

Chest Techniques

Percussion

- Percussion is used to augment mobilization of secretions by mechanically dislodging viscous or adherent mucus from the airways
- Percussion is performed with cupped hands (Fig. 25.24A) over the lung segment being drained.
- The therapist's cupped hands strike the patient's chest wall in an alternating, rhythmic manner (Fig. 25.24B).



A



B

FIGURE 25.24 (A) Hand position for applying percussion. (B) The therapist alternately percusses over the lung segment being drained.

- The therapist should try to keep shoulders, elbows, and wrists loose and mobile during the maneuver.
- Mechanical percussion is an alternative to manual percussion techniques.
- Percussion is continued for several minutes or until the patient needs to alter position to cough.
- This procedure should not be painful or uncomfortable.
- **P R E C A U T I O N S :** To prevent irritation to sensitive skin, have the patient wear a lightweight gown or shirt.
- Avoid percussion over breast tissue in women and over bony prominences.

Contraindications to Percussion

- ❑ Prior to using percussion in a postural drainage program, a therapist must weigh the potential benefits versus potential risks.
- ❑ In most instances, it is prudent to avoid the use of percussion.
 - Over fractures, spinal fusion, or osteoporotic bone
 - Over tumor area
 - If a patient has a pulmonary embolus
 - If the patient has a condition in which hemorrhage could easily occur, such as in the presence of a low platelet count, or if the patient is receiving anticoagulation therapy
 - If the patient has unstable angina
 - If the patient has chest wall pain, for example after thoracic surgery or trauma

Vibration

- Vibration, another manual technique, often is used in conjunction with percussion to help move secretions to larger airways
- It is applied *only during the expiratory phase* as the patient is deep-breathing.
- Vibration is applied by placing both hands directly on the skin and over the chest wall (or one hand on top of the other) and gently compressing and rapidly vibrating the chest wall as the patient breathes out (Fig. 25.25).
- Pressure is applied in the same direction as the chest is moving.
- The vibrating action is achieved by the therapist isometrically contracting (tensing) the muscles of the upper extremities from shoulders to hands



FIGURE 25.25 Hand placement for vibration during postural drainage.

Shaking

- Shaking is a more vigorous form of vibration applied during exhalation using an intermittent bouncing maneuver coupled with wide movements of the therapist's hands.
- The therapist's thumbs are locked together, the open hands are placed directly on the patient's skin, and fingers are wrapped around the chest wall.
- The therapist simultaneously compresses and shakes the chest wall

Thank you