

心血管系統的臨床理學檢查

Introduction and general inspection

- **Wash hands** thoroughly before commencing examination
- **Introduce** yourself to the patient and explain the procedure to them
- **Expose** the upper body, ensure the patient is not cold or unnecessarily embarrassed
- The patient should be **supine and reclined at a 45 degree angle**
- Start with a **general inspection** of the patient from the end of the bed looking for signs of **breathlessness, pain or anxiety**
- **Face** Look around the eyelids for **xanthelasma**
- Look at the periphery of the cornea for corneal arcus
- Retract the eyelids to look for signs of **anemia**
- Look at the cheeks for **malar flush**
- Look at the lips and tongue for signs of **central cyanosis**

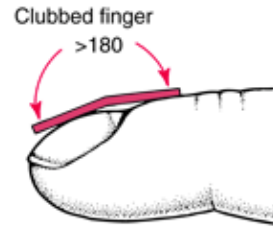
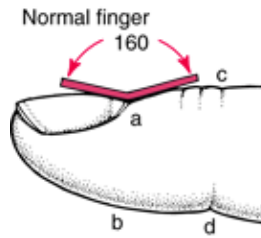


Hands and pulses

- Examine the **finger nails** for splinter haemorrhages, koilonychia, leuconychia and finger **clubbing**
- Look at the **finger pulp** and palm for **Osler's nodes** and **Janeway lesions**. Assess peripheral circulation, looking for **palmar erythema** and **sweating**. Perform **capillary refill**.
- Palpate the **radial pulse for 15 seconds** (multiply by 4 to get beats per minute) to assess **rate, rhythm, volume and character**.
- Feel for a collapsing pulse by raising the arm whilst feeling across the radial pulse with fingers of the other hand.
- Whilst the arm is raised look at the elbow for **tendon xanthomata**
- Palpate the brachial pulse to assess pulse and character
- Palpate the **carotid pulse** (never compress both simultaneously)
- Examine the **Jugular Venous Pressure**. Make sure patient is reclined at 45 degrees and, if necessary, perform the **abdominojugular reflux**. Measure the vertical height in centimetres between the top of the venous pulsation and sternal angle to obtain venous pressure.



