PURPOSE:
To aid in mobilizing retained secretions as observed in cystic fibrosis, chronic bronchitis and pneumonia; to prevent or reverse atelectasis and/or to optimize delivery of bronchodilators in patients receiving bronchial hygiene therapy.

CONSIDERATIONS:
1. Change in sputum production: DO NOT increase sputum production in a patient who produces > 30 mL/day of sputum without positive expiratory pressure (PEP), Flutter® or Acapella™, as these therapies may not be indicated.
2. Change in breath sounds: With effective therapy, breath sounds may clear or the movement of secretions into the larger airways may cause an increase in adventitious breath sounds. The increase in adventitious breath sounds is often a marked improvement from diminished breath sounds.
3. Patient subjective response to therapy: The therapist should ask the patient how he or she feels before, during and after the therapy.
4. Change in vital signs: Moderate changes in respiratory rate and/or pulse rate are expected. Bradycardia, tachycardia, increasingly irregular pulse or significant changes in blood pressure are indications to stop therapy.
5. Change in chest X-ray: Resolution or improvement of atelectasis and localized infiltrates may be slow or dramatic.
6. Change in arterial blood gas values or oxygen saturation: Normal oxygenation should return as atelectasis resolves.

EQUIPMENT:
None

PROCEDURE:
1. Select device. (The Acapella™ is available in two color-coded models.)
   a. The green Acapella™ is for patients able to maintain an expiratory flow of 15 LPM or greater for 3 seconds. The green Acapella is suitable for most patients.
   b. The blue Acapella™ is for patients not capable of 15 LPM for 3 seconds.
2. Initial settings: Verify physician orders for the initial settings.
   a. With the first use of Acapella™ ensure that the frequency adjustment dial is turned counter-clockwise to the lowest frequency-resistance setting.
   b. Frequency/resistance increase clockwise.
   c. Selecting the proper resistance range produces the desired I:E ratio of 1:3 to 1:4.
3. To provide simultaneous aerosol drug delivery, attach nebulizer to the end of the acapella.
4. Place mouthpiece lightly in mouth; maintain a tight seal on the mouthpiece during inspiration. Use/apply nose clip, if necessary. If using a mask, apply tightly but comfortably over nose and mouth.
5. Instruct the patient to relax while performing diaphragmatic breathing. Patient should inspire a volume of air greater than normal tidal volume, but less than total lung capacity. Instruct patient to slowly inhale to 3/4 maximum breathing capacity.
6. Instruct patient to hold breath for 2 to 3 seconds.
7. Direct the patient to exhale to functional residual capacity (FRC) actively, but not too forcefully, through the device.
8. Emphasize the importance of inhaling slowly, holding breath, and suppressing the urge to cough.
9. The patient should be able to exhale for 3 to 4 seconds while the device vibrates. If the patient cannot maintain an exhalation for this length of time, adjust the dial clockwise. Clockwise adjustment increases the resistance of the vibrating orifice, which will allow the patient to exhale at a lower flow-rate.
10. Perform 10 to 20 breaths. Remove mouthpiece and perform 2 to 3 "huff" coughs to raise secretions as needed.
11. Repeat Steps 4-10 as prescribed by the physician.

CLEANING:
1. Clean as needed. Detach mouthpiece, soak the parts in warm soapy water, rinse and dry.
2. Drain the device by placing the unit with the mouthpiece end downward or by resting the unit on its side. For a single patient use device, observe universal precautions, as appropriate.

AFTER CARE:
1. Document in patient's record:
   a. Procedure and observations.
   b. Instructions given to patient/caregiver.
   c. Patient's response to procedure.
   d. Communication with physician.
2. Report abnormal respirations to your supervisor.