

Examination of peripheral pulses

CHARACTERISTICS

- Rate, Rhythm, volume, character, condition of vessel wall, radiofemoral delay, other peripheral pulses

Peripheral pulses

1. Superficial temporal
2. Carotid
3. Brachial
4. Radial
5. Femoral
6. Popliteal
7. Posterior tibial
8. Dorsalis pedis

RATE

Number of pulses/min. 60-100/min

Tachycardia: >100/min

a) sinus tachycardia

- exercise, emotion, excitement, smoking, intense pain, anxiety, in children.
- Thyrotoxicosis, severe anaemia, pyrexia, shock, myocarditis, a/c hemorrhage, hypoxia, drugs

b)Relative tachycardia

c)Paroxysmal tachycardia $>160/\text{min}$

Bradycardia:<60/min

a)sinus

- Athletes,deep sleep,yoga
- Hypothyroidism,obstructive jaundice,raised ICT,sino atrial disease,organophosphorous poisoning,drugs.

b)relative

Pulse apex deficit

Difference b/w heart rate and pulse rate.

AF(>10/min), multiple ectopic beats.(<10/min)

RHYTHM

Spacing b/w two beats.

Normal is regular, sinus rhythm

1. Regularly irregular-secondary heart block, sinus arrhythmia
2. Irregularly irregular-AF, multiple ventricular extrasystoles, atrial flutter .

VOLUME

Amplitude of pulse wave.

Reflects width of pulse pressure, depends on :

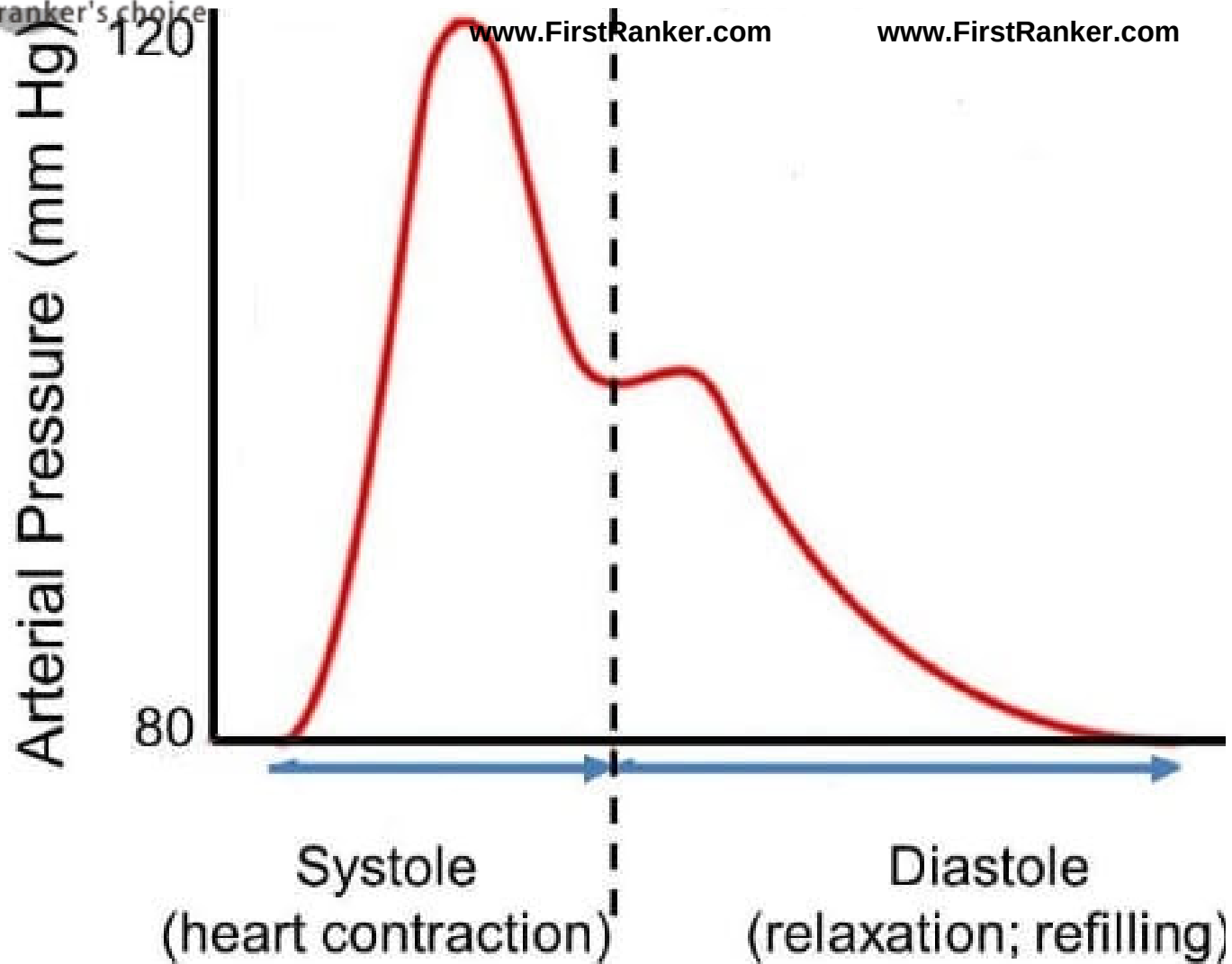
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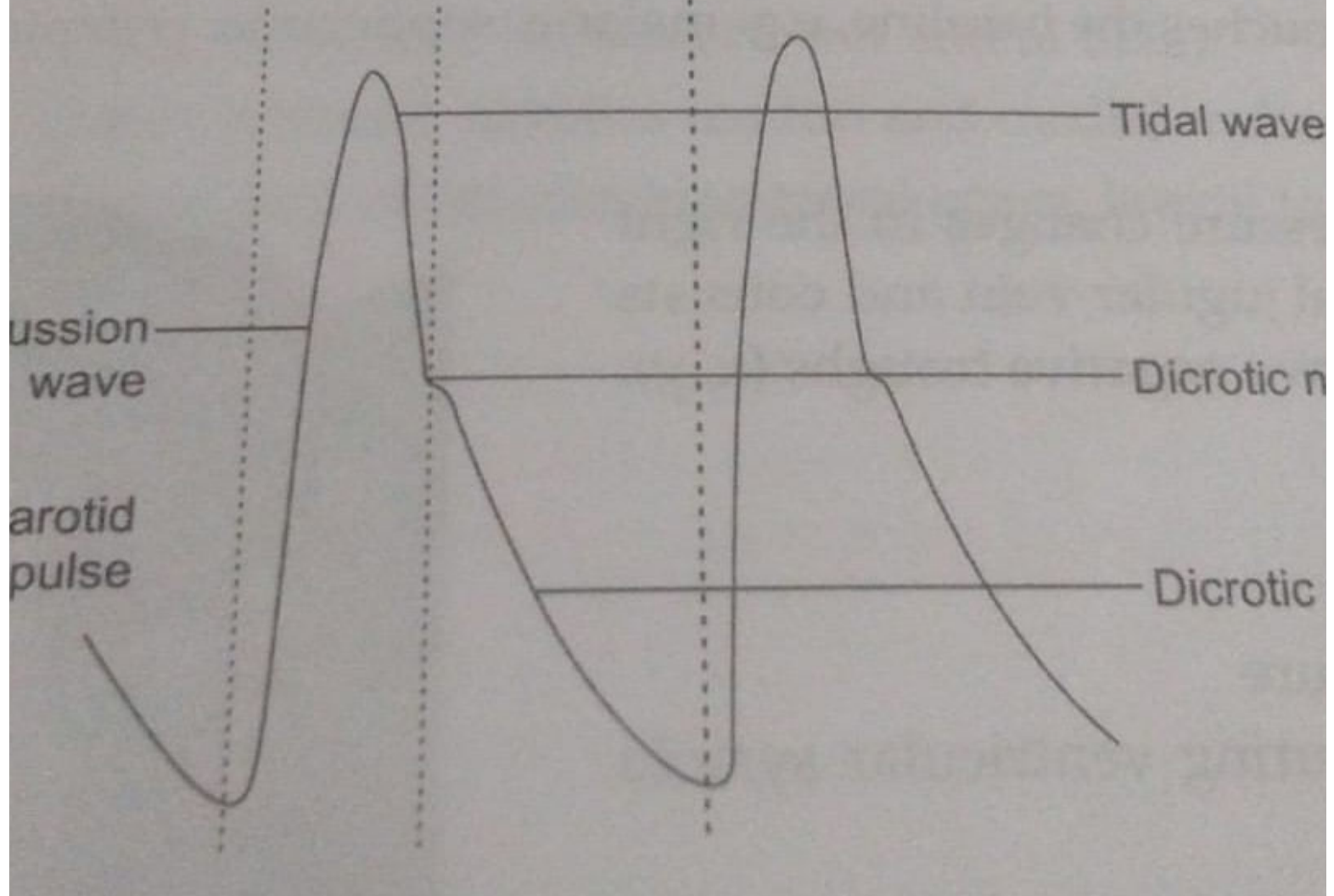
condition of vessel wall