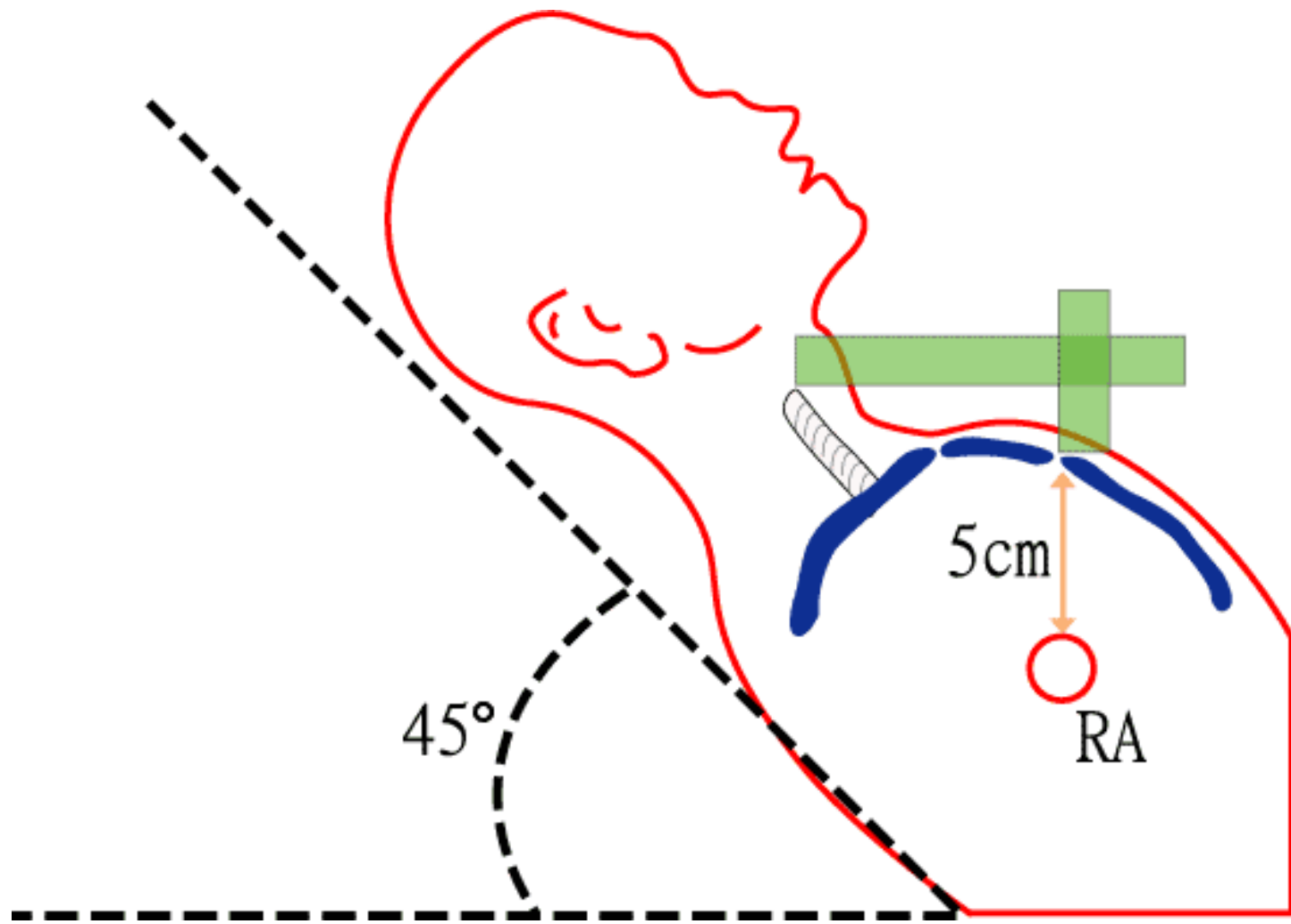
Cyanosis of the nail beds



Pressure is applied to nail bed until it turns white

Blood returned to tissue





EVALUATING JUGULAR VEIN DISTENTION

With the patient in a supine position, position him so that you can visualize jugular vein pulsations reflected from the right atrium. Elevate the head of the bed 45 to 90 degrees. (In the normal patient, veins distend only when the patient lies flat.) Next, locate the angle of Louis (sternal notch) — the reference point for measuring venous pressure. To do so, palpate the clavicles where they join the sternum (the suprasternal notch). Place your first two fingers on the suprasternal notch. Then without lifting them from the skin, slide them down the sternum until you feel a bony protuberance — this is the angle of Louis.

Find the internal jugular vein (which indicates venous pressure more reliably than the external jugular vein). Shine a flashlight across the patient's neck to create shadows that highlight his venous pulse. Be sure to distinguish jugular vein pulsations from carotid artery pulsations. One way to do this is to palpate the vessel: Arterial pulsations continue, whereas venous pulsations disappear with light finger pressure. Also, venous pulsations increase or decrease with changes in body position; arterial pulsations remain constant.

Next, locate the highest point along the vein where you can see pulsations. Using a centimeter ruler, measure the distance between that high point and the sternal notch. Record this finding as well as the angle at which the patient was lying. A finding greater than $1\frac{1}{4}$ " to $1\frac{1}{2}$ " (3 to 4 cm) above the sternal notch, with the head of the bed at a 45-degree angle, indicates jugular vein distention.



Precordium

- Look at the precordium for surgical scars, pulsation or other abnormalities
- Lay your whole hand out on the chest to get a general impression of cardiac activity
- Localise the apex beat (mid-clavicular line, 5th intercostal space)
- Palpate for heaves and thrills



