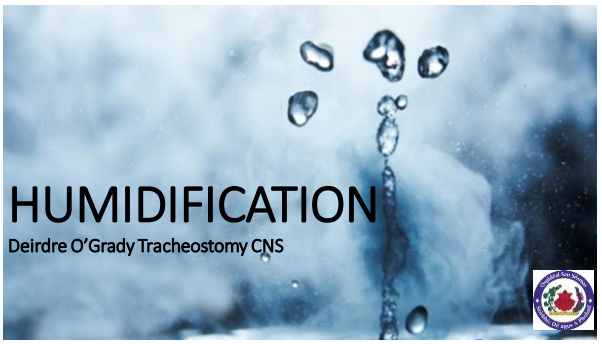
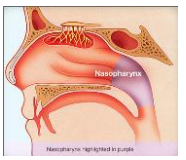


During normal breathing, inspired air is warmed, filtered and moistened by the nose throat and mouth.

In patients who have a tracheostomy or laryngectomy the humidifying functions are bypassed.

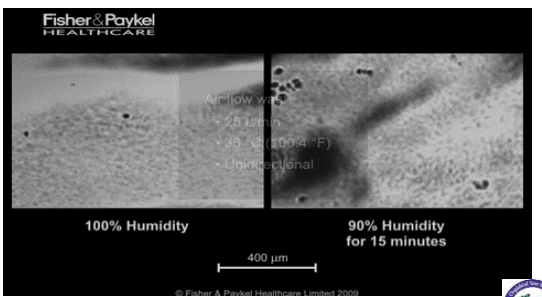
The air they inspire will be cold and dry.



Humidification

- When we talk about humidification we talk about the moisture content of the air.
- All patients with a tracheostomy tube require humidification of inspired gases in order to:

1. To prevent drying of pulmonary secretions.
2. To preserve mucociliary function



- By putting the correct humidification in place you restore things to as close to normal as possible for the patient.
- Getting the right humidification helps with,
  - ✓ Maintaining patency of airway
  - ✓ Prevents mucus plugging
  - ✓ Patient comfort
  - ✓ Clearance of secretions

Clinical signs and symptoms of inadequate airway humidification.

- ***Atelectasis/ pneumonia***
- ***Dry, non-productive cough***
- ***Increased airway resistance***
- ***Increased incidence of infection***
- ***Increased work of breathing***
- ***Patient complaining of substernal pain and airway dryness***
- ***Thick, dehydrated and/or encrusted secretions***

Types of humidification

Active – Adding heat or water
- Airvo heated humidifier
- Nebuliser

Passive – To recycle exhaled heat and humidity
- Heat moisture exchange filters
- Soft shield humidification bibs

Heated Humidification

Active humidification-

The device produces heated water vapour and allows us to deliver fully saturated gas at core temperature

37 degrees

We recommend using heated humidification for;

- Patients with a newly formed Tracheostomies
- Dehydrated Patients
- Patients that require oxygen
- Patients with tenacious secretions

heat moisture exchange filter

Swedish nose

Provox filter

Laryngectomy tube

Provox base plate

Heat moisture exchange filter.

- Fits on to the end of the tracheostomy tube- *the fibres use the patients expelled air to heat and moisten the next breath of inspired air.*
- Not suitable for patients with thick, copious or bloody secretions
- Ideal for use in patients as they become more independent
- For patients who are adequately hydrated

When in place you must
- Check regularly for tube patency
- Educate patient on removal of device to expel secretions
- Dispose of when soiled or every 24hrs

Soft shield humidification bib

- Comfortable cotton bib
- Suitable for patients with loose secretions
- Patients with copious secretions where there is a risk of tube occlusion.
- Easy to use
- Protect and cover the tracheostomy tube or laryngectomy site
- Discard bibs when soiled, at home bibs can be handwashed.

Nebulisation

Active humidification-
- Cold air
- Produces a mist highly saturated with moisture droplets.
- The moisture content is greater than heated humidification- can penetrate further down the Respiratory Tree.
- Will thin secretions and promote clearing.
- Soothing irritable airways.

Speaking valve

- Passy-muir speaking valve (PMV)
- NOT a form of humidification
- must be worn with either a BIB or an Airvo if they have an oxygen requirement.

Green Swedish nose

- Oxygen delivery inlet
- Suitable for mobile patients who have good control over secretions but require 02.
- Mobilising with physio
- Attending Xray dept.
- 5L O2
- Dispose of when soiled

- The type of humidification selected is determined by the patient's condition and needs.
- The method of humidification can be altered as the patient's condition changes.

Just remember

- All Tracheostomy and Laryngectomy patients must have some form of artificial humidification in place - 24 hours a day.
- Only one method of humidification should be used at any one time.

Patient assessment

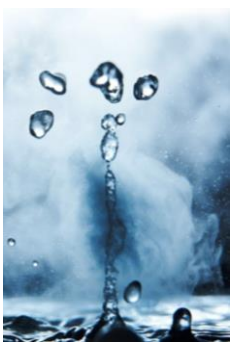
- Frequency of suction/changing the inner canula.
- Observing the colour and consistency of secretions.
- Evidence of airflow via tracheostomy.
- Observe respiratory rate.
- Observe cough.
- Observe oxygen saturations, requirement for supplementary oxygen.
- Maintaining hydration

A Dehydrated patient is at greater risk of developing problems due to thick dry secretions. systemic hydration will help the clearance of secretions as well as mobilising the patient .

Documentation

- EPR
- iView
- Lines and devices
- Airway management

Humidification Y/N	
Heated	
Saline Nebuliser	
Sweedish nose	
Bib	
Inner Canuula Patent Y/N	
<25% Occluded	
25-75% Occluded	
>75% Occluded	
Changed Y/N	
%O2 in use or Room Air (RA)	
% Sa02	
Self Expectorating Y/N	
Suctioned Y/N	
Minimal (1catheter)	
Moderate(2 catheter)	
Copious (3catheters)	
Colour Clear	
White	
Green	
Brown	
BloodStained	
Viscosity Loose	
Frothy	
Tenacious	



All tracheostomy patients must have some form of artificial humidification in place.

THANK YOU

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