**King Saud University**

**Collage of Nursing**

**Medical-surgical Nursing**

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| **Respiratory system assessment**  **NORMAL RANGE OF FINDINGS** | **ABNORMAL FINDINGS** |
| **1- Inspection**  **Chest**  Shape and configuration Kyphosis, Scoliosis, funnel and pigeon | |
| Symmetry  Movement should be symmetrical bilaterally and coordinated with breathing | Unequal symmetry may denote decreased air entry on the affected side |
| Position of nipples should be even.  Size and shape equal |  |
| Respirations: Rate, Rhythm |  |
| Effort, depth  Breathing should be free and easy  Breathing pattern  The neck and Trapezius muscles development are normally developed for age occupation.  Position the client takes to breathe.  Skin condition and nail beds  **The anteroposterior diameter**: Anteroposterior diameter is less than the transverse diameter. The ratio of anteroposterior: transverse diameter is from 1:2 | Shallow breathing may indicate pain, head injury or be related to medications  Note signs of respiratory distress **Kussmaul's breathing**: deep and laboured breathing, often associated with severe [metabolic acidosis](http://www.patient.co.uk/search.asp?searchterm=METABOLIC%20ACIDOSIS). **Cheyne-Stokes' breathing**: progressively deeper breathing followed by temporary apnoea, which may occur with heart failure, [cerebrovascular](http://www.patient.co.uk/search.asp?searchterm=CEREBROVASCULAR%20DISEASE) accident  Cyanosis nail beds indicate hypoxemia  If anteroposterier diameter is larger than transvers diameter this indicate barrel chest most commonaly occurred in emphysema client |
| **2- Palpation of chest:**  Areas of tenderness, Skin  (temperature, moisture,  texture, superficial lumps  or masses, and crepitus.  1- **Symmetric Expansion**  -Place your warmed hands on  the posterolateral chest wall with  thumbs at the level of T9 or TI0 and on the anterolateral wall with the thumbs along the costal margins and pointing toward the xiphoid process  Ask client to take a deep breath.  -Slide your hands medially to pinch up a small fold of skin between your thumbs.  -Ask client to take a deep breath.  -As the client inhales deeply, inspect the movement of your thumbs for  symmetrically movement.  Noting any lag in expansion.  **2- Tactile Fremitus** :  (a palpable vibration Sounds  generated from the larynx are  transmitted through patent  bronchi and through the lung  parenchyma to the chest wall where vibrations can be felt.  - Use the palmar base (the ball) of the fingers or the ulnar edge of one hand,  -Touch the client's chest while he or she repeats the words "ninety-nine" or "blue moon [Resonant phrases that generate strong vibrations].  -Start over the lung apices and palpate from  one side to another  - Avoid palpating over the scapulae  **3- Percussion on chest:**   * **Lung Fields**   (predominant resonant note  over the lung fields is normal).  -Start at the apices and percuss  across the top of both shoulders  - percuss in the interspaces,  make a side-to-side comparison  all the way down the lung region.  -Percuss at 5-cm intervals.  -Avoid the damping effect of the  scapulae and ribs.  **Ascultation**  **Normal Breath sounds**  **Bronchial sounds**  Heard over large airways, i.e. trachea shorter inspiratory phase and longer expiratory  **Bronchiovesicular sounds**  Heard upper intrascapular areas. Inspirations and expirations are equal  **Vesicular sounds**  Heard over peripheral lung fields. Inspiratory phase longer than expiratory phase | Asymmetrical reduction of chest wall expansion: absent expansion (e.g. [empyema](http://www.patient.co.uk/search.asp?searchterm=EMPYEMA) and [pleural effusion](http://www.patient.co.uk/search.asp?searchterm=PLEURAL%20EFFUSION)) or reduced expansion (e.g. pulmonary consolidation and collapse).    Tactile vocal fremitus is increased over areas of consolidation and decreased or absent over areas of effusion or collapse  A hyper-resonant sound suggests hyperinflation or a pneumothorax.  A dull sound is easier to distinguish from normal. It may suggest collapse or consolidation, or a pleural effusion    Auscultate in a systematic manner from right to left from top of the lungs towards the bottom carefully comparing all entry from lobe to lobe  Identify type of abnormal breath sound is a skill acquired over time |