palpitation for the apex beat



palpitation for a parasternal heave

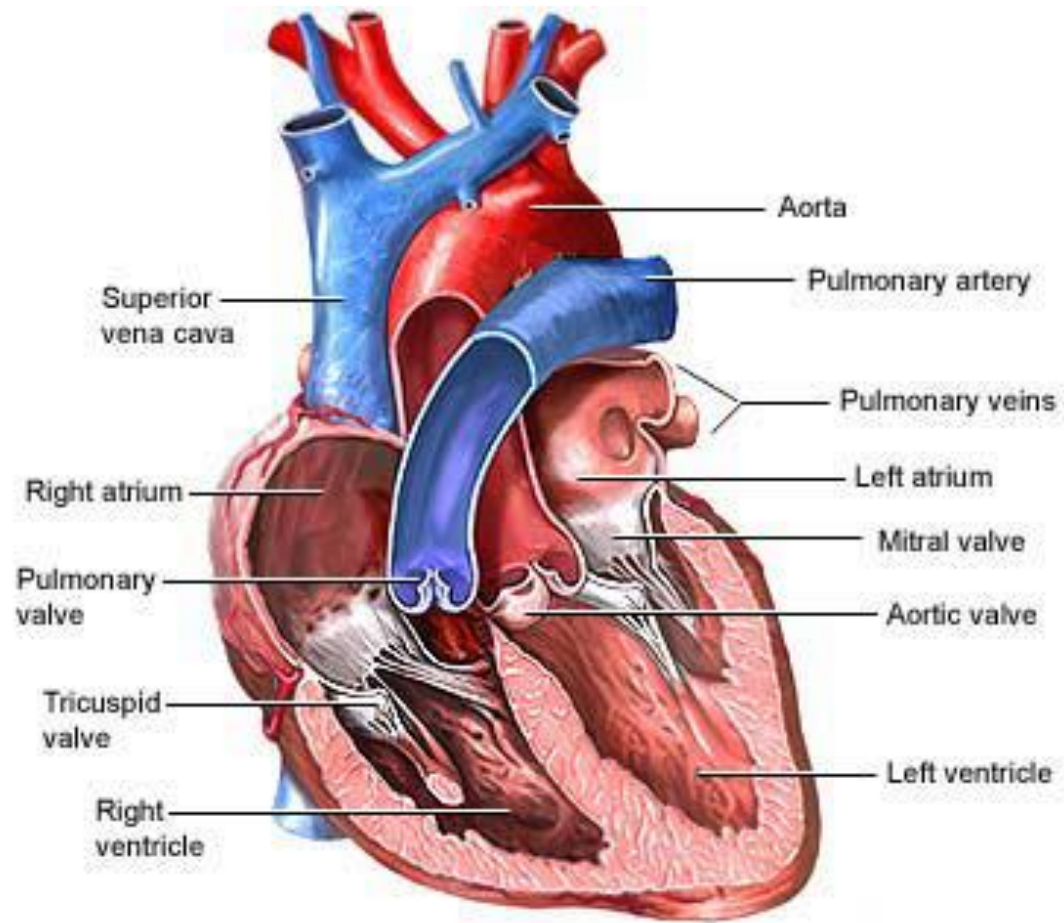


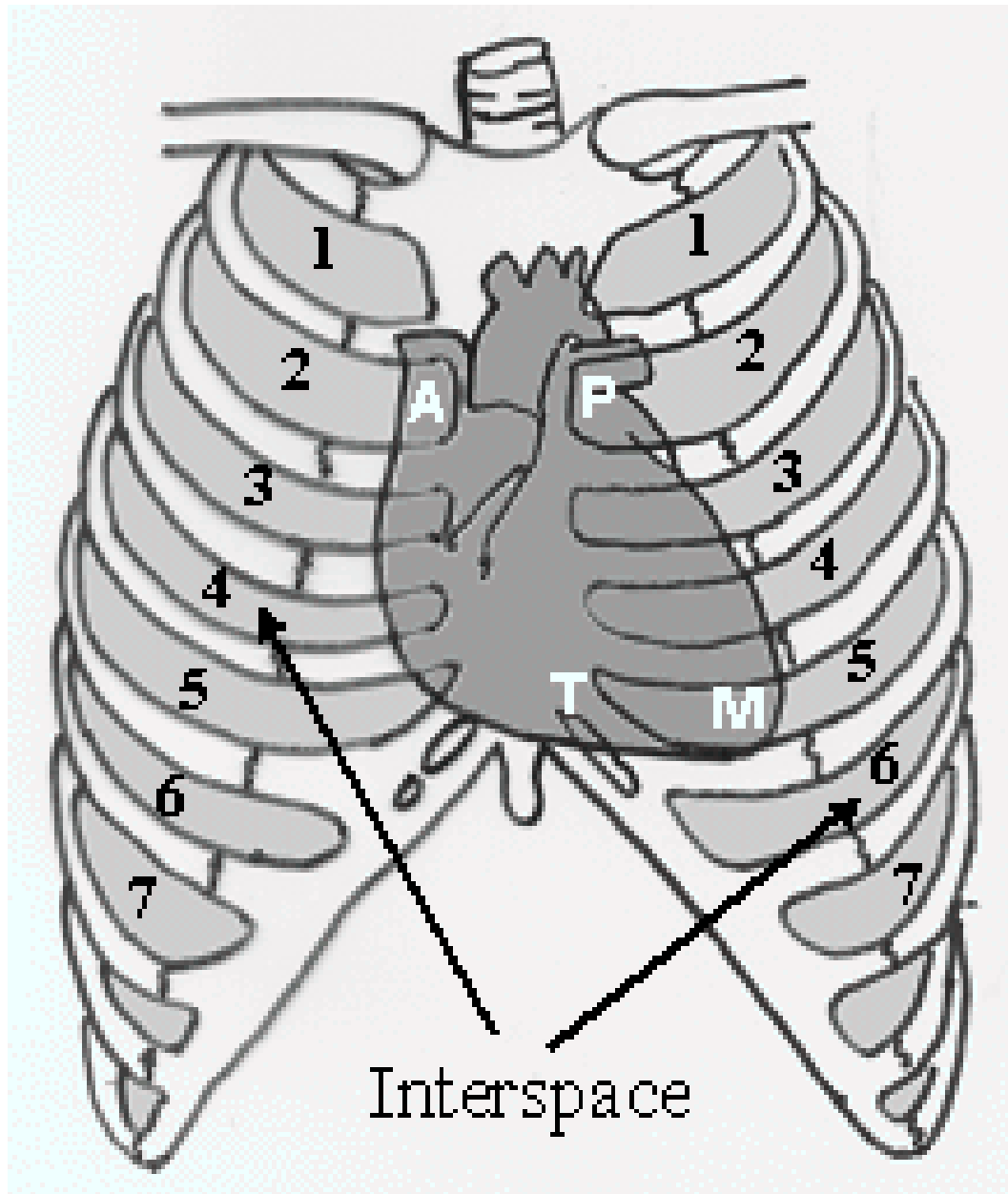
