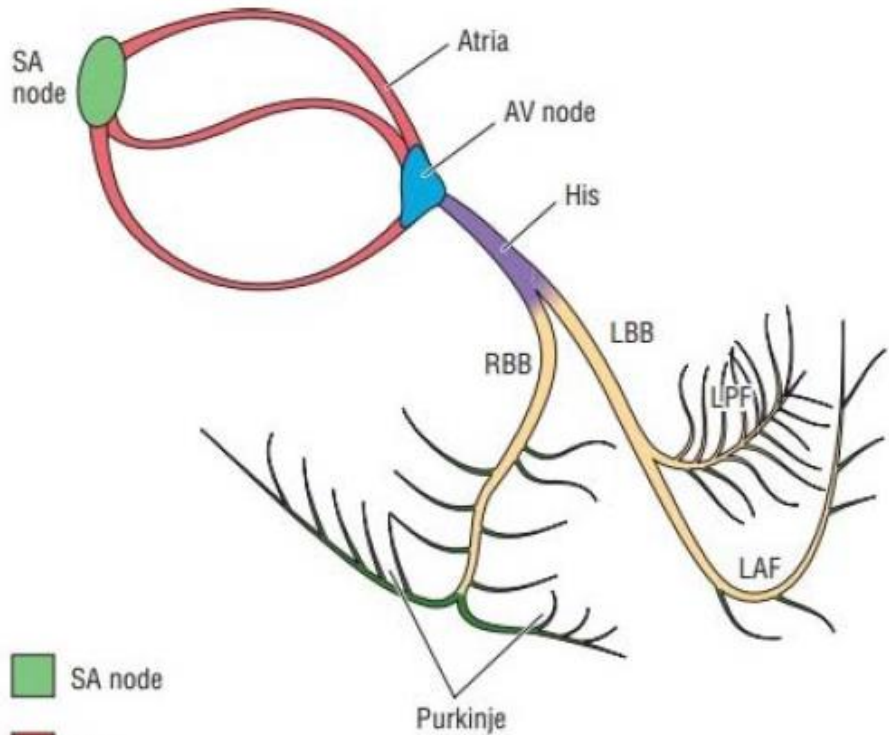
COI Disclosure

Jae-Hyuk Lee

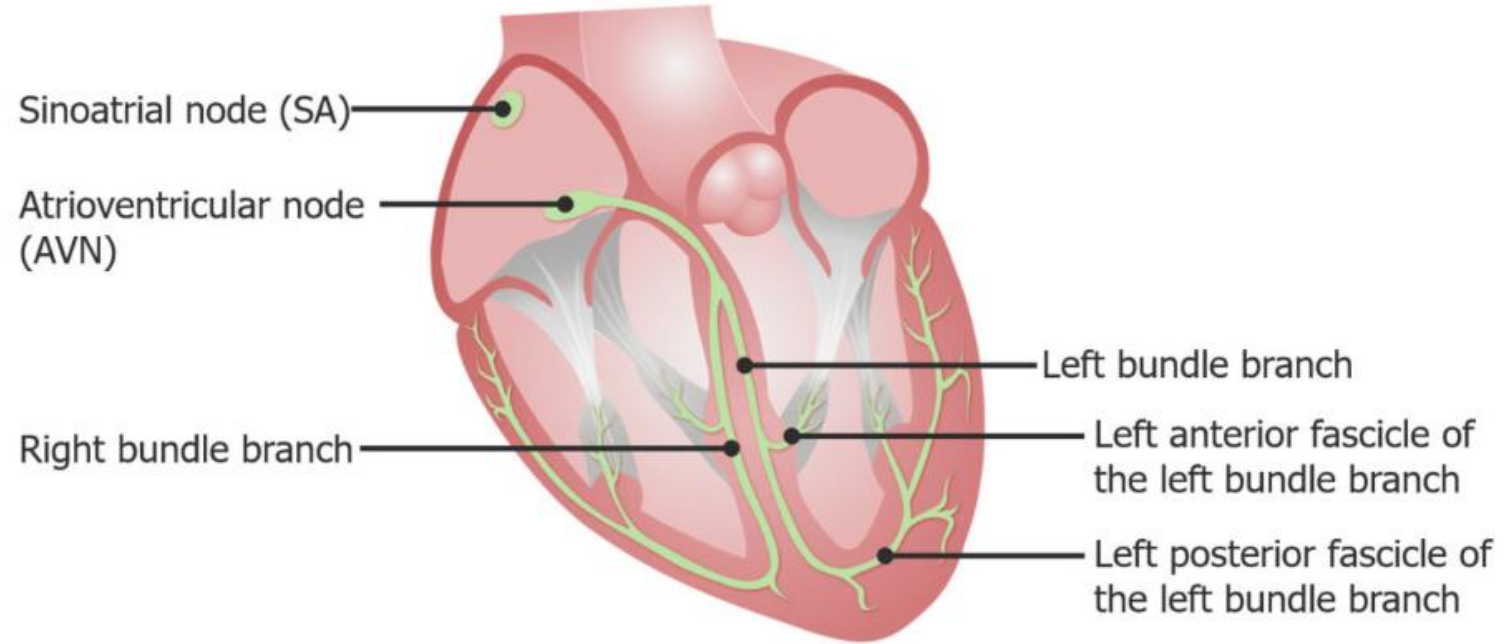
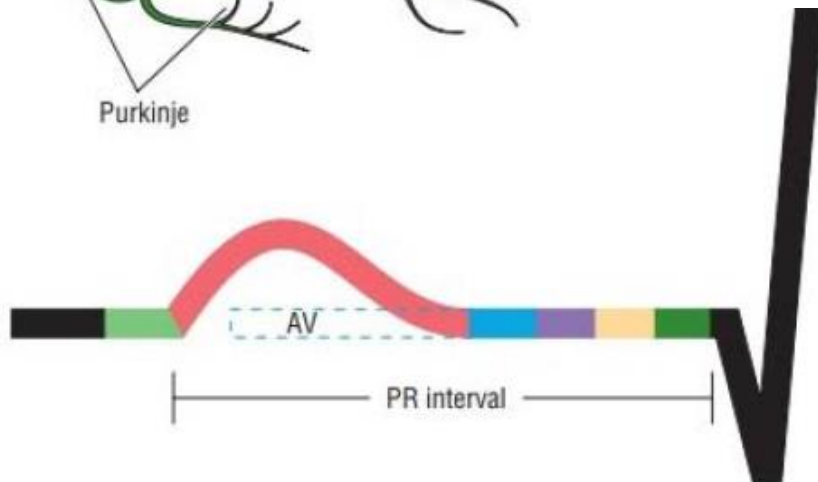
The authors have no financial conflicts of interest
to disclose concerning the presentation



