Cleveland Clinic
Respiratory Therapy at Home

Suction Machines

WARNING: These guidelines are not meant to be a replacement for actual training. All persons should receive proper training before attempting to use a suction machine on themselves or other individuals.

Suctioning is a procedure that removes excess secretions from the mouth and throat (oropharynx), from the nose and throat (nasopharnyx), and from the windpipe (trachea) using a mechanical aspiration device (Suction machine).

Indications for Suctioning:
The primary indication for suctioning the patient at home is the patient's inability to adequately clear the airway by coughing. The need for clearing the airway is evidenced by:

- More frequent or congested-sounding cough
- Visible secretions
- Audible gurgling noise while breathing
- Suspected aspirations of gastric or upper airway secretions

Operating the Suction Machine:

1. Plug the suction machine into a grounded outlet.
2. Check that the tubing from the machine to the collection jar is on and snug.
3. Check that the lid to the collection jar is closed tightly.
4. Attach the extension tubing to the collection jar.
5. Turn the machine on and kink the extension tubing to block the flow of air.
    a. If the pressure gauge did not move when kinking the tubing, recheck all of your connections. Look for leaks in the system. The lid may not be closed tightly; a tub may not be on properly or the tube in punctured.
6. Look at the pressure gauge. Using the control dial, set the gauge pressure between 15" and 20" of Hg. (for an adult)
    a. An infant or a child will use less pressure. Consult with your doctor or call our therapist.
7. After the pressure is set, connect the oral suction device (Yankauer Suction Tip) or suction catheter to the suction extension tubing.

Equipment and Supplies Needed:

- Electric or battery powered aspirator with pressure gauge and collection jar with overflow protection
- Suction catheters (sized appropriately)
- Tap water that has been boiled and stored in a closed, clean container. Water needs to be used within 24 hours of boiling to flush the catheter.
    - Water from the tap that is not boiled will increase the risk of contamination and infection.
- Clean or sterile disposable gloves
- A manual resuscitator bag (for hyperinflation of the lungs if medically indicated)
- An oxygen source (when pre-oxygenation is medically indicated)
- Sterile normal saline (for instillation when medically indicated)
- Oral suction device (Yankauer Tonsil Tip)
- Sterile distilled water, and/or recently boiled water and cleaning solution (alcohol or hydrogen peroxide)

(Continued on reverse side)

Preparing the Patient for Suctioning:
Whenever possible, the patient should be encouraged to clear the airway by directed cough or other airway clearance techniques. The patient's response to suctioning during their stay in the acute care or long-term care facility should be made a part of the discharge summary and the health care professional establishing the patient in the home should request this information.

Caregiver Training:
The caregivers or family members that will be taking care of the patient should be taught the proper suction techniques by qualified hospital personnel. The caregivers or family members should be trained to understand:

- When it is necessary to suction
- What type of suctioning is needed (oral vs. nasal tracheal)

They should be trained as to when it's necessary to pre-oxygenate, preform normal saline instillations, use of the resuscitator bag to hyper inflate the lungs and then to deep suction.

Suctioning the Patient:
It is common and perfectly acceptable to use clean versus sterile technique during suctioning in the home environment.
Clean, non-sterile disposable gloves should be used when performing nasal tracheal deep suctioning.
Gloves may not be necessary when using the tonsil tip suction device. (Yankauer Suction).
When deep suctioning and using a catheter, do not keep the suction engaged for longer than 5 seconds at a time.
When using a tonsil tip suction device, do not suction longer than 10 seconds.
At the conclusion of the suctioning event, flush the catheter or tonsil tip by suctioning recently boiled water or distilled water to rinse away mucus, followed by suctioning of air through the device to dry the internal surface and discourage microbial growth. The outer surface of the device may be wiped with alcohol or hydrogen peroxide. The suction catheter or tonsil tip should be allowed to air dry and then stored in a clean, dry area. The suction
catheters treated in this manner may be reused. It is recommended to replace the suction catheter every 24 hours. Tonsil tips can be boiled, and reused indefinitely. Store the cleaned catheter or tonsil tip so that they are not directly exposed to the air. (Cover with clean, lint-free, paper towels, or store in a clean container).

Before, during and after the suction procedure you need to be monitoring the patient.
Don't suction needlessly. Only suction the patient if they are in distress, or you see or hear 'wet' breath sounds.
When suctioning, look at the patient. Don't become so engrossed with the procedure that you become unaware of the patient's reactions and responses. Remember; don't actively keep the suction on for more than 5 seconds if using a catheter and performing deep suctioning or for 10 seconds if using the tonsil tip. Let the patient regain
their breath.
Observe the patient after the suctioning procedure. Are the visible secretions gone? Has the gurgling wet breath sounds stopped or at least greatly diminished? Does the patient appear more comfortable and less distressed? Observe the skin color. (Including the presence or absences of cyanosis).
Get into the habit of monitoring their pulse rate before and after you suction. Take their blood pressure and Oximetry if you have the equipment.
Look at the color of the sputum. Are there any changes in the color? Keep your doctor's office informed of the color changes. Is there an odor to the sputum? Again, keep the doctor's office informed.

VI. Cleaning:
The suction canister should be emptied daily and washed, along with the connecting tubing, in hot water and mild dishwashing detergent. Rinse with clean, hot tap water. It is recommended that these items be disinfected daily with a solution of one part white vinegar and 3 parts water. Allow the items to soak for 30 minutes and then rinse with clean, hot tap water.

All caregivers should practice reasonable infection control procedure in the home setting. Patients should be protected form visitors and caregivers with active viral and bacterial infections. Or the opposite is true if the patient has yet to be diagnosed with the organism they are carrying which could be spread to others by droplet infection.