palpitation for thrills

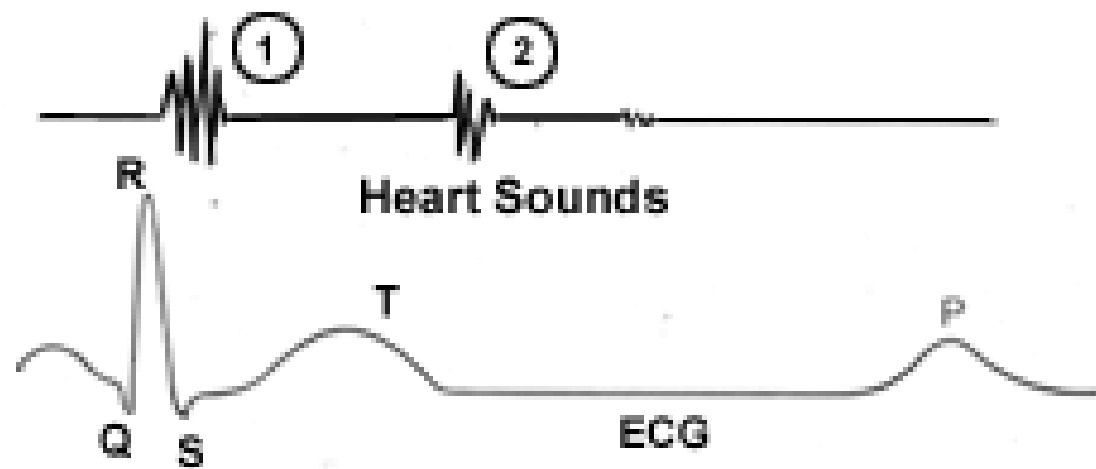
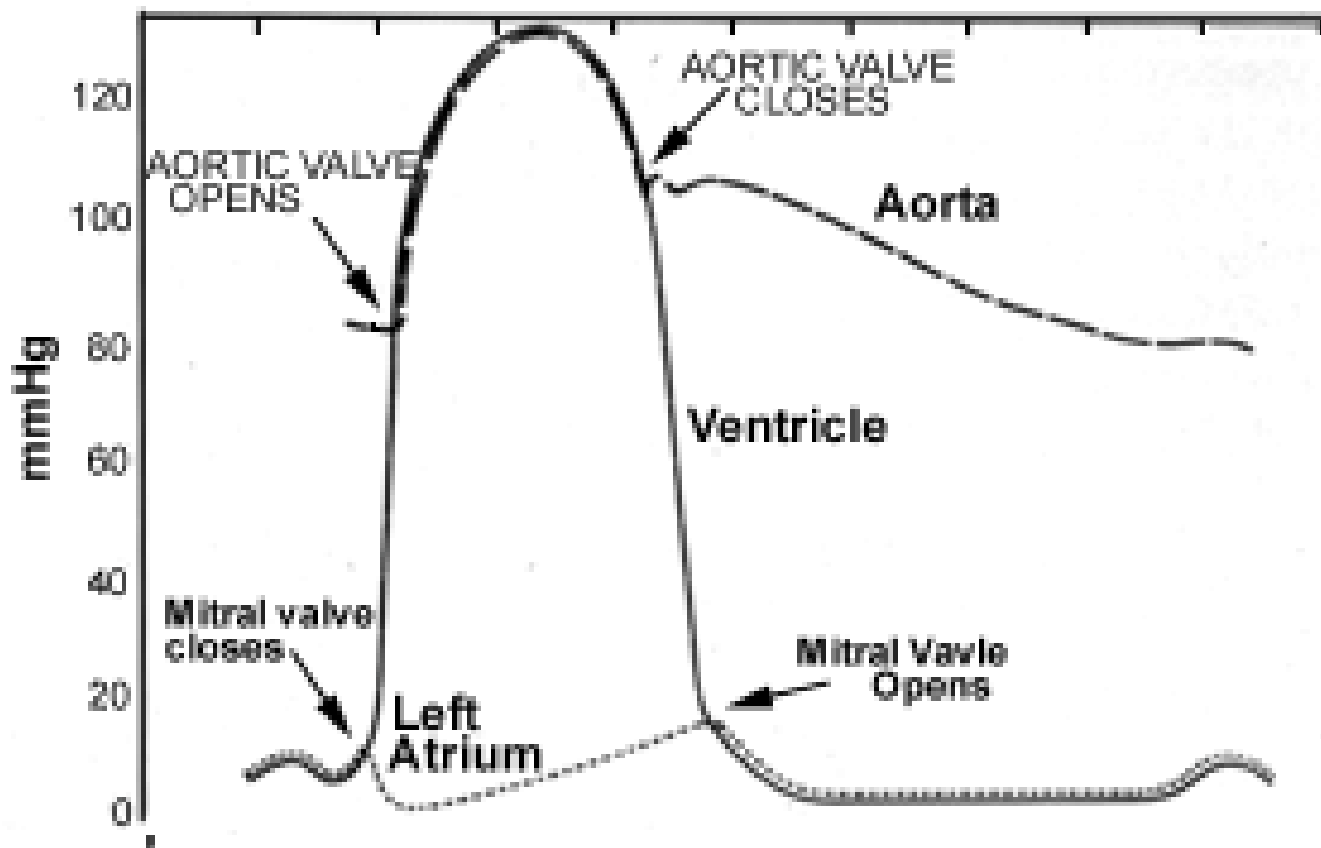
Auscultation