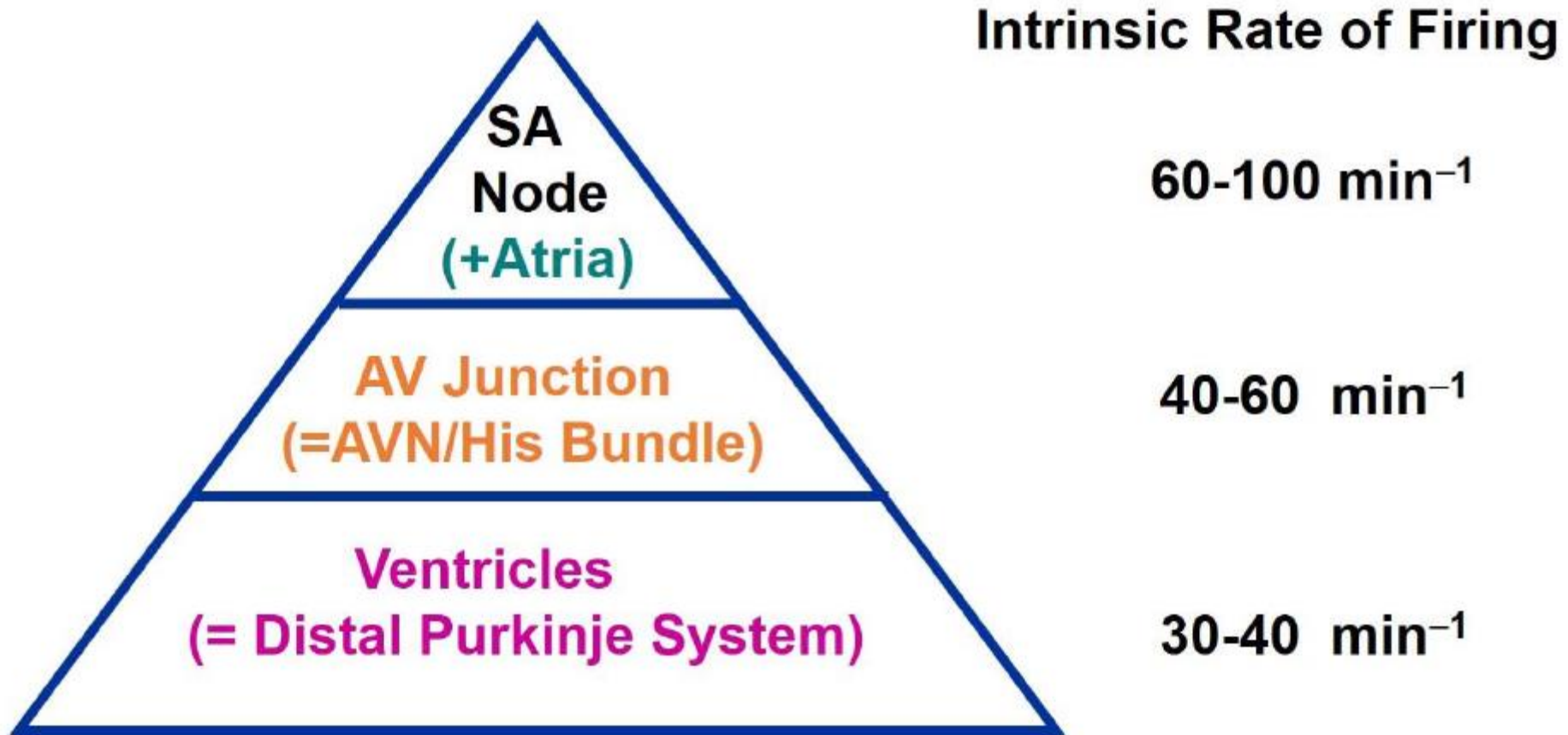
Cardiac conduction system



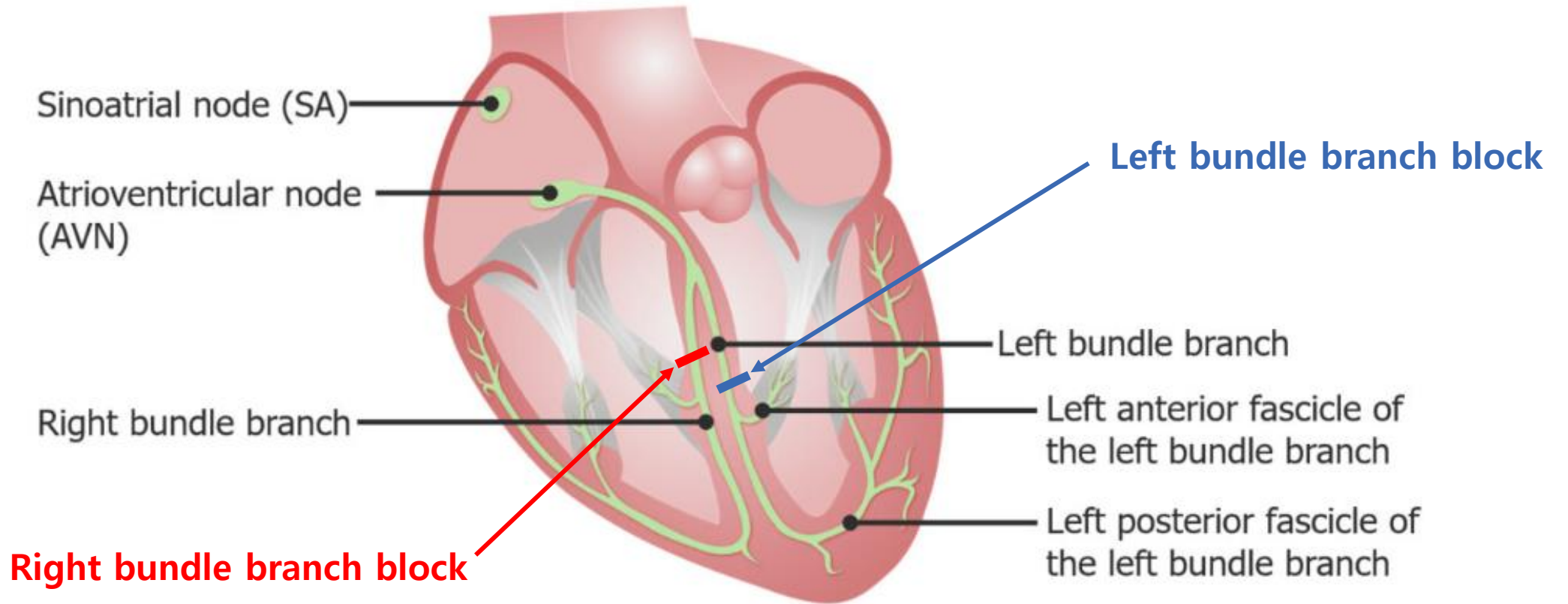
- SA node
- Atria
- AV node
- His bundle
- Bundle branch
- Purkinje



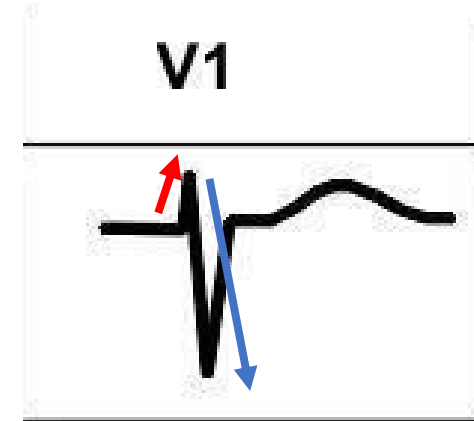
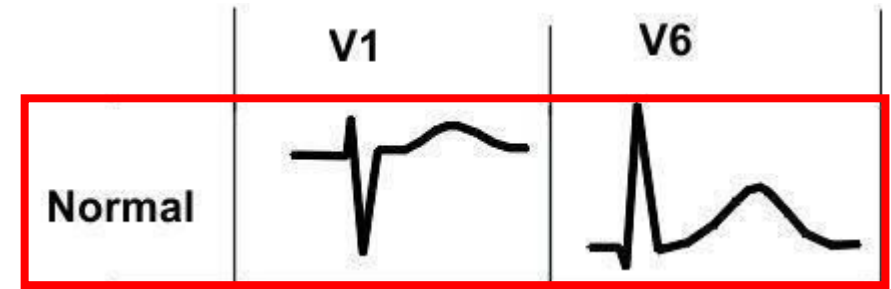
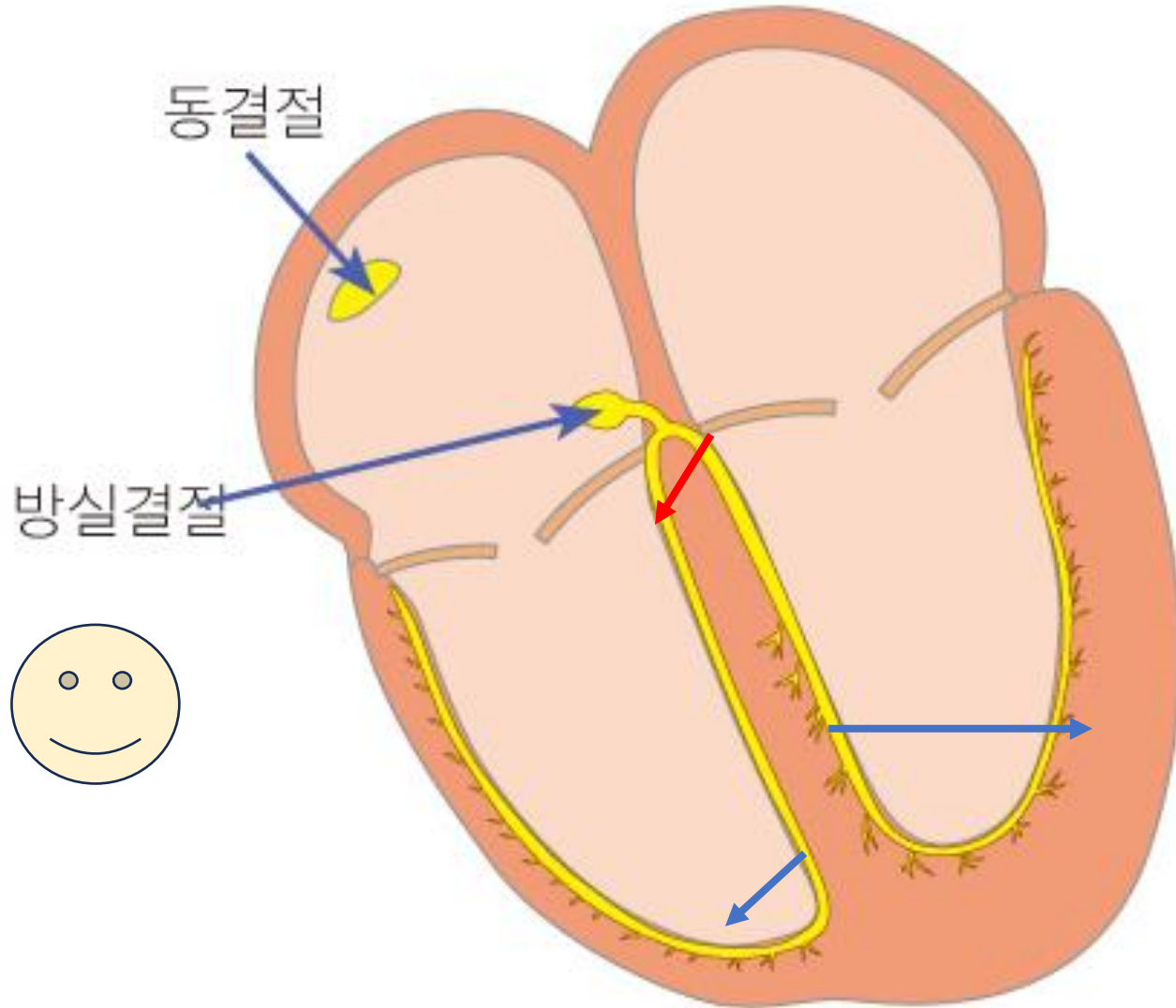
Pacemaker Hierarchy



