

Nasopharyngeal And Oropharyngeal Suctioning in Adults



Introduction - Nasopharyngeal Suction

Nasopharyngeal suction is the passing of a suction catheter into the upper airway through which a negative pressure is applied as the suction catheter is withdrawn:

- ▶ to aspirate secretions
- ▶ to remove excess secretions from the upper respiratory tract in individuals who are unable to do so independently.

Only Registered Nurses or fully trained and competency assessed specialist carers may undertake this procedure.

Equipment required for nasopharyngeal suction:

- ▶ Functioning suction unit
- ▶ Suction catheters of correct size
- ▶ Sterile water
- ▶ Sterile Jug
- ▶ Aqua-gel or water based lubricant
- ▶ Personal protective equipment
- ▶ Nasopharyngeal airway (appropriate size)
- ▶ Sterile gloves
- ▶ Sputum trap if indicated
- ▶ Saturations monitor

Procedure

- ▶ check care plan and the individual's resuscitation status to ensure correct management in the case of a cardiac arrest
- ▶ check the equipment to maintain a safe environment
- ▶ put on disposable apron, protective eye wear & mask if indicated and wash & dry hands to reduce the risk of cross infection and protect health professional through universal precautions
- ▶ most individuals cough directly onto the member of staff's clothing after suction; standing to one side should minimise this risk
- ▶ explain the procedure to the individual and any visitors (regardless of consciousness level)
- ▶ obtain individuals' verbal consent if able as this procedure can be unpleasant & frightening
- ▶ either position the individual in a high sitting position or on side lying with their head turned towards you with a head tilt into slight extension to prevent aspiration of gastric contents
- ▶ place a towel across the individual's chest to prevent contact with secretion
- ▶ attach saturations monitor to enable monitoring of oxygenation levels throughout the procedure and assess effectiveness
- ▶ Ideally optimise oxygen saturations >94% prior to and between suctioning, the oxygen mask should then be kept close to the face throughout. NB optimal oxygen saturations for known COPD individuals should be between 88 - 92% unless otherwise documented and Hypoxia may be caused by introducing negative pressure into the airway
- ▶ monitor oxygen saturations and observe the individual throughout the procedure to ensure their general condition is not affected

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- ▶ nasopharyngeal suction may cause vagal stimulation leading to bradycardia hypoxia and may stimulate bronchospasm.
- ▶ Switch suction unit on and check that the suction machine is set appropriately at 20 Kpa or 120 mmHg - adult, this will ensure the machine is working correctly
- ▶ too great a suction pressure can cause mucosal injury, remember greater suction pressure does not equal increased secretion removal
- ▶ connect appropriate sized suction catheter to suction tubing, whilst keeping catheter in the pack. (A size 12 FG catheter is preferable but this should be assessed depending on the size of airway and amount/viscosity of secs), this will minimise risk of infection by being large enough for secretions to pass through whilst causing minimal trauma to the mucosa
- ▶ put gloves on both hands and then a sterile glove on top on the dominant hand to reduce the risk of introduction of bacteria to respiratory tract
- ▶ remove the catheter from the pack handling only with the dominant hand and lubricate catheter tip with aqua-gel, there is no need to use aqua-gel if you have an airway in place, but if the catheter is not gliding easily, aqua-gel may help
- ▶ without applying suction gently introduce catheter into one nostril directing it to the floor of the nose towards the opposite eye as suctioning whilst introducing the catheter causes mucosal irritation and damage
- ▶ if an obstruction is felt at the back of the pharynx, rotate the catheter slowly between the fingers and ease forwards (the individual may have a deviated nasal septum or enlarged turbinates that prevents passage of the suction catheter)
- ▶ to minimise the risk of introducing the catheter into the oesophagus, ask the individual to tilt their head back, stick out their tongue and cough as coughing usually indicates that the catheter is in the trachea
- ▶ If coughing is not possible, slide the catheter down during inspiration when the glottis is more open
- ▶ once the individual coughs apply suction and withdraw the catheter slowly and smoothly
- ▶ If resistance is felt before the individual coughs it is likely you have hit the carina, in this instance the catheter should be withdrawn slightly prior to applying suction to limit trauma
- ▶ slow withdrawal should reduce the need for further attempts
- ▶ It is not necessary to rotate the catheter whilst applying suction as catheters have circumferential holes
- ▶ occasionally a cough may be stimulated when the catheter reaches the pharynx and suction can be applied and catheter withdrawn, however, often it is necessary to pass the catheter between the vocal cords into the trachea to stimulate coughing.
- ▶ do not suction for longer than 15 seconds at a time as prolonged suctioning will result in trauma and hypoxia.
- ▶ document the colour, tenacity and quantity of the secretions on NP suctioning chart, if secretions look infected or different to what the individual normally expectorates inform the nurse in charge as specimens may need to be sent to the laboratory
- ▶ remove the glove from the dominant hand by inverting it over the used catheter & dispose in clinical waste bag
- ▶ suction tubing should be rinsed out and oxygen therapy given as indicated.
- ▶ assess the individual's respiratory rate and oxygen saturation to ensure they have not been compromised by the procedure and whether they need further suction

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- ▶ If the individual needs further suction, repeat the above actions using new gloves & a new catheter however suction should only be performed when needed and not as part of a regime
- ▶ remove gloves and wash hands
- ▶ If NG tube is in situ confirm the tube remains in position as tube tip can migrate into the oesophagus during suctioning.
- ▶ ensure that the individual is comfortable
- ▶ record the colour, quantity & tenacity of secretions, and any other relevant details, in care or support plan and other relevant documents.

