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Examination of cardiovascular system

Cardiac assessment requires examination of all aspects of the individual, using the standard steps of inspection, palpation and auscultation.

Critical examination reveals a first impression of age, nutritional status, self-care ability, alertness, and overall physical health.

-Jugular Venous Distension Pressure in the jugular veins reflects right atrial pressure and provides with an indication of heart hemodynamics and cardiac function.

Chest is inspected for signs of trauma or injury, symmetry, chest contour, and any visible pulsations.

The height of the level of blood in the right internal jugular vein is an indication of right atrial pressure because there are no valves or obstructions between the vein and the right atrium.

Components of the general physical examination :

Overall appearance and the condition of the : Face , hair , forehead ,eyes , mouth, ears ,neck ,nose and nails . Body built (Weight & height)

Body built (Weight & height) : $BMI = BW(kg) / Ht(m^2)$

Normal	Over weight	OBESE	severeobesity
20-25	25-30	30-40	>40

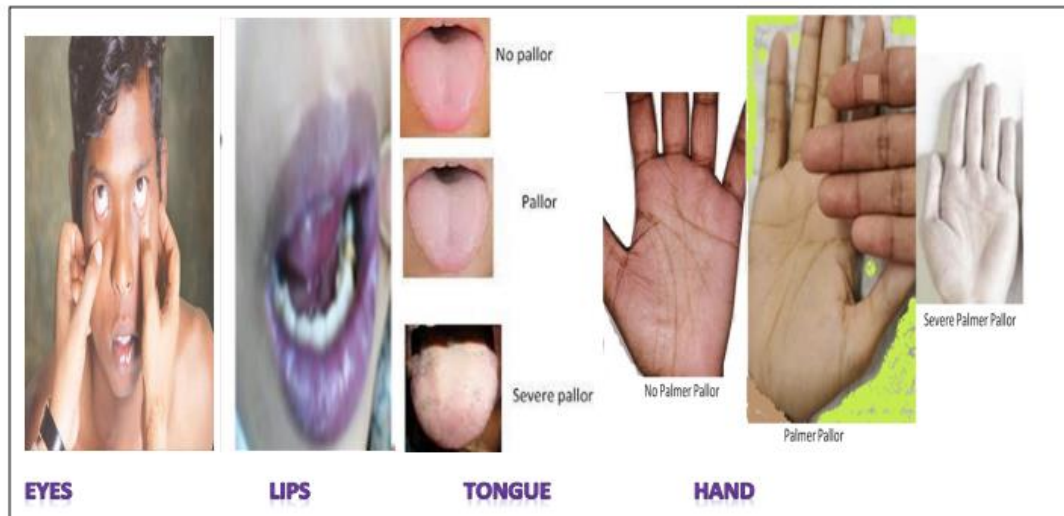


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INSPECTION OF THE SKIN :

➤ Color

• Pallor



Skin is evaluated for moistness or dryness, color, elasticity, edema, thickness, lesions, ulcerations, and vascular changes. Nail beds are examined for cyanosis and clubbing.

- Jaundice : too much bilirubin builds up in the body . Causes by problem in liver (too many RBC hemolysis and going to the liver).





Department of Anesthesia Techniques
 Title of the lab3: Examination of cardiovascular system



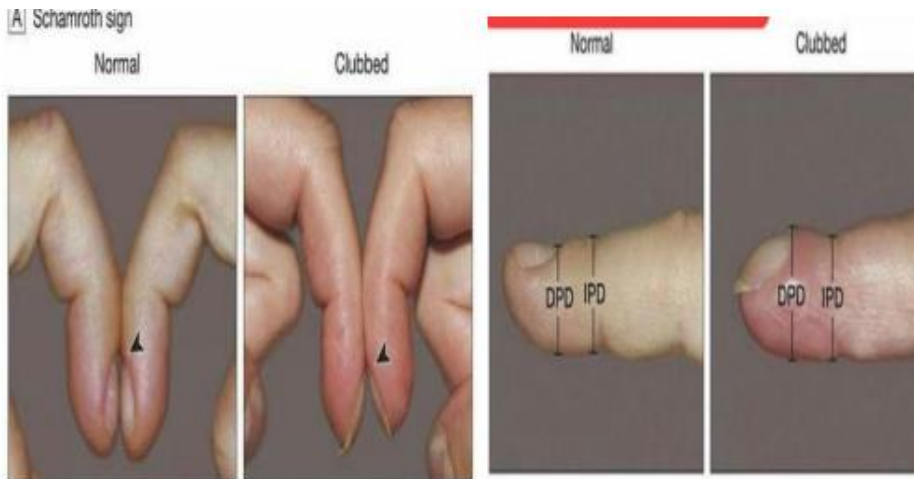
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- Cyanosis : not enough oxygen in your blood .



Examination : Head : look (size , shape & localization swelling)

- Face : look (edema , swelling ,color)
- Neck : look Carotid pulse
- Upper limb : look sweating or over sweating , hot
- Finger : Look for clubbin



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Lower limb : look edema

Vital data : → **Temperature** → **Pulse rate** :

- normal > 60-100/min . Bradycardia <60 /min . Tachycardia >100 /min.

Lab 3.....2nd year



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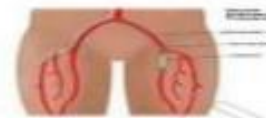
Palpation of arterial pulses



Radial



Brachial



Femoral



Popliteal



Dorsalis pedis



Posterior tibial

- Blood pressure : (Sphygmomanometer)
- Respiratory rate : in word & out word are one cycle
- ♣ Normal respiratory rate range from 12 to 18.

Humoral control of the circulation means control by substances secreted or absorbed into the body fluids

-Vasoconstrictor Agents:

- 1- Norepinephrine and Epinephrine
- 2- Angiotensin II. The effect of angiotensin II is to constrict powerfully the small arterioles.
- 3- Vasopressin.

Endothelin—A Powerful Vasoconstrictor in Damaged Blood Vessels.

Vasodilator Agents

- 1- Bradykinin.
- 2-Histamine.



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Vascular Control by Ions and Other Chemical Factors:

- 1- **An increase in calcium ion concentration causes vasoconstriction.**
- 2- **An increase in potassium ion concentration causes vasodilation.**
- 3- **An increase in magnesium ion concentration causes powerful vasodilation because magnesium ions inhibit smooth muscle contraction.**
- 4- **An increase in hydrogen ion concentration (decrease in pH) causes dilation of the arterioles.**

Conversely, slight decrease in hydrogen ion concentration causes arteriolar constriction.

5. **Anions that have significant effects on blood vessels are acetate and citrate, both of which cause mild degrees of vasodilation.**
6. **An increase in carbon dioxide concentration causes moderate vasodilation in most tissues.**