**Choose the correct answer for each of the following questions:**

**1-To auscultate the apex of the lungs, the stethoscope is placed in which of the following locations?**

a- Near the anterior axillary line on the 7th interspace

b- Above the clavicle, medial to the midclaviclar

c-Below the scapula, medial to the mid scapular border

**2- Kussmaul respiration is defined as:**

a- Rapid, deep, sighing breathing

b- Deep breaths alternate with short periods of apnea

c- Periodical absence of breathing

**3- In adults with chronic respiratory diseases the rib cage increases in anteroposterior diameter. What is the name given to this finding?**

a- Funnel chest

b- Pigeon chest

c-Barrel chest

**4- What is the name of the normal lung sound, heard over the right lower lobe posterioly?**

a- Vesicular

b- Tracheal

c-Bronchovesicular

**5- On auscultation of the lungs, an adventitious sound with a high musical quality occurred at the end of inspiration. What is the name of this sound?**

a- Crackles

b- Rhonchi

c- Wheeze

**6-** **Kussmaul respiration is main sign in which of the following condition:**

1. Diabetic ketoacidosis
2. Head injury
3. Cerebrovascular accident

**Respiratory system**

**Performance checklist**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Health History** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | 1. **Chest pain** |  |  |  |  |
|  | 1. **Shortness of breath (dyspnea)** |  |  |  |  |
|  | 1. **Wheezing** |  |  |  |  |
|  | 1. **Cough-dry or produces sputum** |  |  |  |  |
|  | 1. **Sputum** |  |  |  |  |
|  | 1. **Hemoptysis** |  |  |  |  |

**Respiratory**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Sputum or Hemoptysis characteristics** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | 1. **Color** |  |  |  |  |
|  | 1. **Odor** |  |  |  |  |
|  | 1. **Amount** |  |  |  |  |
|  | 1. **Frequency** |  |  |  |  |
|  | 1. **Consistency** |  |  |  |  |

**Examination of the chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Inspect the chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Respiratory rate,** **rhythm** |  |  |  |  |
|  | **Depth of breathing, effort of breathing** |  |  |  |  |
|  | **Accessory muscle use** |  |  |  |  |
|  | **Shape and symmetry of the anterior and posterior chest** |  |  |  |  |
|  | **Clubbing of the fingernails** |  |  |  |  |
|  | **Skin color** |  |  |  |  |
|  | **Position of Trachea** |  |  |  |  |

**Examination of the posterior chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Palpate the posterior chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Assess any tender areas** |  |  |  |  |
|  | **Assess masses** |  |  |  |  |
|  | **Test chest expansion-at the level of T10** |  |  |  |  |
|  | **Tactile fremitus-** **repeat “1 – 2 – 3” or “99”** |  |  |  |  |

**Examination of the posterior chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Percussion the posterior chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Asymmetry** |  |  |  |  |
|  | **diaphragmatic excursion** |  |  |  |  |

**Examination of the posterior chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Auscultate the posterior chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Asymmetry** |  |  |  |  |
|  | **Normal breath sounds, its locations, and I:E** |  |  |  |  |

**Examination of the anterior chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Palpate the anterior chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Assess any tender areas** |  |  |  |  |
|  | **Assess masses** |  |  |  |  |
|  | **Test chest expansion- at the level of costal margin** |  |  |  |  |
|  | **Tactile fremitus-** **repeat “1 – 2 – 3” or “99”** |  |  |  |  |

**Examination of the anterior chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Percussion the anterior chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Asymmetry** |  |  |  |  |

**Examination of the anterior chest**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Auscultate the anterior chest** |  | **Done**  **perfectly** | **poor** | **Not**  **done** | **mark** |
|  | **Asymmetry** |  |  |  |  |
|  | **Normal breath sounds, its locations, and I:E** |  |  |  |  |