

Inclusion Criteria

-
1. Age 18 years or older
 2. One of the following confirmed admission diagnoses
 - a. non-traumatic acute ischemic infarction (AIS)
 - b. non-traumatic intracerebral hemorrhage (ICH)
 - c. non-traumatic subarachnoid hemorrhage (SAH)
 3. Anticipated need of prolonged at least assisted mechanical ventilation for 2 weeks or more based on the SETscore > 10:
 - a. Dysphagia (4)
 - b. Observed aspiration (3)
 - c. Glasgow Coma Scale (GCS) on admission < 10 (3)
 - d. Brainstem lesion (4)
 - e. Space-occupying cerebellar lesion (3)
 - f. Ischemic stroke > 2/3 MCA territory (4)
 - g. Intracerebral hemorrhage > 25 ml volume (4)
 - h. Diffuse lesion (3)
 - i. Hydrocephalus (4)
 - j. Invasive intracranial intervention (2)
 - k. Additional chronic respiratory disease (3)
 - l. PaO₂/Fraction of inspired oxygen (FiO₂) < 150 (2)
 - m. Acute Physiology Score (APS of APACHEII) > 20 (4)
 - n. Lung Injury Score (LIS) > 1 (2)
 - o. Sepsis (3)based on the clinical judgement of the treating neurointensivist
 4. Informed consent by the patient and/or legal proxy
 5. Principle indication for tracheostomy (at least one of the following):
 - a. ongoing demand of suctioning bronchotracheal secretions
 - b. CNS-related respiratory insufficiency
 - c. aspiration or danger of aspiration due to dysphagia
-

Inclusion/Exclusion Criteria

Exclusion Criteria:

1. Premorbid modified Rankin Scale (mRS) >1
2. Artificial ventilation for more than 4 days
3. Any emergency situation either currently or anticipated for early time point of TT compromising the patient's well-being, such as
 - a. Intracranial pressure (ICP) persistently > 25 mmHg
 - b. Difficult airway management, anticipated problems with extubation / re-intubation
 - c. Contraindications for a percutaneous tracheostomy
 - d. Oxygenation impairment: Positive end-expiratory pressure (PEEP) >12, or FiO₂ > 0.6
4. Expected need for a permanent surgical tracheostomy
5. Pregnancy
6. Participation in any other interventional trial
7. Life expectancy < 3 weeks
8. Patient/family unwilling or unlikely to opt for at least 3 weeks of aggressive therapy prior to consideration of transition to comfort measures/discontinuation of life support measures