

Intubation and Ventilation at the American Family Children's Hospital

Intubation

Intubation is placing a breathing tube or ET (endotracheal) tube through a patient's mouth or nose into their windpipe. Breathing tubes are used during surgery and if your child needs help with breathing.

Ventilation

A ventilator (vent) is the machine used to help your child breathe with less effort until they can breathe on their own. This machine is also called a vent or breathing machine. Your child connects to the vent through an ET tube. Our goal is to help children heal quickly and get them off the vent as soon as we can.

Why Your Child Needs a Vent

- To make it easier for them to breathe.
- To get air into the body.
- To get carbon dioxide out of the body.

Children with severe breathing problems (respiratory failure) may have low levels of oxygen and high levels of carbon dioxide even when getting extra oxygen. Others have normal levels but find it very hard to breathe. Severe injury can also make it harder to breathe. In all these cases, a ventilator is needed since your child's lungs are no longer doing these jobs well. A vent does not fix disease. It helps to keep your child alive while treating serious conditions.

Risks

There are risks. A ventilator associated event (VAE) is a condition that may occur and the breathing tube could also become dislodged.

Types of VAEs

- Infection
- Collapsed lung
- Lung damage

Infection – Having a tube in the windpipe can make it easy for bacteria to get into the lungs, which could lead to pneumonia. This problem is often treated with antibiotics.

Collapsed lung (pneumothorax) – The vent pushes air into the lungs. There is the risk that the lung could over-inflate. Tiny sacs in the lung can then leak air into the chest causing the lung to deflate. If this occurs, a chest tube may be put into the chest wall to drain the leaked air. This allows the lung to re-inflate.

Lung damage – The extra pressure from the vent can damage young or diseased lungs or lungs that are not working well.

Unplanned Extubation (breathing tube dislodgement): Despite best efforts to keep the tube safe and secure, sometimes the tube may become dislodged. This may be a result of any number of problems, such as coughing or loss of the adhesive on the tape or holder that keeps the tube in place. Often, the tube will need to be replaced very quickly.

Keeping Your Child Safe on a Vent

Your child's safety is a top priority. We do several things to help reduce the chance of VAE.

- We keep the head of the bed raised between 30° to 45° degrees unless other health problems do not allow this. This reduces the possibility of moisture from vent tubing or stomach contents accidentally getting in the lungs.
- We suction saliva that collects inside the mouth and breathing tube. As this fluid collects, it can grow bacteria and may cause VAE. We remove this fluid when needed.
- We brush your child's teeth and gums and clean the inside of the mouth a few times each day. Oral care can decrease the number of bacteria in the mouth and on the teeth while your child is on the vent.
- We give medicines to help keep your child calm and comfortable, but still stay awake as much as possible. This helps keep the tube in the correct position and also helps with being taken off the vent as soon as possible. If these medicines start to build up in the body, the patient could remain in a deep sleep or drowsy for a time, even after the

medicines are stopped.

- We clean our hands with soap and water or alcohol-based hand sanitizer before and after touching the patient or the vent.
- We take great care when moving our patients and shifting their position in their bed/crib to avoid any chance of removing the tube.
- The tube securement is checked by the care team at regular intervals.

Things You Can Do to Help Your Child

- Let your child's nurse know if your child is upset, crying, moving around in bed, or seems uncomfortable.
- Tell your child's nurse if you are worried that the ET tube placement looks loose or not secure.
- Ask your child's nurse to help you before moving your child or starting any cares.
- Clean your hands before going into your child's room and when you leave the room. Hand sanitizer is in each patient room and in the hallway.
- Keep the noise and motions down in your child's room. Giving your child plenty of time to rest may help them heal and grow.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 5/2024 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing HF #7954.