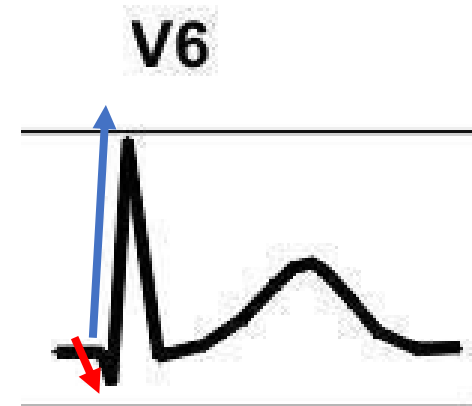
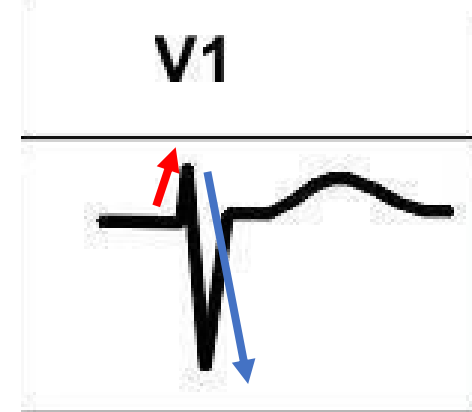
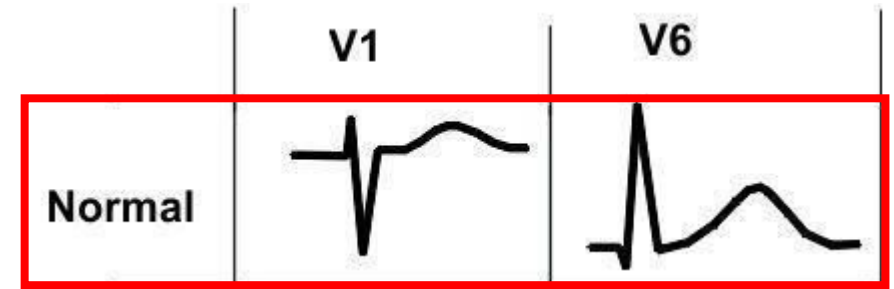
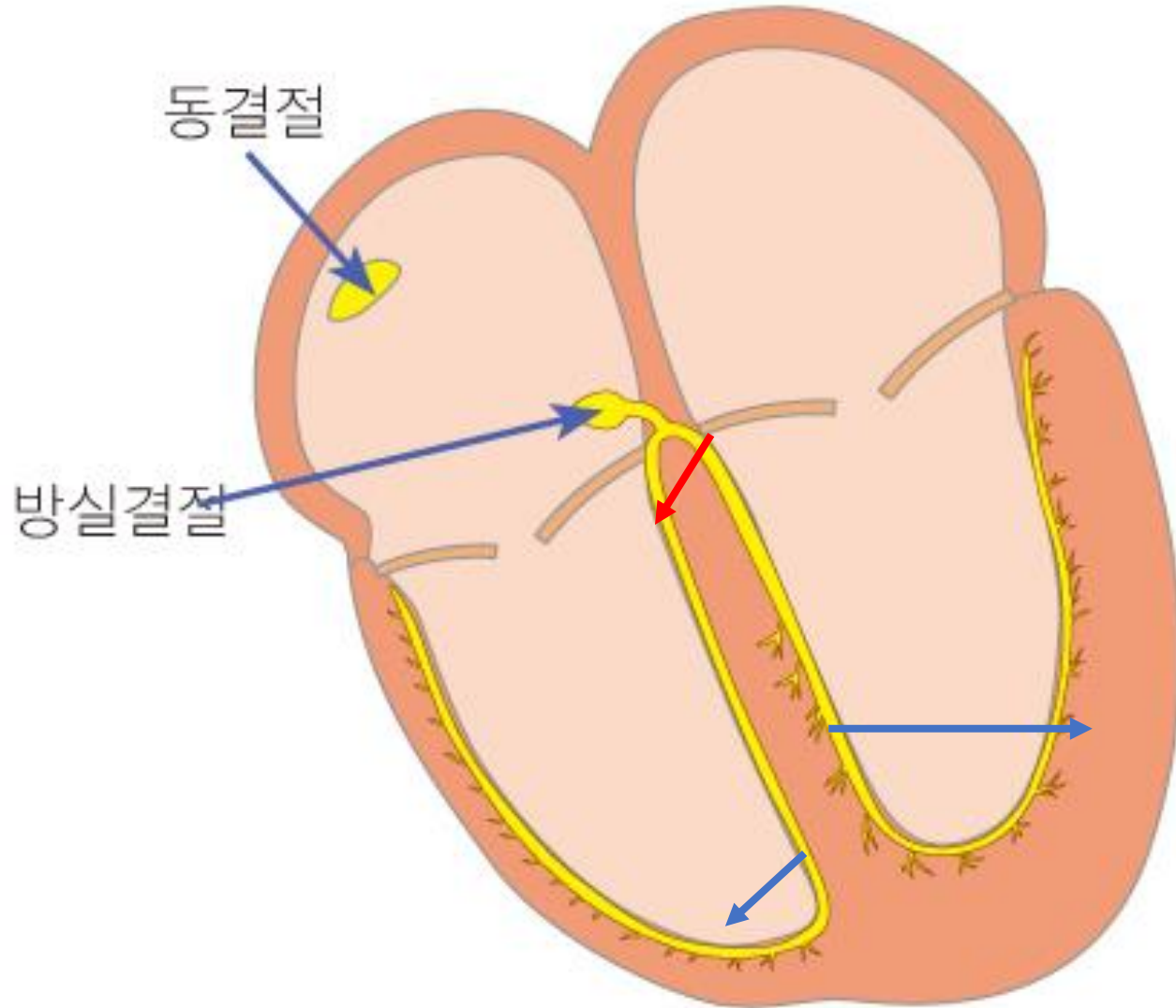
Bundle Branch Block