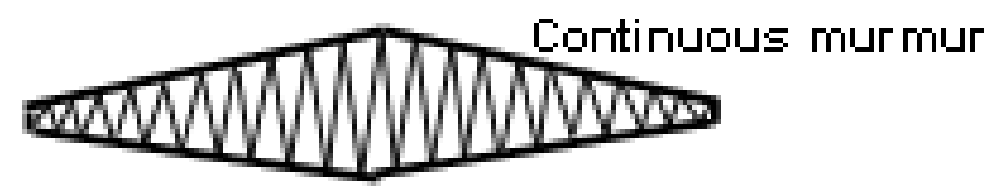
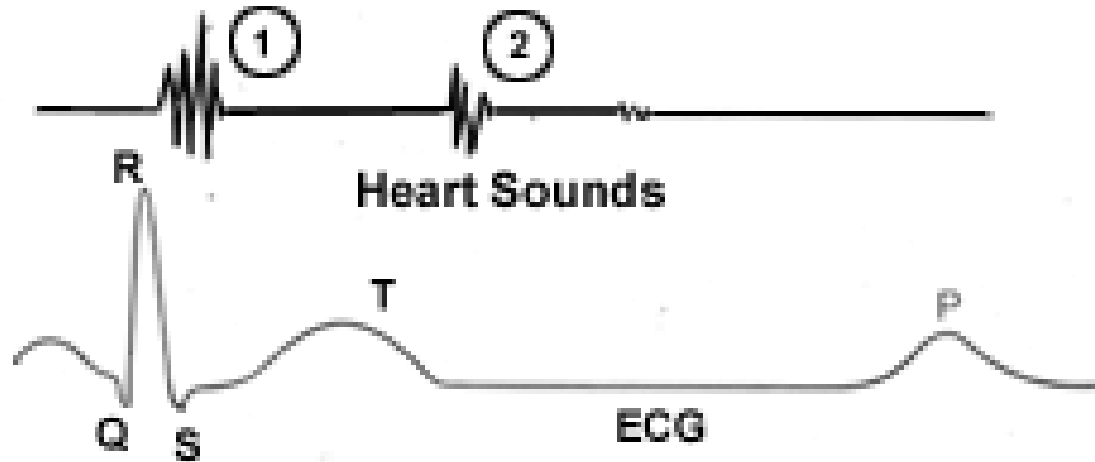
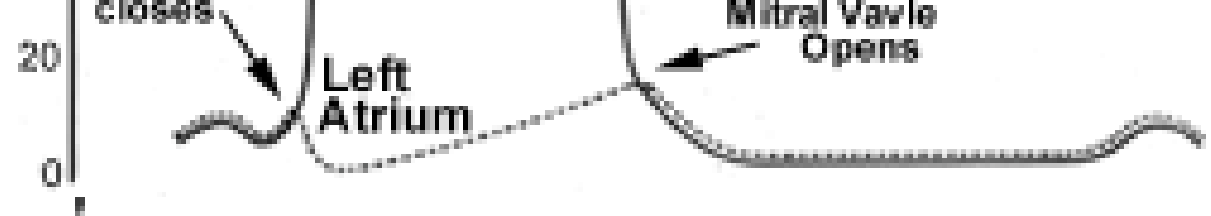
- Auscultate all over the precordium, listening to the **apex, base, right and upper left sternal edges** with both bell and diaphragm
- Auscultate over the **carotids for bruits**
- At each site, identify the **first and second heart sounds** and assess the character with regard to **intensity and splitting**. Also listen for **added sounds and murmurs**.
- Roll patient onto **left side** and listen at apex using bell to detect **murmur of mitral stenosis**
- Sit patient up and get them to lean forward. Ask them to hold their breath **at expiration** and listen over the **right sternal interspace** and then down at the **left sternal edge** with the diaphragm for murmur of **aortic incompetence**
- Examine back of chest for **crepitations (rales)** and look for **sacral edema**

