

Invasive Assisted Ventilation

What is the procedure?

Invasive assisted ventilation means the insertion of a breathing tube (an endotracheal tube or a tracheostomy tube) into the main airway, i.e. the wind pipe (or trachea) of a patient, and the use of a machine (mechanical ventilator) to assist breathing. Please also refer to the Patient Information Leaflets on “Endotracheal Intubation” or “Tracheostomy” for further explanation if necessary.

Why is there a need to do it?

Breathing is essential for bringing in oxygen and removing carbon dioxide. The common causes of breathing or gaseous exchange failure include chest infection by bacteria or viruses (pneumonia), chronic obstructive airway disease, asthma and acute pulmonary oedema (lungs flooded with fluid as a result of heart failure). A patient with lung problem or inadequate respiratory effort will need assisted ventilation as a life-saving procedure.

How is it done?

A tube is inserted into the trachea through the mouth or nose or a small neck wound. The tube is then connected to a breathing machine (mechanical ventilator). Doctor will adjust the setting of the machine and start the invasive assisted ventilation. Patient has to be confined to bed. Only limited movement is allowed to prevent dislodgement of the tube or disconnection of the machine circuit. Some patients may not tolerate the breathing tube or the invasive assisted ventilation. Sedation and pain-killer are usually administered to alleviate discomfort and pain. In case of difficult ventilation, patient will receive medications for deeper sedation or muscle paralysis.

When to stop?

Invasive assisted ventilation support may be gradually tapered down when the lung condition improves and breathing effort is adequate. Successful removal of invasive assisted ventilation depends on the severity of the disease and the patient's response to treatment.

Risks and Complications

Potential complications associated with invasive assisted ventilation include:

- Barotrauma: Lung injury due to pressure from the mechanical ventilator, which may lead to collection of air in the pleural cavity (pneumothorax) or around the heart and the big vessels (pneumomediastinum)
- Infection (Ventilator Associated Pneumonia): especially if a sedated patient is unable to cough up retained secretions going from the mouth cavity into the lung

- Bleeding stress ulcer: ulcers in stomach and duodenum can appear due to the stress of the illness
- Heart performance may impair: because positive pressure from the mechanical ventilator impedes the return of venous blood to the heart

Other treatment options

The patient may choose to not undergo this procedure. The degree of impact this decision may have on the patient's health condition depends on a variety of clinical factors, such as the individual patient's physical condition before the onset of illness, the type of disease, the response to treatment and the progress. The doctor will explain suitable alternative options to the patient and family members.

Disclaimer

The information provided in this booklet is for general reference only. The risks and complications listed above are not exhaustive. Please consult your attending doctor for details.