Normal ventricular conduction



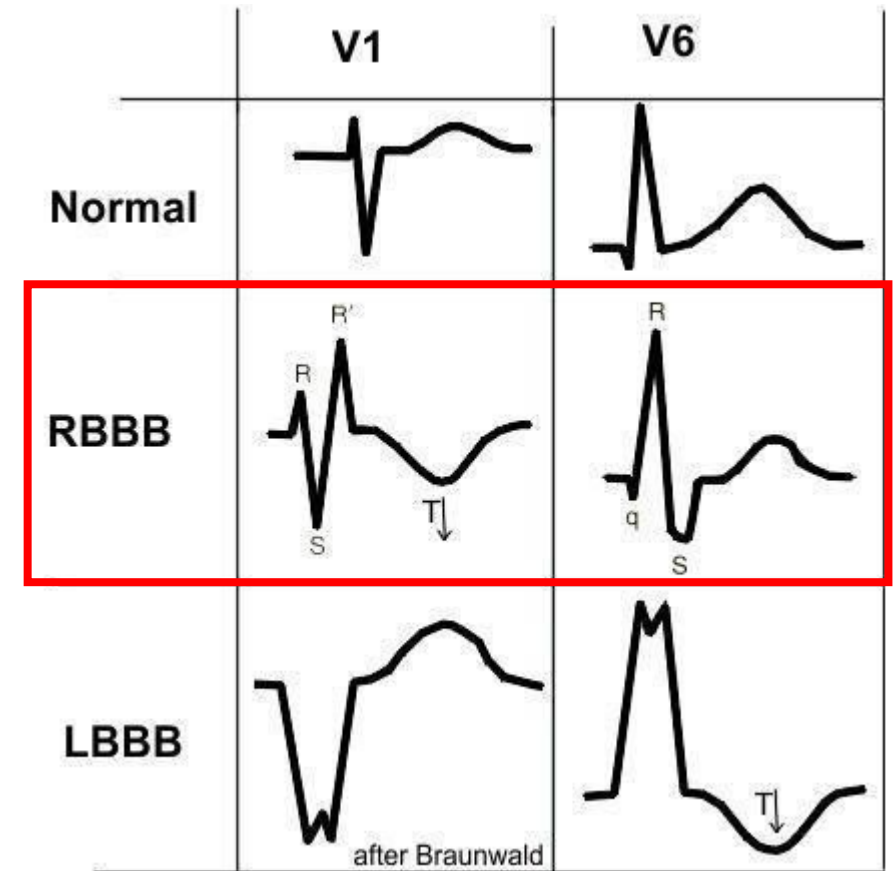
Normal ventricular conduction



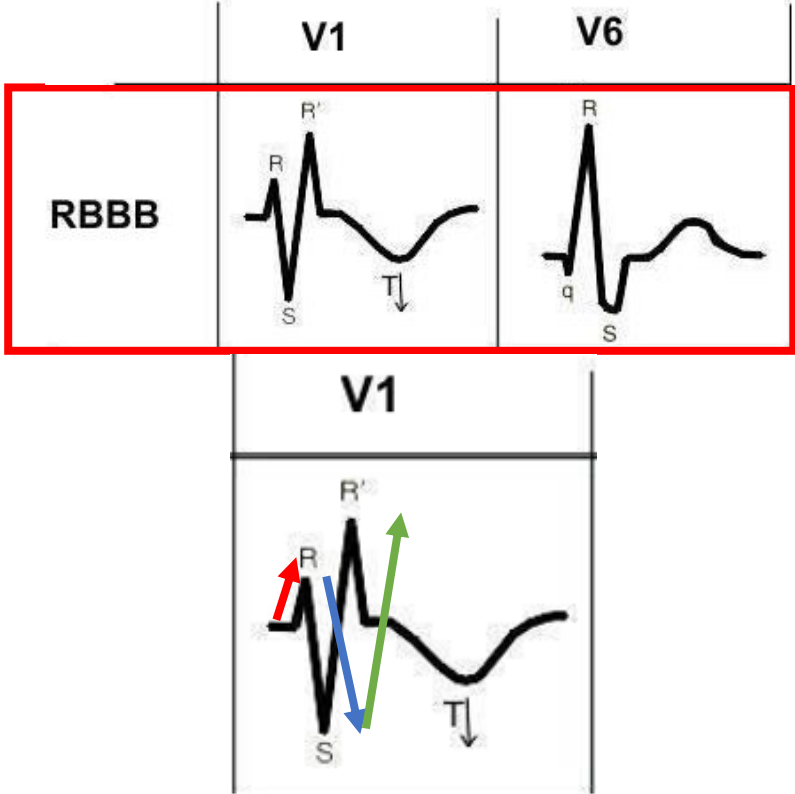
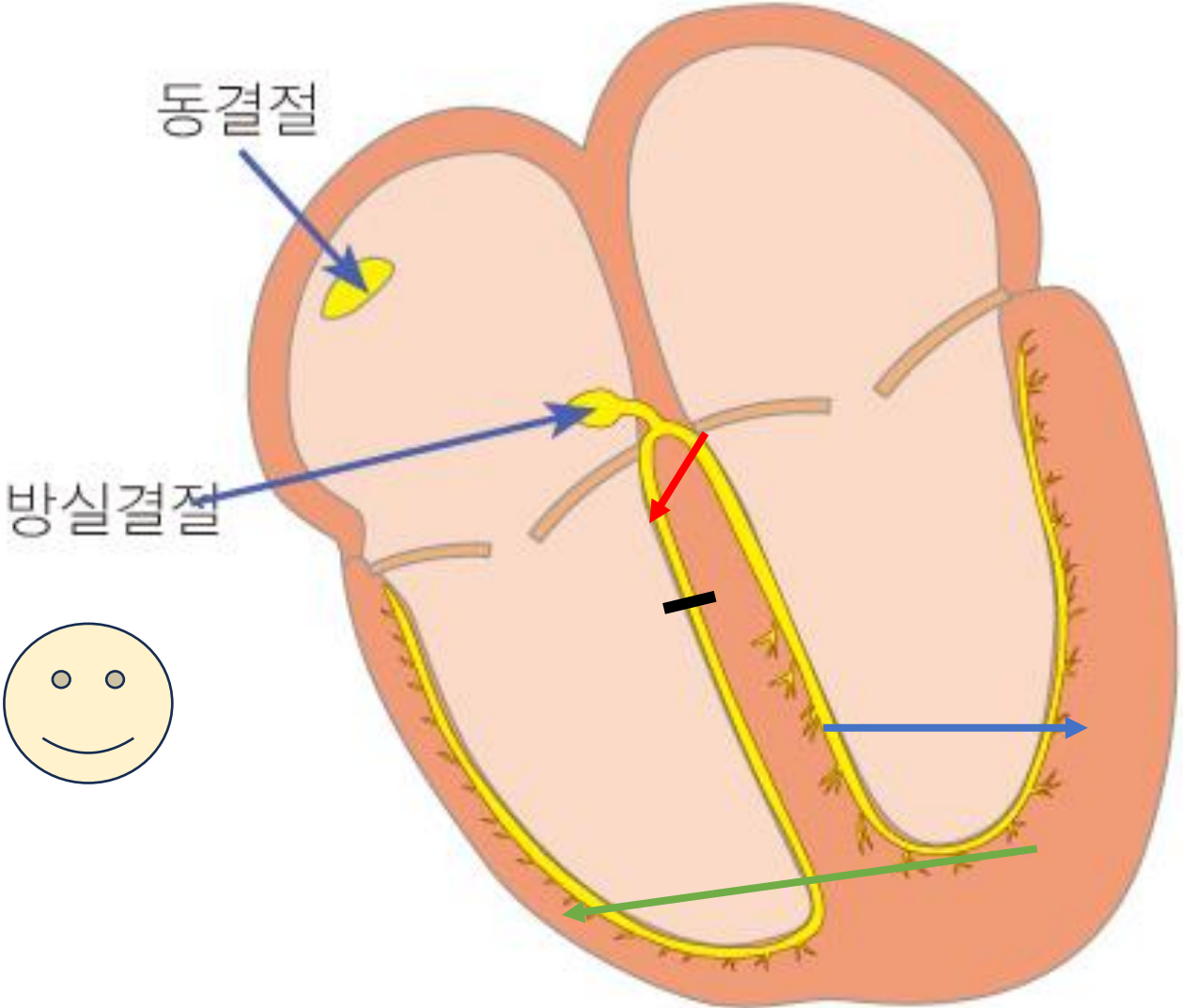
Bundle Branch Block

- **RBBB**

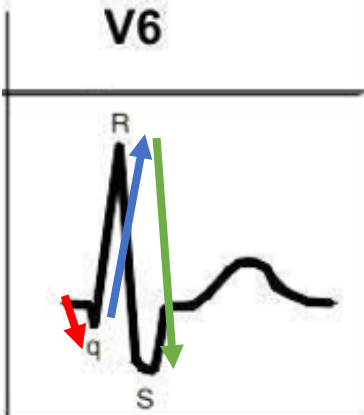
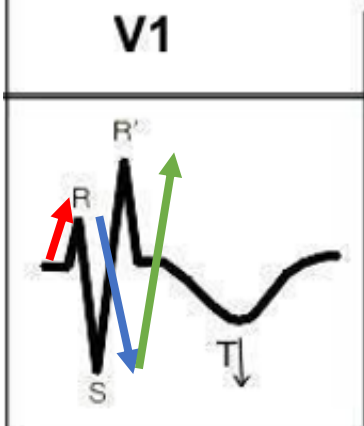
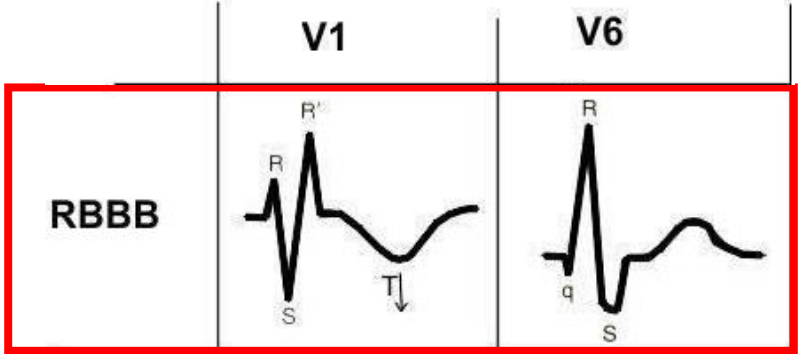
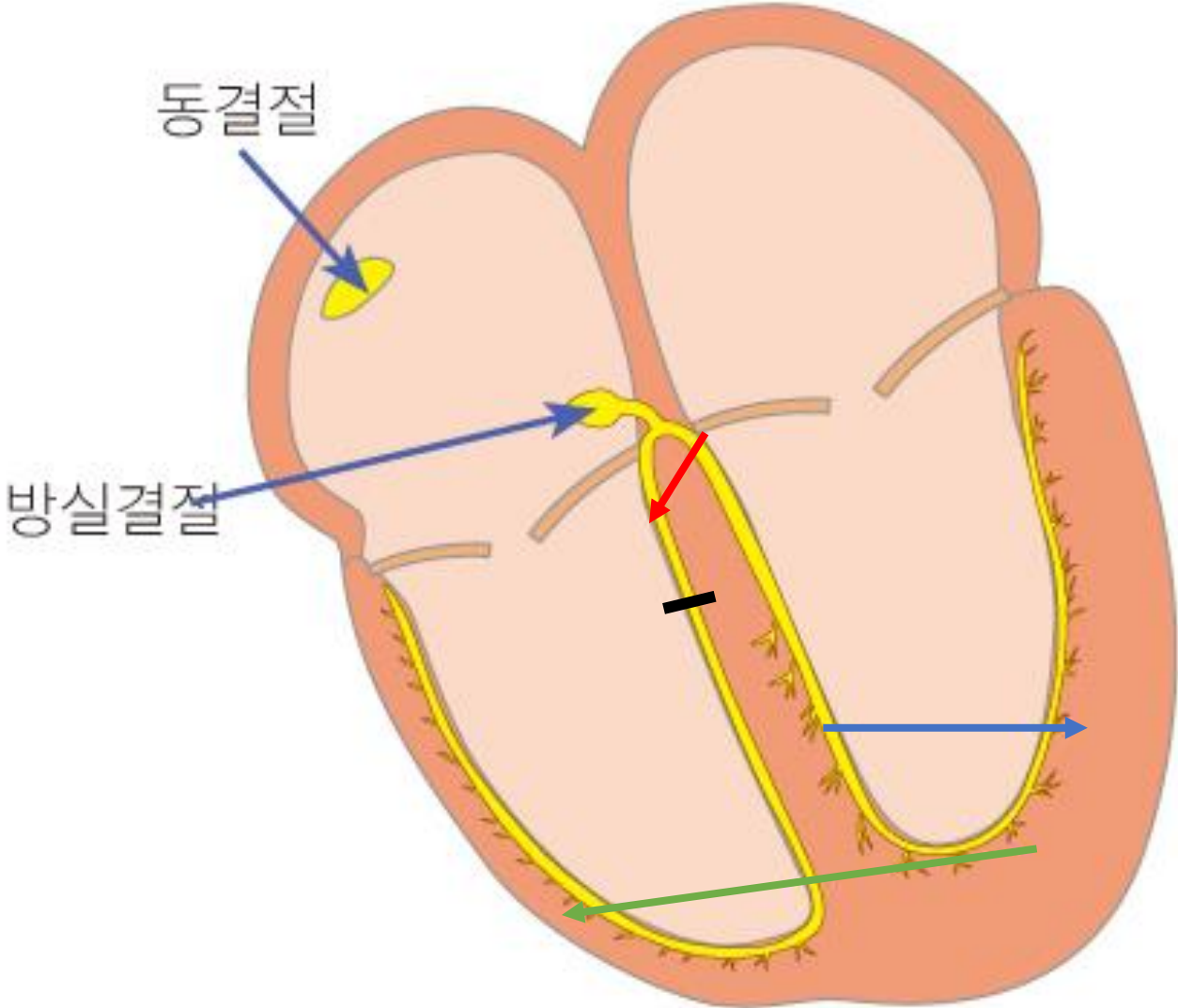
- About 0.2% to 1.3% of general population
- Mostly asymptomatic
- Usually benign without symptoms
- ECG
 - V1 : rSR' / discordant change of T wave
 - V6 : Slurred s wave