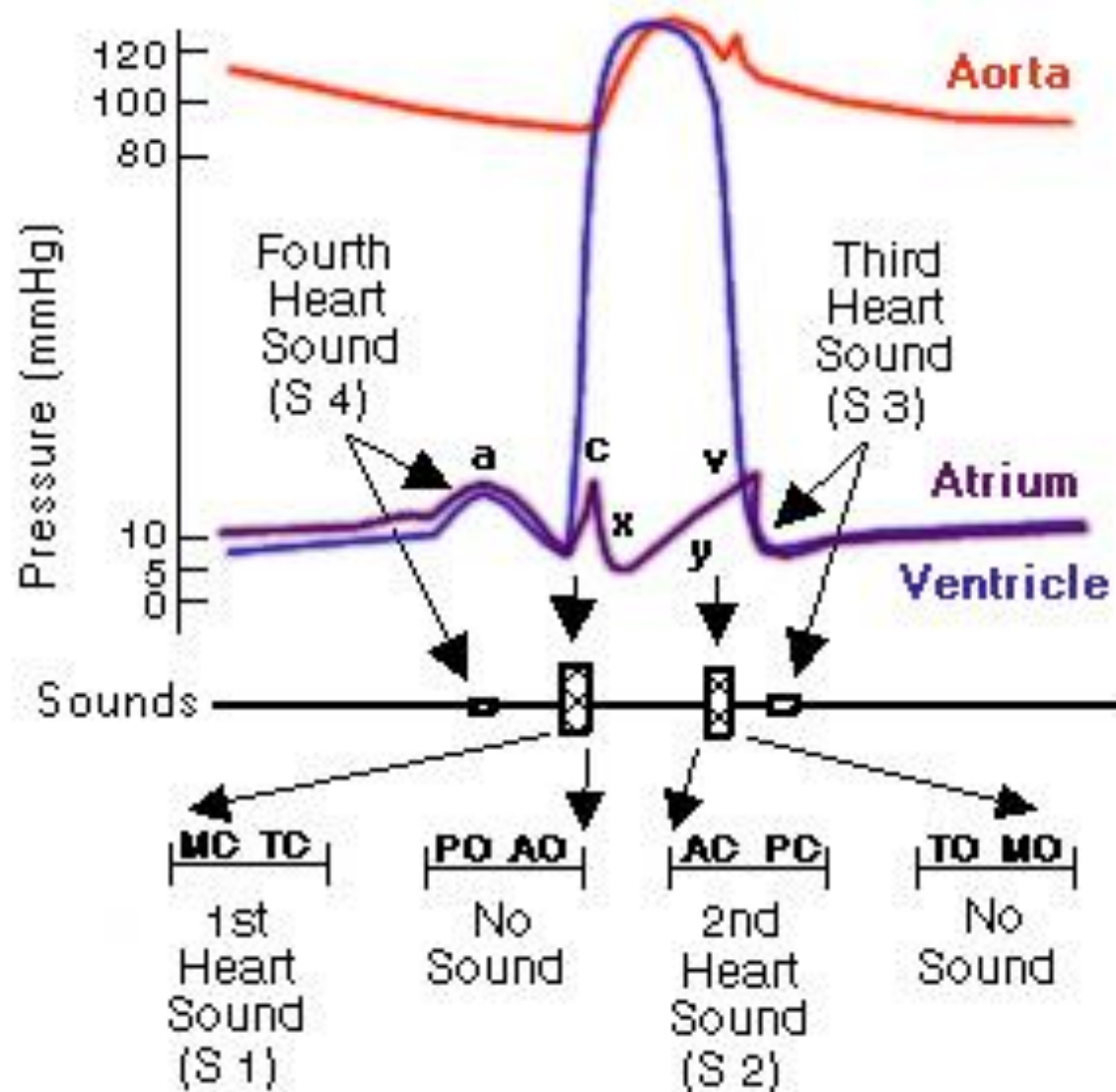






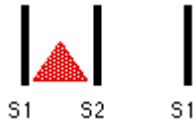






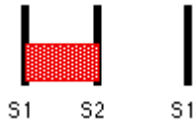
Murmurs and Extra Sounds

Systolic Ejection



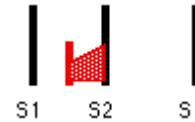
Innocent/Physiologic
Aortic/Pulmonic Stenosis

