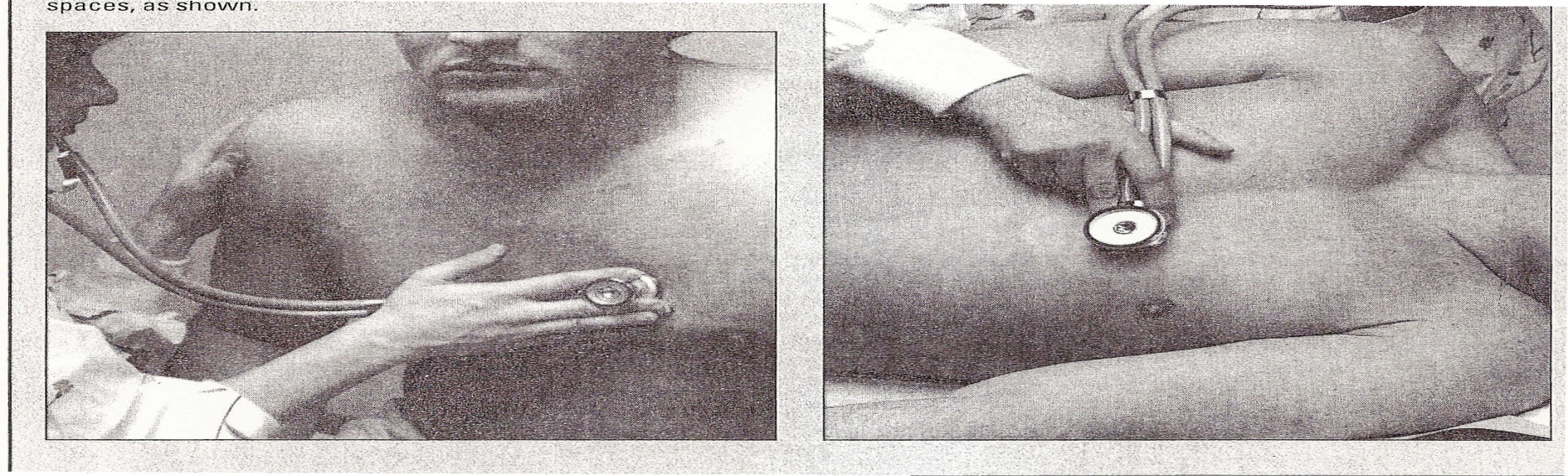
**King Saud University**

**Collage of Nursing**

**Medical-surgical Nursing**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **CARDIOVASCULAR**   1. **Obtain health history related to cardiovascular system**   The following order is recommended for Cardiovascular system assessment   * **Pulse & blood pressure** * **Extremities** * **Neck vessels** * **Pericardium** * ***Equipment:***   Stethoscope  Sphygmomanometer  Watch with seconds.  Light.  Alcohol swabs   * Assist the client to a low fowler position with head elevated (30- 45 degrees), and stand at the client right side. *This position allows for optimal inspection and facilitates palpation*   **II- Physical examination**  **NORMAL RANGE OF FINDINGS** | | | | | **ABNORMAL FINDINGS** | | | |
| **Inspect and palpate extremities and compare symmetrically for**:  Color, temperature, skin texture , skin lesion,  Skin turgor, hair distribution, Capillary refill bilaterally  Absence of cyanosis, pallor, , mottling  Pulses  Radial, brachial, pedal pulses should be equal bilaterally  Nail beds | | | | | Arterial insufficiency- cool extremity, decreased or absent pulse, color changes and delayed in capillary refill  Venous insufficiency- normal temperature, normal pulses, color changes; skin changes  Clubbing indicates hypoxia | | | |
|  | | | | | | | | |
| **inspect both legs for size & Palpate for edema:**  Measure the lower legs calf circumference  Firmly press the skin over the tibia for 5 seconds and release  Run pads of fingers over the area pressed and note indentation .   * *If indentation is noted, repeat the procedure, moving up extremity and note the point at which no more swelling is present*   04112009148   * **Assess the adequacy of arterial flow**. ( *buerger's test)*   Assist the client to a supine position.  Have client raise one leg (or both) 30 cm above heart level.  Ask client to wag the raised foot briskly up and down for about 1 min. (this drains off the venous blood)    Have client sit up and dangle the legs over the side of the table.  Inspect & Compare the color of both feet  Note the time needed for the feet to return to original color  Note the time needed for the superficial veins around the feet to fill. | | | | | Pitting edema or tense edema  Deep vein thrombosis (DVT)- Homan’s sign: Knee flexed- pain in calf with dorsiflexion of foot | | | |
| **Inspect and palpate neck vessels for** | | | | |  | | | |
| Neck veins(external neck vein )  Presence or absence of distension  **Inspect and palpate pericardium for** | | | **FINDINGS** | | | |  | | |
| **Point of Maximal Impulse** - PMI felt at apex of the heart | | | | | | | | | |
| Inspect andPalpate **the anterior chest for pulsation** beginning with the aorta and proceed downward to the apex of the heart.   * Use finger pads, to feel the pulsation * Palpate the point of maximum impulse   (PMI), and note its location, size,  duration and amplitude .   * localize (PMI) with the palmer   aspect of Fingers.   * ask the client to   "exhale & then hold"   * Then need to roll client Midway   to left to find the PMI Then   * Make finger assessment for feeling the vibration.   **Ascultation of heart sounds**  Place the stethoscope on the chest wall beginning with the aortic area and proceed to the apex of the heart in a Z pattern  ***Heart sounds*** | | | | ***22112009214***  ***22112009215***  Presence of thrill: vibrations caused by turbulence of blood moving through valves that are transmitted through skin, feels like a purring cat  ***Sound Cause Location*** | | | | | |
| **S 1 (lubb)** |  | Tricuspid and Mitral valves (atrioventricular valves) are forced close at the beginning of systole(contraction) | | | | Apex of heart | | S1- intensifies during fever, exercise, and anemia.  May also hear a murmur with  both fever and anemia | |
| **S 2 (dub**) | | | Aortic and pulmonic valves (semi lunar valves) are forced closed at the beginning of diastole(heart relaxation) | | | | Base of heart  S 1 is longer and  lower pitched than S2  Synchronous with carotid pulse. Closure of valves usually heard as one sound, but slight asynchrony may produce audible splitting, best heard  in the fourth left interspace | | |