Right Bundle Branch Block



Right Bundle Branch Block



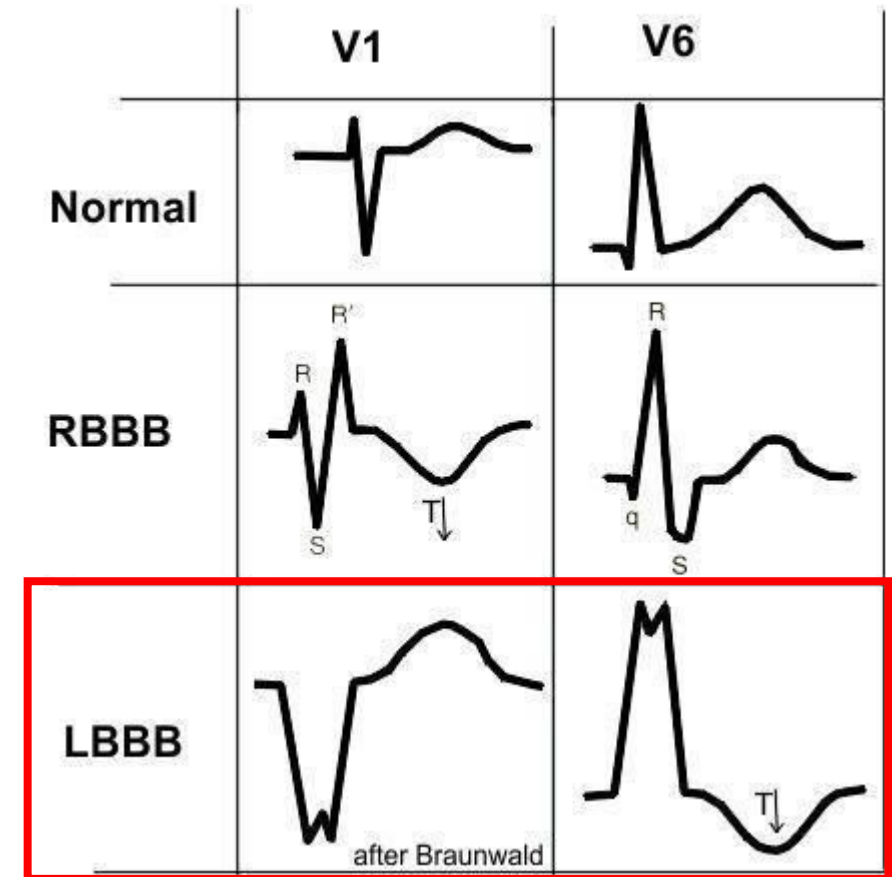
Left Bundle Branch Block

- **LBBB**

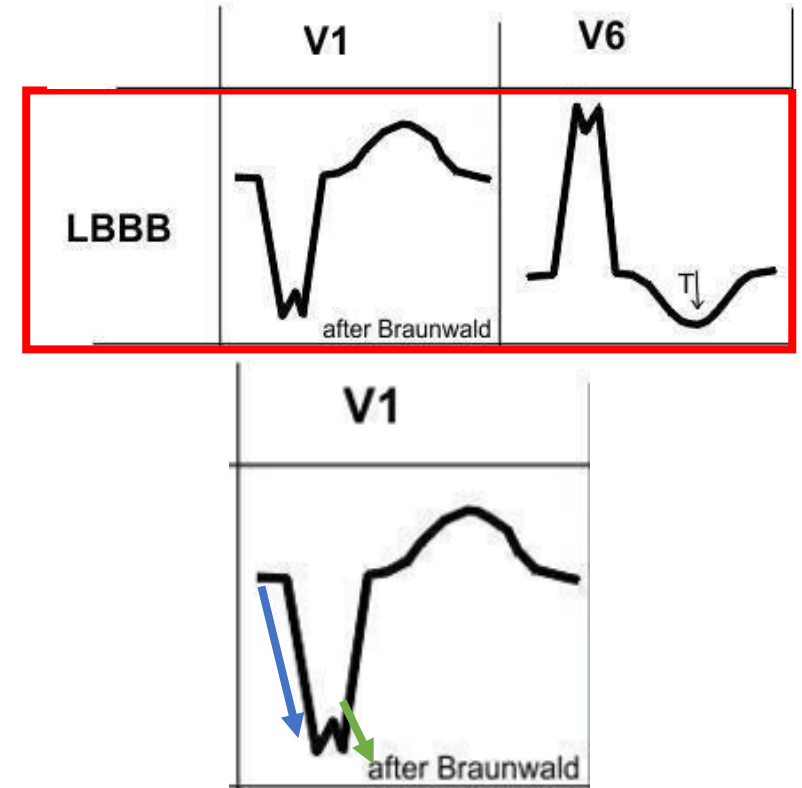
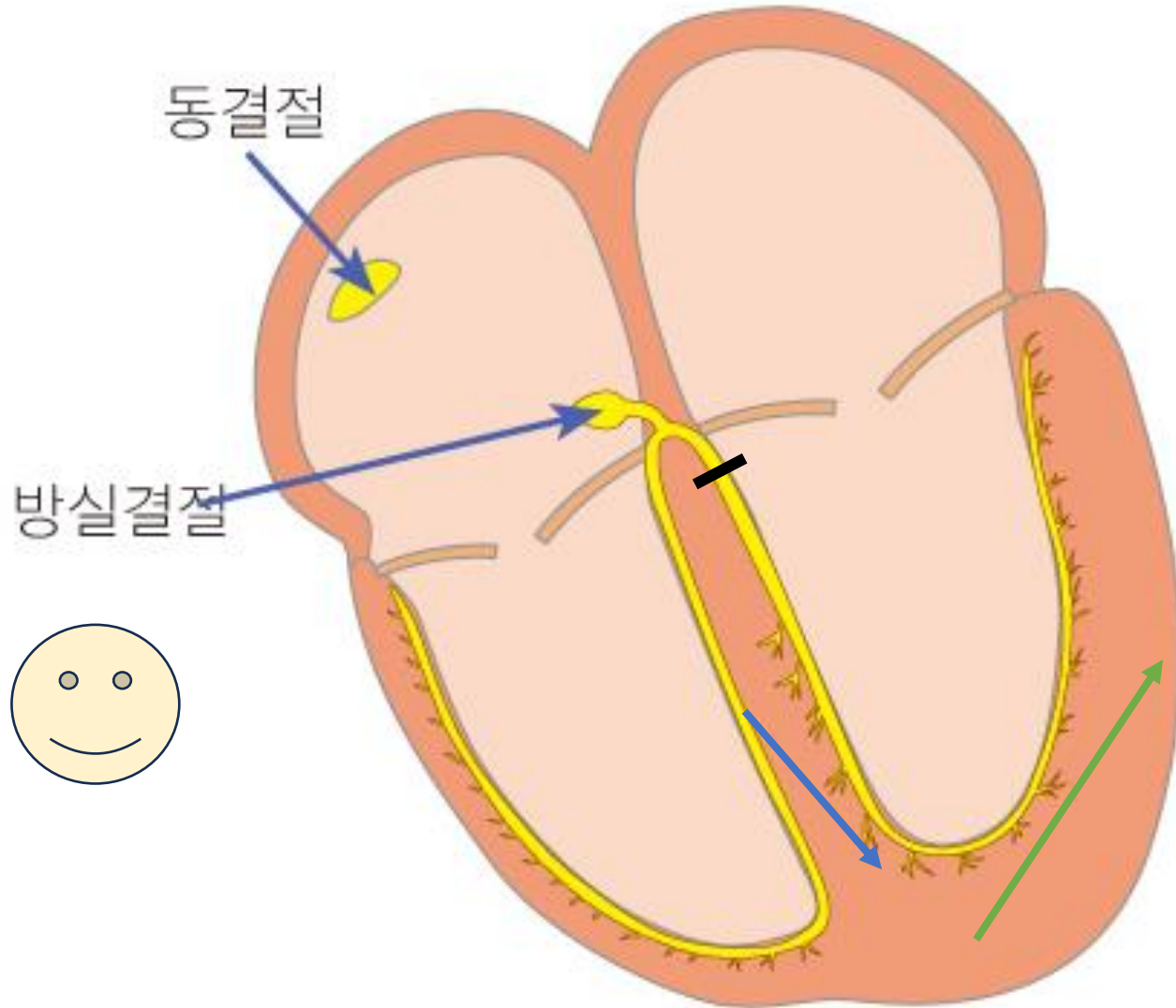
- About 0.06% to 0.1% of general population
- More common with structural heart disease
 - 30% of heart failure patients