Pansystolic



Mitral/Tricuspid Regurgitation

Systolic Click Late Systolic



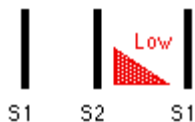
Mitral Valve Prolapse

Early Diastolic



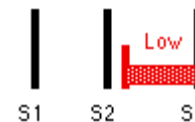
Aortic Regurgitation

Mid Diastolic



Mitral/Tricuspid Stenosis

Opening Snap Diastolic Rumble



Mitral Stenosis

Ejection Sound



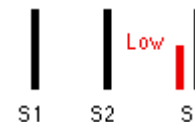
Aortic Valve Disease

S3



Normal in Children
Heart Failure

S4



Physiologic
Various Diseases

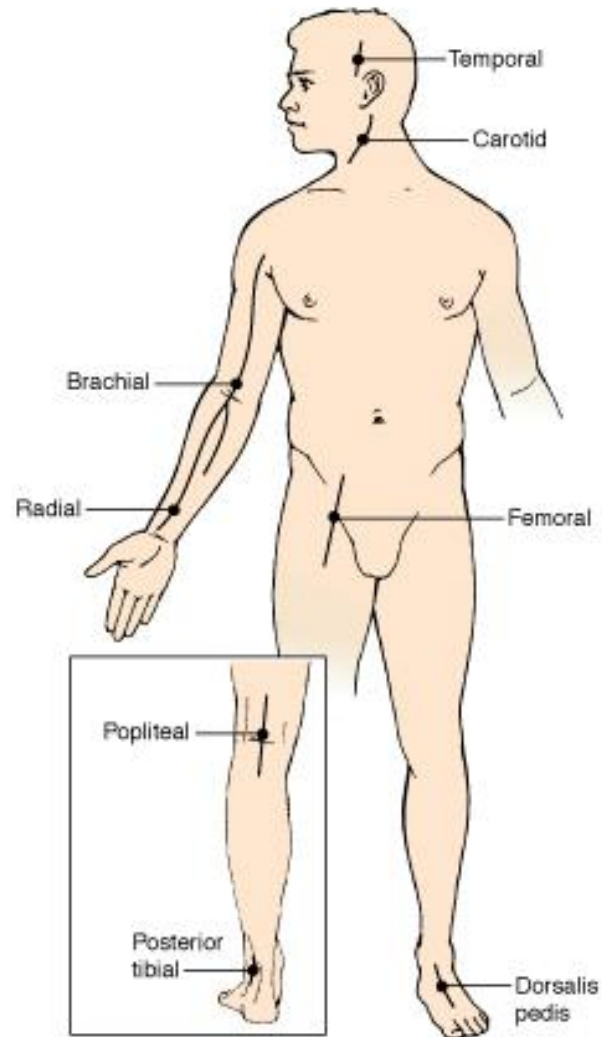
Murmur should be graded according to their loudness

- Grade 1 – just audible when the room is quiet and the patient holding his breath;
- Grade 2 – audible but faint or quiet;
- Grade 3 – readily audible but not accompanied by a thrill;
- Grade 4 – easily audible and accompanied by a thrill; (thrill may not be easily palpable in a heavy set or obese patient);
- Grade 5 – very loud;
- Grade 6 – loud enough to be heard without a stethoscope; the examiner only has to put his ear close to, but not on, the patient's chest.

others

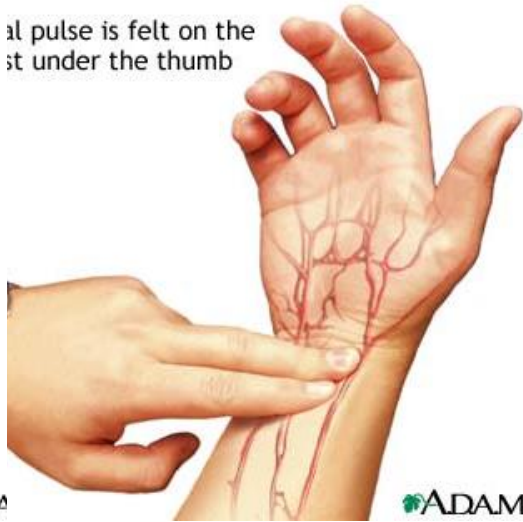
- Examine abdomen especially for hepatomegaly and ascities
- Assess femoral pulses and look for radiofemoral delay
- Examine legs. Palpate pulses and look for pitting edema
- Examine optic fundi
- Take Blood Pressure

Peripheral pulses





al pulse is felt on the
st under the thumb



ADA

ADAM

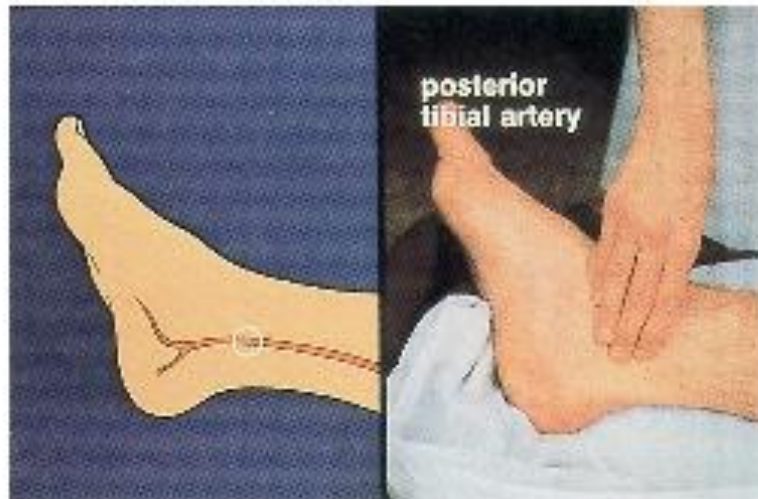
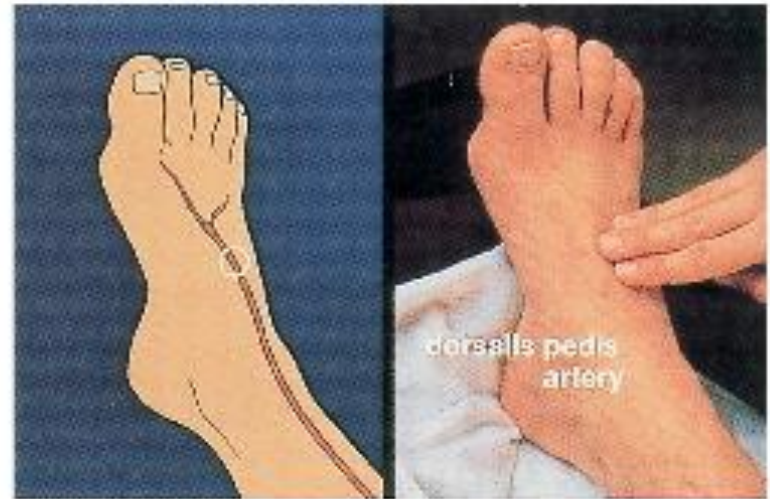
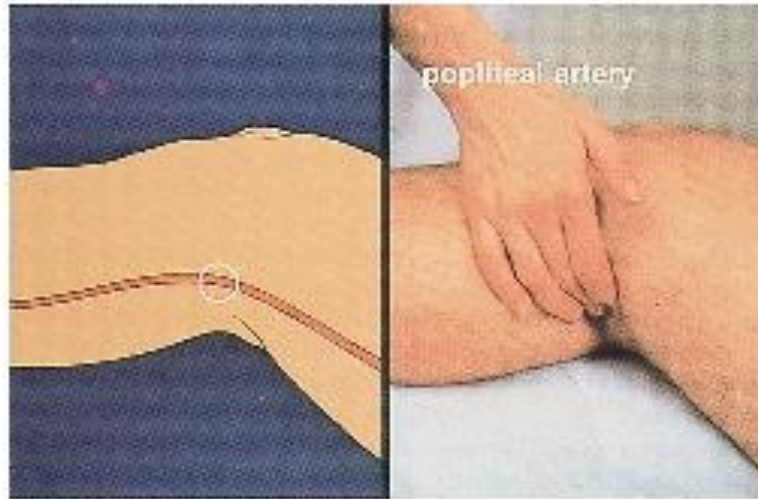