* Place the **diaphragm end piece** on the chest wall beginning with the aortic area and proceed to the apex of the heart in a Z pattern
* Roll the client towards the left side and **listen with the bell at the apex** for the presence of any diastolic filling sounds (S3 or S4)
* Ask the client to sit up, lean forward slightly and exhale.
* **Note the rate and rhythm -**
* **identify S1 and S2 –**
* **Listen for extra heart sound S3,S4 , clicks and snaps**
* **Listen for murmur or gallop**



**IV- Percussion on heart:**

* **Resonance sound is heard over heart tissue Normal sound Dullness sound is abnormal sound due to** cardiomegaly **or** pericardial effusion

**Quick Quiz**

**Test Your Knowledge!**

1. Clubbing of the fingernails can indicate hypoxia

a. True

b. False

2. The Popliteal pulse is located behind the ankle

a. True

b. False

3. S1 is located at the apex of the heart

a. True

b. False

4. Diastole is where the heart is in relaxation mode

a. True

b. False

5- Positive Homans sign indicate DVT:

a.True

b.False

6- S2 is closure of mitral and tricuspid valves:

a.True

b.False

Performance checklist of Cardiovascular system

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| General Inspection |  | Done  perfectly | poor | Not  done | mark |
|  | Nail-clubbing |  |  |  |  |
|  | Lips and nail bed-cyanosis |  |  |  |  |
|  | Legs-edema |  |  |  |  |
|  | External Jugular vein |  |  |  |  |
|  | Carotid artery |  |  |  |  |
|  | Pericardium on chest |  |  |  |  |

Cardiovascular

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Palpation |  | Done  perfectly | poor | Not  done | mark |
|  | Radial artery- regular or irregular |  |  |  |  |
|  | Carotid artery |  |  |  |  |
|  | Aortic area at the second right ICS  -palpate for thrills by using the ball of the hand |  |  |  |  |
|  | Pulmonic area at the second left ICS  -palpate for thrills by using the ball of the hand |  |  |  |  |
|  | Erb’s point, third left ICS  -palpate for thrills by using the ball of the hand |  |  |  |  |
|  | Tricuspid area, fourth left ICS  -palpate for thrills by using the ball of the hand |  |  |  |  |
|  | Apex at the left fifth ICS at the midclavicular line  -palpate for thrills |  |  |  |  |

Cardiovascular

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Percussion |  | Done  perfectly | poor | Not  done | mark |
|  | Cardiac border |  |  |  |  |

Cardiovascular

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Auscultation |  | Done  perfectly | poor | Not  done | mark |
|  | Blood pressure measurement |  |  |  |  |
|  | Aortic area at the second right ICS -by using diaphragm  -S2 is louder than S1 |  |  |  |  |
|  | Pulmonic area at the second left ICS  -by using diaphragm  -S2 is louder than S1 |  |  |  |  |
|  | Erb’s point, third left ICS  -by using diaphragm  –S1 and S2 are heard equally |  |  |  |  |
|  | Tricuspid area, fourth left ICS  -by using diaphragm  –S1 is louder than S2 |  |  |  |  |
|  | Apex at the left fifth ICS at the midclavicular line  -by using diaphragm  –S1 is louder than S2 |  |  |  |  |
|  | With the bell of the stethoscope at each of the five areas on the precordium, auscultates for S3 and S4, or murmurs |  |  |  |  |
|  | Carotid arteries using the diaphragm and bell for any bruits |  |  |  |  |