Precautions need to be taken in the following situations:

- ▶ recent oesophageal or tracheal surgery
- ▶ coagulopathy and bleeding disorders (individuals on warfarin or heparin)
- ▶ upper airway lesions
- ▶ irritable airways (e.g.: uncontrolled cough, chest tightness, wheeze, bronchospasm)
- ▶ pulmonary oedema
- ▶ Latex allergy (use latex free NP airway)

Introduction - Oropharyngeal Suction

Oropharyngeal suction removes secretions from the pharynx by a suction catheter inserted through the mouth.

Equipment

- ▶ Wall suction or portable suction unit
- ▶ Connecting tubing
- ▶ Sterile normal saline solution
- ▶ Disposable sterile container
- ▶ Sterile suction catheter - correct size
- ▶ Sterile gloves
- ▶ Clean gloves
- ▶ Goggles - optional
- ▶ Oropharyngeal airway (optional for frequent suctioning)
- ▶ Over bed table or similar
- ▶ Clinical waste bag
- ▶ Towel

Note: A commercially prepared kit contains a sterile catheter, disposable container, and sterile gloves

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Procedure (Rationale as for Nasopharyngeal suction above)

- ▶ Confirm the individual's ID following organisational policy
- ▶ Explain the procedure to the individual even if the individual is unresponsive
- ▶ Inform the individual that suctioning may stimulate transient coughing or gagging, but explain that coughing helps to mobilise secretions. If the individual has been suctioned before, just summarise the reasons for the procedure. Reassure the individual throughout to minimise anxiety
- ▶ Wash your hands.
- ▶ Gather and place the suction equipment on the individual's over bed table or bedside stand. Position the table or stand on your preferred side of the bed to facilitate suctioning
- ▶ Connect the tubing to the suctioning unit.
- ▶ Date and open the bottle of normal saline solution and open the clinical waste bag.
- ▶ Put on personal protective equipment, as appropriate.
- ▶ Turn on the suction from the wall or portable unit and set the pressure according to documented instructions. The pressure may be set between 100 and 150 mm Hg
- ▶ Occlude the end of the connecting tubing to check suction pressure as higher pressures cause excessive trauma without enhancing secretion removal.
- ▶ Place the individual in semi-Fowler's or high-Fowler's position, if tolerated, to promote lung expansion and effective coughing
- ▶ If the individual is unconscious, position the individual on his side facing you to help promote drainage of secretions.
- ▶ Place a towel across the individual's chest to protect them
- ▶ Using an aseptic technique, open the suction catheter kit or the packages containing the sterile catheter, container, and gloves. Put on the gloves; consider your dominant hand sterile and your non-dominant hand nonsterile. Using your non-dominant hand, pour the saline solution into the sterile container.
- ▶ Pick up the catheter with your dominant (sterile) hand and attach it to the connecting tubing. Use your non-dominant hand to control the suction valve while your dominant hand manipulates the catheter.
- ▶ Lubricate 7.5 to 10 cm of the catheter tip with appropriate gel as lubrication prevents mucosal trauma
- ▶ Instruct the individual to cough and breathe slowly and deeply several times before beginning suction. Coughing helps loosen secretions and may decrease amount of suction necessary, while deep breathing helps minimise or prevent hypoxia.
- ▶ Without applying suction, gently insert the catheter into the individual's mouth.
- ▶ advance it (7.5 to 10 cm) along the side of the individual's mouth until you reach the pool of secretions or the individual begins to cough.
- ▶ Using intermittent suction, withdraw the catheter from the mouth with a continuous rotating motion to minimise invagination of the mucosa into the catheter's tip and side ports.
- ▶ Apply suction for only 10 to 15 seconds at a time to minimise tissue trauma.

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- ▶ When removing the catheter, wrap it around your dominant (sterile) hand to prevent contamination.
- ▶ Suction both sides of the individual's mouth and pharyngeal area. If secretions are thick, clear the lumen of the catheter by dipping it in water and applying suction.
- ▶ Repeat the procedure, up to 3 times, until gurgling or bubbling sounds stop and respirations are quiet. Allow 30 seconds to 1 minute between repetitions to allow for preoxygenation and reventilating.
- ▶ After suctioning is complete, pull your sterile glove off over the coiled catheter and discard it, the nonsterile glove, and the container of water.
- ▶ Flush the connecting tubing with normal saline solution, discard the used items and replace with new supplies so they are ready for the next suctioning.
- ▶ Remove personal protective equipment and wash your hands.
- ▶ Let the individual rest after suctioning while you continue to observe them
- ▶ The frequency and duration of suctioning depends on the individual's tolerance for the procedure and on any complications.
- ▶ Record the date, time, reason for suctioning, and technique used; amount, colour, consistency, and odour (if any) of the secretions; the individual's respiratory status before and after the procedure; any complications and the action taken; and the individual's tolerance for the procedure.