Figure 33-6 3 + pitting edema of the left foot. (Used with permission from Bates B. [1995]. *Bates' guide to physical examination and history taking* [6th ed., p. 438]. Philadelphia: Lippincott Williams & Wilkins)

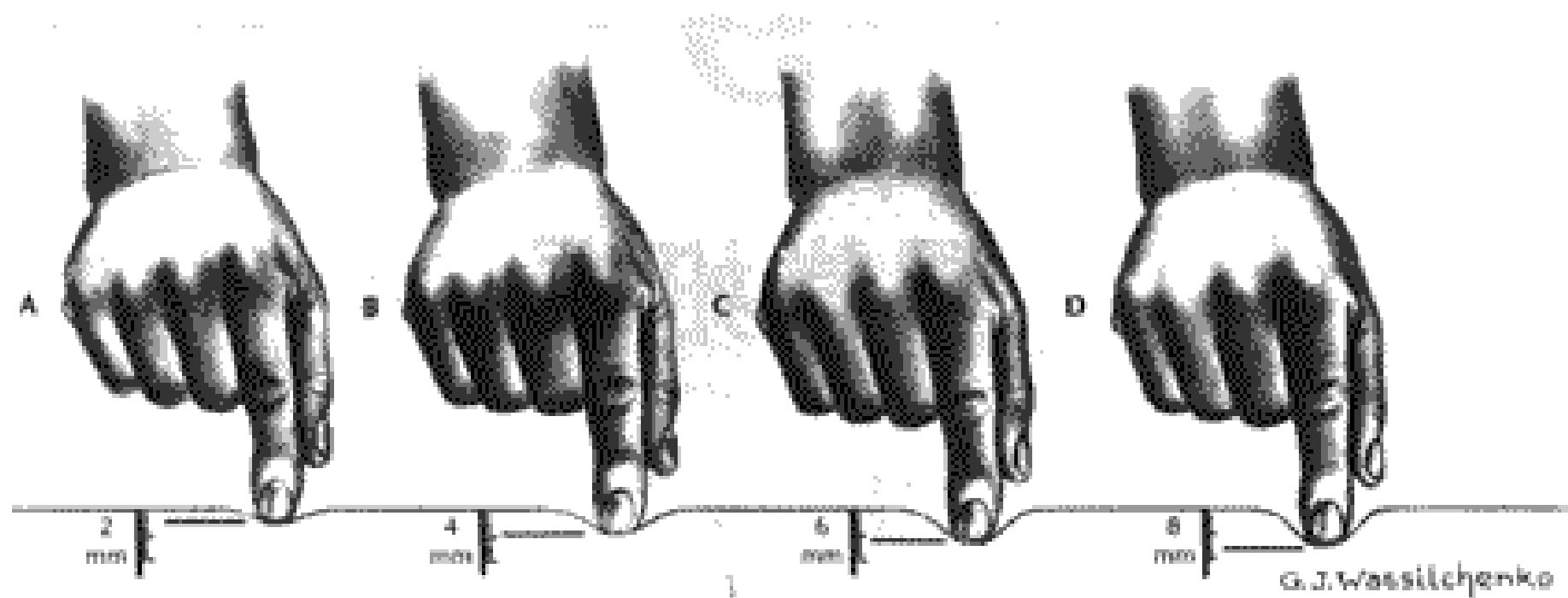


圖 9-1 凹陷性水腫的評估。A、1⁺；B、2⁺；C、3⁺；D、4⁺。