- ECG

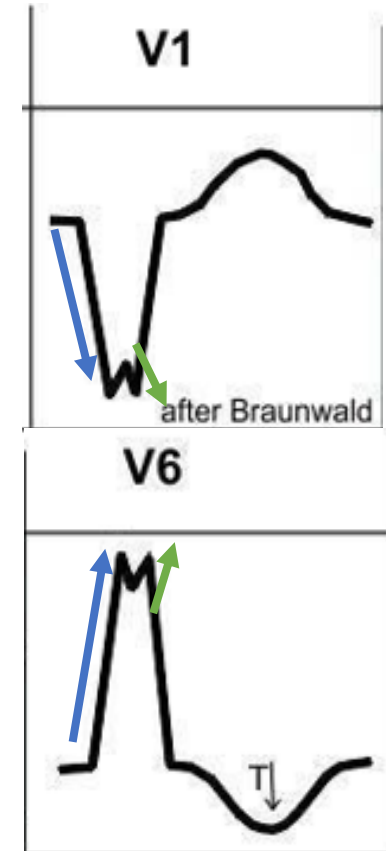
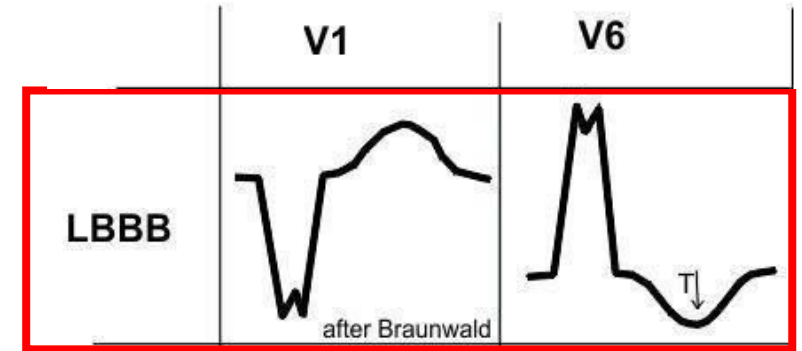
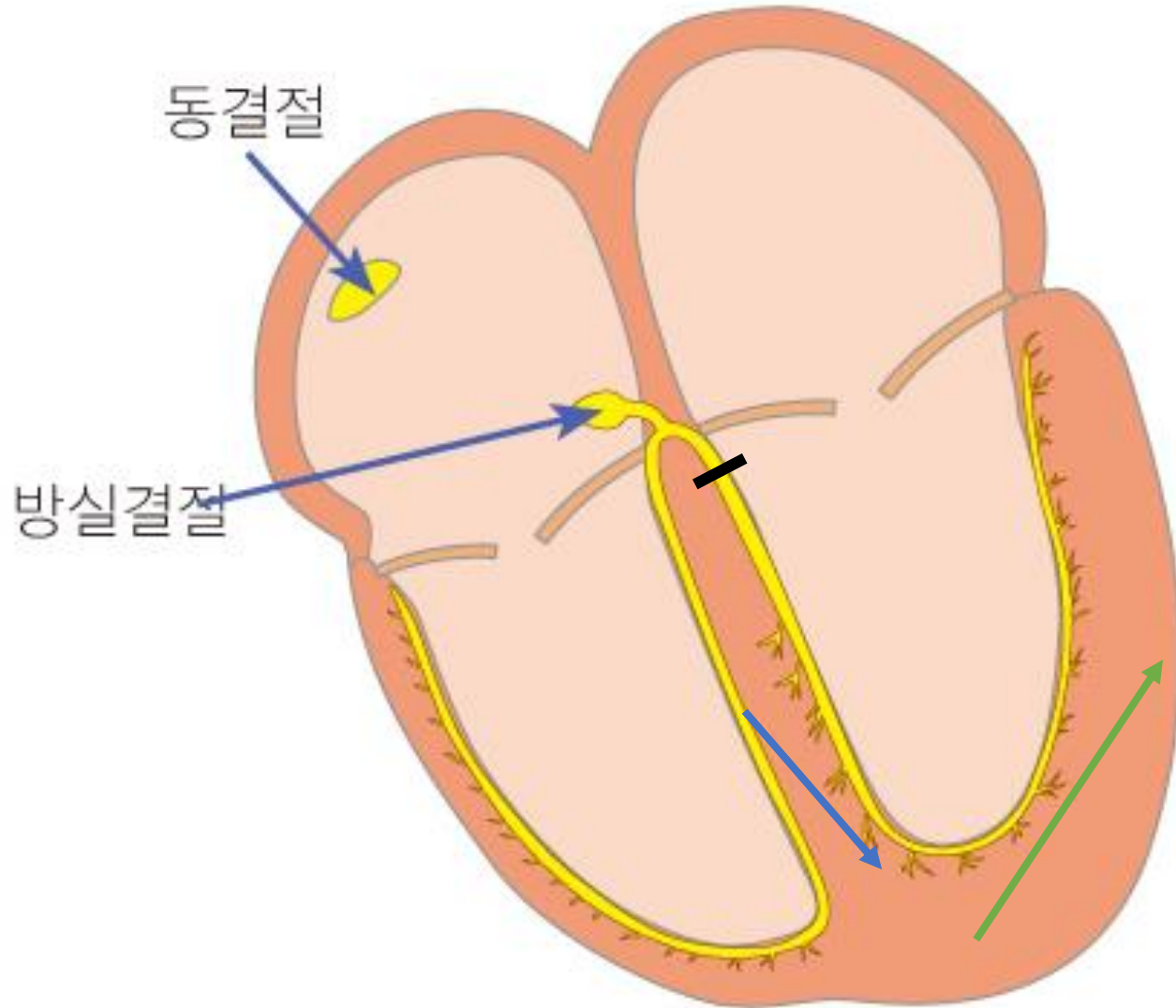
- V1: deep S wave
- V6: Slurred R, notched R (RSR') / discordant change of T wave



