Changing a tracheostomy

This video will demonstrate the changing of a tracheostomy tube and changing of the tracheostomy tapes. It is intended to support hands-on training, not replace it.

We will start by discussing the contents of the emergency box. It is extremely important to have access to the correct equipment at all times. We recommend that you keep these items in a small trachy-case that accompany your child wherever they are. Equipment may vary but this will be discussed separately with you at the time of the practical training. It is important to check and maintain this box daily. In the emergency box should be a tube of the same size and style, the video gives an example that if you have 3.5 neonatal tube in your tube will be neonatal 3.5. Make sure the tube is neonatal or paediatric depending on what the child has in, the right size, diameter, and that the tube is within date. It is always preferable to try and put the same size tube in as this is what works with the child.

You will also need a tube which is half the size smaller and one that is more ridged, so that if there is any resistance inserting the tube it is more likely that the smaller tube will go in. At Great Ormond Street Hospital we advocate using a PVC tube. A suction catheter that is the same size that you would suction with - this will assist in an emergency to guide the tracheostomy into the stoma. Lubricating jelly to make the tube change easier. Round ended scissors to cut the tape. Tracheostomy tape secures the tube after a change. At Great Ormond Street Hospital we use Marpac cotton tapes to secure the tube. We do not advocate use of Velcro tape for routine care but again this can be discussed on an individual basis. Depending on the type of tube your child has, you will be given a contents sheet to help you remember what needs to be in the box.

Prepare your equipment

Prepare your equipment first. Make sure that the suction is readily available. Get your new tube ready in making sure it's the right size, in date and is either neonatal or paediatric. Keep it in the same sterile packaging where possible. Remove the obturator or introducer. To confirm suction distances take a catheter and measure the length of tube as they can differ in length. Be careful to handle the tube by the termination or flanges. Do not touch the shaft of the tube.

It's really important not to suction beyond the end of the tube, so getting the right suction distance is essential. We have the devised a tube information sheet which will give you useful information about the tube your child has. This also allows you to amend the suction distances and can be used as a reference sheet for anyone caring for your child. Replace the introducer or obturator and lubricate the tube. Lubrication is only placed on the curved aspect of the tube. You will need two packets of gauze for cleaning, one packet for washing and retain the other for drying. Prepare your tapes, cut the neck piece to the desired length, and thread the cotton twill through the holes. Prepare the trachy dressing; this is placed under the flanges to protect the skin from the tube. Dressings can vary and will be discussed with you individually depending on your child's needs.

Prepare the child

Each child will have their own way of what they like and what is safe. Some prefer to sit up and some prefer to lie down. With small infants it's advisable to swaddle them to prevent movement and also to stop hands from moving around. The important thing here is that whatever the position, the tube

and child are safe and the tube holder has control of the tube. If the child does prefer to lie you will need to place a rolled up towel or blanket under their shoulders. This supports the shoulders and hyperextends the neck. Not only do you then have good visibility of the stoma but this also makes cleaning and time take easier. Once all the equipment is ready you can prepare the child.

Elective tube changing is a two person procedure. Some children may have the understanding and ability to hold the tube themselves but this will be discussed with you at the time of training. One person cuts the tapes and does the cleaning and the tube holder, whether it is an adult or a child, will hold the tracheostomy tube in place. You will find your own way of how to do this, but it is important not to press on the tube as this will be uncomfortable for the child, but to have enough grip or pressure on it so that the tube is not coughed out.

Remove any dressings. If the child needs suction at any part of the procedure then this is carried out by the tube and tape changer. The frequency of tube changes vary so again this will be discussed with you individually. Ensure the suction and emergency box is ready to hand.

Changing the tube

The tube changer takes control of the tube that's in situ and has the new tube ready in their dominant hand. The existing tube is gently removed in a curve like action and the new one inserted slowly and smoothly. Don't force the tube in, but if there is any resistance push gently. Once the tubes inserted support the new tube and remove the obturator quickly as the child cannot breathe. The tube holder then takes over supporting the tube.

Cleaning the stoma and neck

During tracheostomy cleaning it's important to clean in five areas: above the tube, under each flange, below the tube. It is also important to sit the child up and clean the back of the neck.

During cleaning it is particularly important to always wipe away from the stoma opening and observe the skin integrity. Look for any blemishes, skin breakdown, rashes and inform a healthcare professional. We are demonstrating in this video the way we find the easiest but the order if cleaning is not important and you may find a different way of doing it, as long as all these areas are cleaned. Take one piece of wet gauze and place it over the finger, the reason we place it on the finger is because this allows you to get close to the stomal opening. To reiterate, always wipe away from the opening. In this video we are cleaning above the tube first. Once you have cleaned the area dry it with clean gauze. Do the same for under each of the flanges by lifting them up and getting as close to the stomal opening as you can. The tube holder should release some of the pressure on the side that you're cleaning so that you can get underneath it. Again, wash and dry each side separately. The tube holder now supports the tube from above so that we can clean under the tube, again clean, and then dry. Once you've cleaned those four arears, sit the child or infant up. The tube holder must support the tracheotomy during this time as there is a high risk of the tube decannulating. Support the child so they don't fall backwards.

Applying the dressing and tying the tapes

The tapes are then placed behind the neck and the child lies back down again. A dressing is placed under the flanges. The most common dressing is the trachy dress. Ensure that the shiny side is next

to the skin with the opening upwards. Dressings may change depending on the needs of the child. You will find your own technique of placing the dressing under the tube, but what is important is that the tube is properly supported during this so that the child does not decannulate. Avoid balky dressings as this will cause the tubes to sit differently in the stoma, or it may protrude in the stoma, and this increases the risk of decannulation. The tube holder then supports the tube. We are now ready to tie the tapes.

Take the furthest side tape, take time to ensure the tape is flat to the skin and tie a bow. Make sure the foam part of the tape is close to the dressing as you can get it; this ensures that knots don't rub the skin. Repeat this on the near side. Have a quick check to ensure the tapes aren't too loose. If they are, adjust these while the child is still lying down. This avoids the child been repeatedly been sat up and down.

However, the real test of tape tension with a child with a tracheostomy is to sit them up. Taking care to support the tube the child is sat up right. One finger should sit comfortably between the tape and the neck. If it is too lose or too tight lay the child down and adjust. But for the final tension check the child must be sitting up. When you're happy with the tension lay the child back down and convert the bows into knots. You do this by pulling the loops through. This means that you do not lose the tension. If you do undo the tape by mistake you will have to re-tie and check the tension. Pull the knot tight and tie one further knot. This means that if the knot comes undone, the tube can't fall out. Repeat on the other side. Cut the tape leaving at least an inch. The tube holder can let go and make the child comfortable.