a) High volume: ($PP > 60 \text{ mmHg}$)

anxiety, fever, thyrotoxicosis, AR, PDA, atherosclerosis

b) Low volume ($PP < 30 \text{ mmHg}$): shock, severe aortic stenosis, CCF, pericardial effusion, constrictive pericarditis





CHARACTER

1. Anacrotic pulse
2. Dicrotic pulse
3. Water hammer pulse
4. Pulsus bisferiens
5. Pulsus alternans
6. Pulsus bigeminus
7. Pulsus paradoxicus
8. Thready pulse, jerky pulse, bounding pulse

Water hammer pulse /high volume collapsing pulse

High volume pulse,sharp rise,ill sustained,sharp
fall

aortic incompetence

Condition of arterial vessel wall

Palpable in old age due to atherosclerosis

Radio-radial delay

1. Normal anatomical variation
2. Thoracic inlet syn
3. Aneurysm of arch of aorta
4. Pre-subclavian coarctation
5. Peripheral embolism
6. Atherosclerosis of aorta
7. Pressure over axillary artery by lymph nodes

Radio-femoral delay

1. Coarctation of aorta
2. Atherosclerosis of aorta
3. Thrombosis or embolism of aorta
4. Aortoarteritis

Normal arterial pulse

Rate is 72/min regular in rhythm normal and in equal in volume no radioradial delay as well as no radio-femoral delay. condition of vessel wall is normal and pulses are of normal character. All other peripheral pulses are symmetrically palpable.

THANK YOU