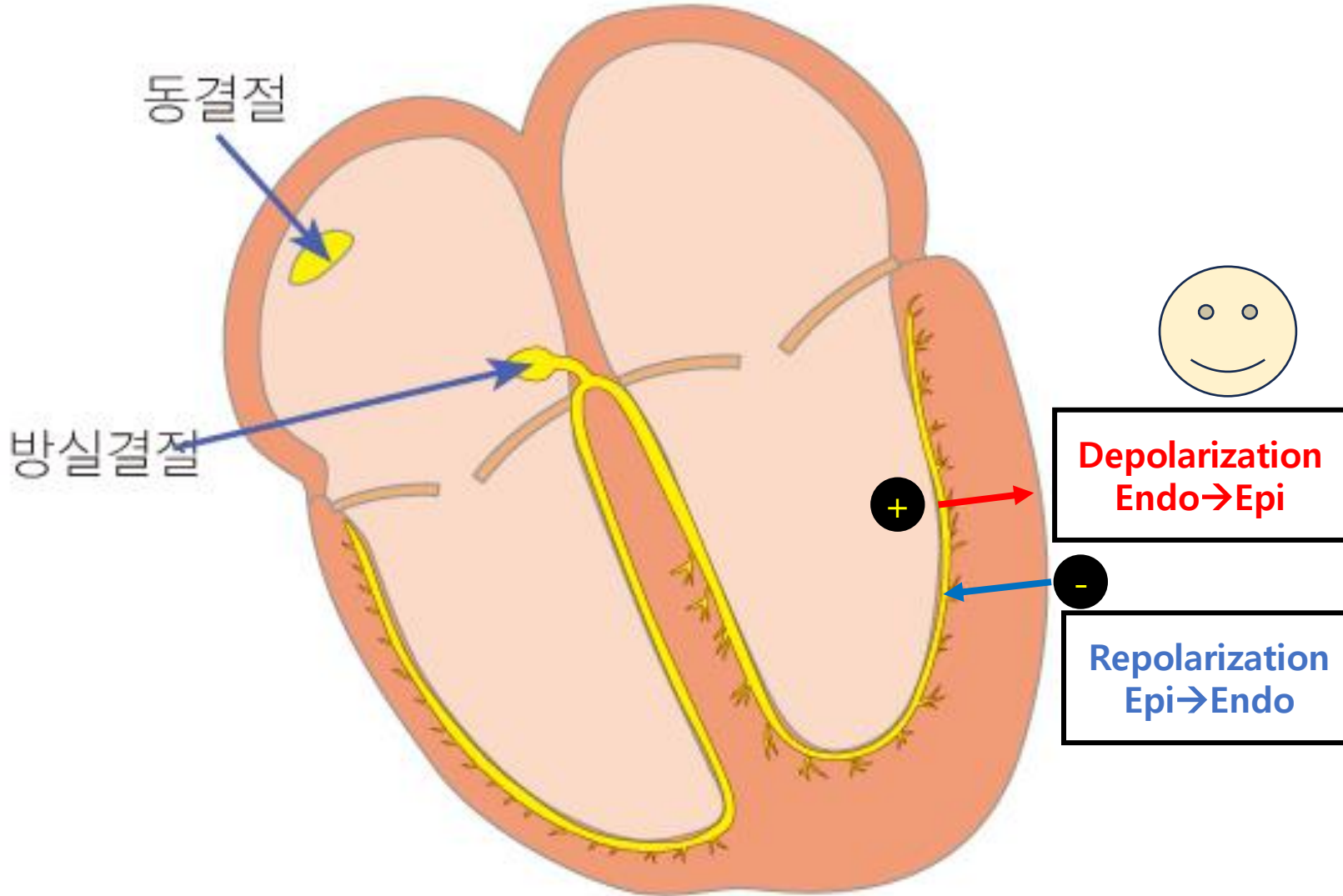
Left Bundle Branch Block



Left Bundle Branch Block

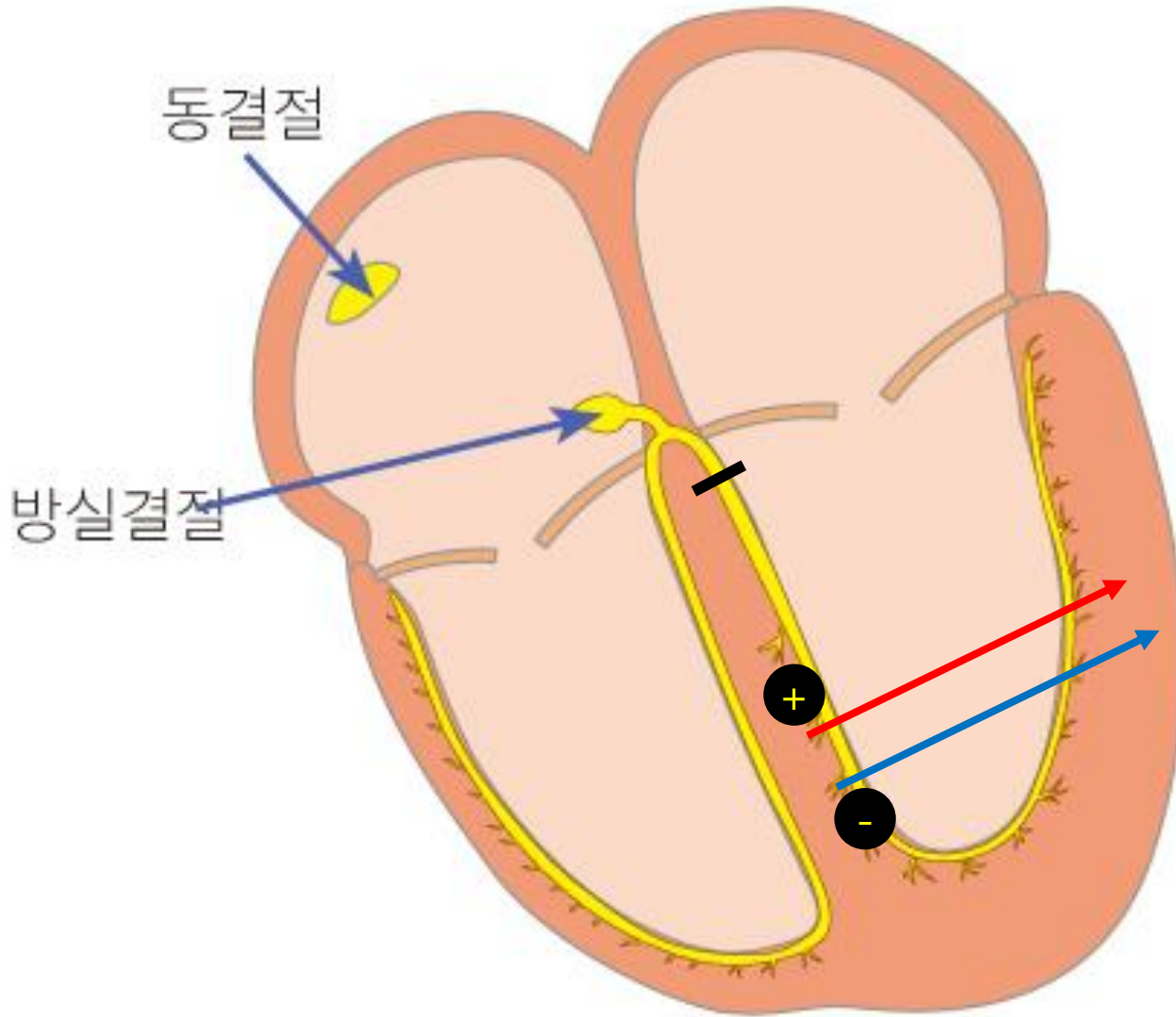


Concordant ST-T wave pattern



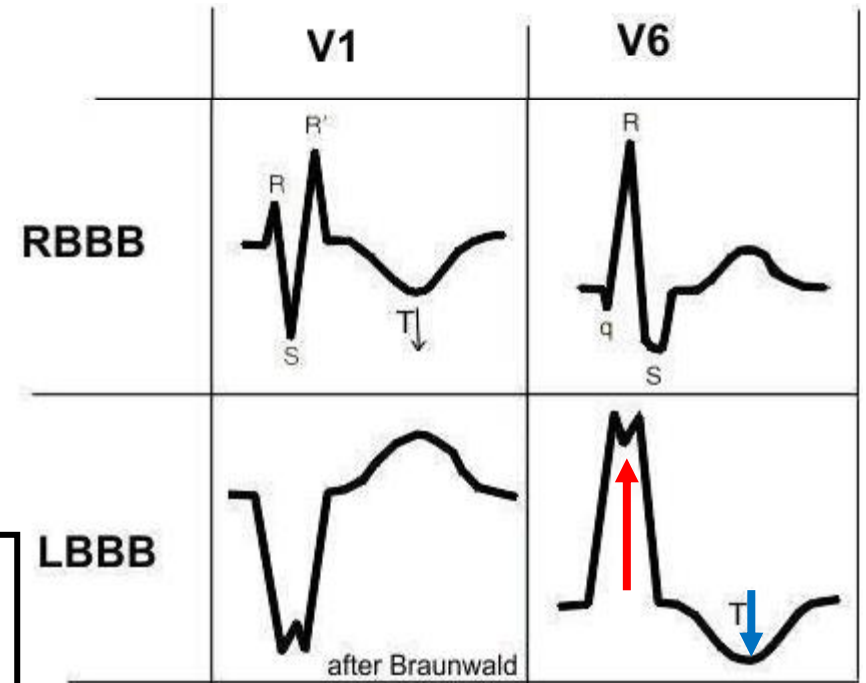
	V1	V6
Normal		
RBBB		
LBBB		

Discondant T wave chage during LBBB

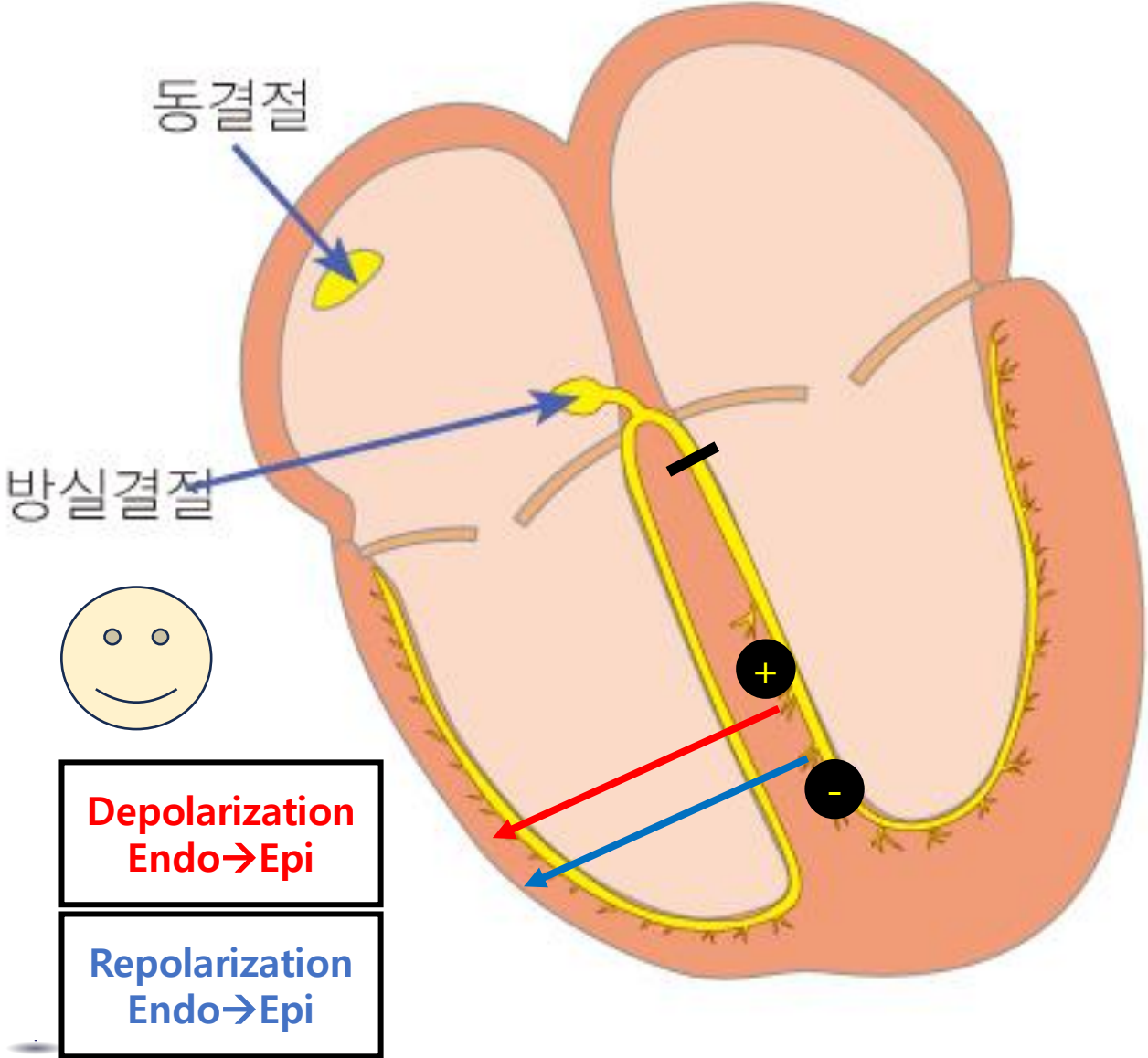


Depolarization
Endo→Epi

Repolarization
Endo→Epi



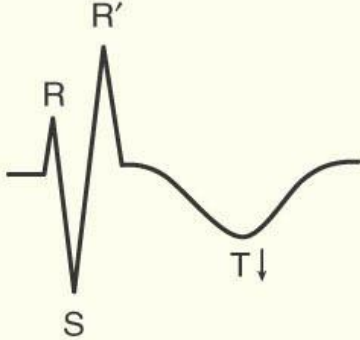
