

# Protocolised non-invasive compared with invasive weaning from mechanical ventilation for adults in intensive care: the Breathe RCT

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## Plain English summary

### The Breathe RCT

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## Plain English summary

Patients who become very unwell may require help from a breathing machine. This requires the patient to be given drugs to put them to sleep (sedation) and have a tube placed through their mouth directly into the windpipe (tube ventilation). This can be life-saving, but may cause harm if used for long periods of time. Non-invasive ventilation (mask ventilation) provides breathing support through a mask that covers the face. Mask ventilation has several advantages over tube ventilation, such as less need for sedation, and it enables the patient to cough and communicate. In previous studies, switching patients from tube to mask ventilation when they start to get better seemed to improve survival rates and reduce complications. The Breathe trial tested if using a protocol to remove tube ventilation and replace it with mask ventilation is better than continuing with tube ventilation until the patient no longer needs breathing machine support.

The trial recruited 364 patients. Half of these patients were randomly selected to have the tube removed and replaced with mask ventilation and half were randomly selected to continue with tube ventilation until they no longer needed breathing machine support. The mask group spent 3 fewer days receiving tube ventilation, although the overall time needing breathing machine help (mask and tube) did not change. Fewer patients in the mask group needed antibiotics for chest infections. After removing the tube, twice as many patients needed the tube again in the mask group as in the tube group. There were no differences between the groups in the number of adverse (harm) events or the number of patients who survived to leave hospital. Mask ventilation was no more expensive than tube ventilation.

In conclusion, mask ventilation may be an effective alternative to continued tube ventilation when patients start to get better in intensive care.



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