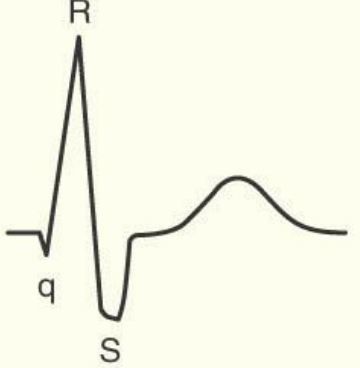
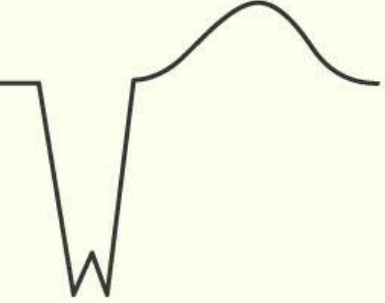
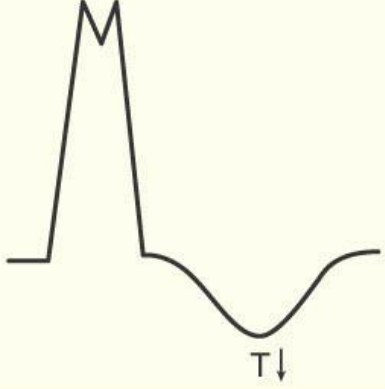


Discondant T wave chage during RBBB



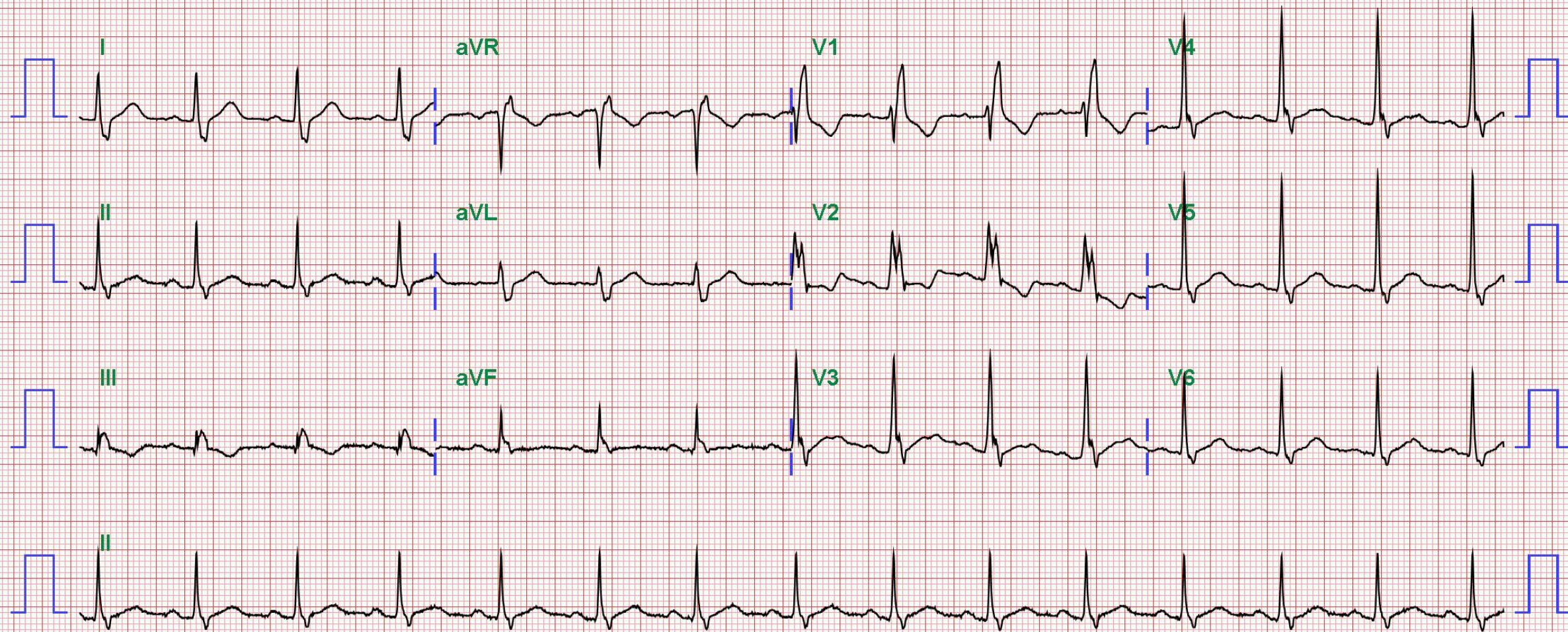
	V1	V6
RBBB	<p>R, R', S, T↓</p>	<p>R, q, S</p>
LBBB	<p>after Braunwald</p>	<p>T↓</p>

Bundle Branch Block

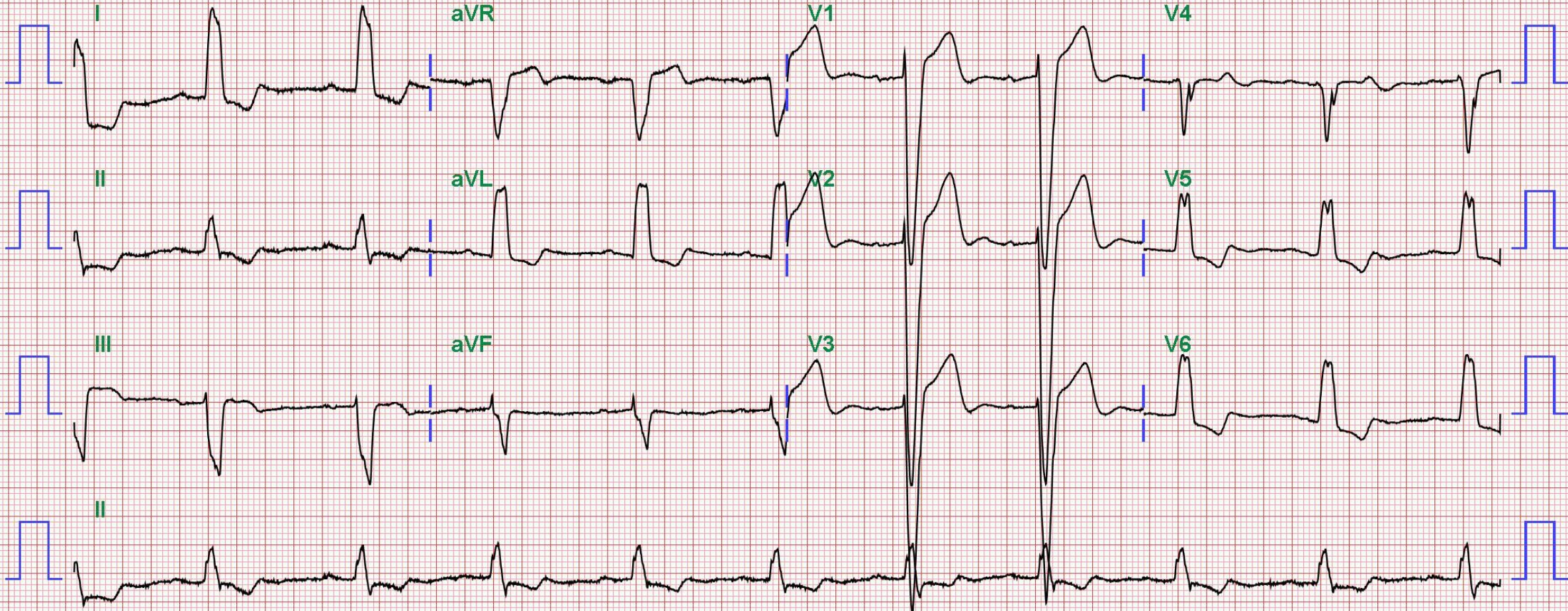
	V ₁	V ₆
Normal		
RBBB		
LBBB		



RBBB



LBBB



Thank you for your attention

