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Young D, Harrison DA, Cuthbertson BH, Rowan K for the TracMan Collaborators. Effect of Early vs Late Tracheostomy Placement on Survival in Patients Receiving Mechanical Ventilation: The TracMan Randomized Trial. *JAMA*. 2013;309(20):2121-29. [\[CrossRef\]](#) [\[PubMed\]](#)

Tracheostomy is a commonly performed procedure in the critical care unit; however, the most appropriate time to perform the procedure remains uncertain. Rumbak et. al. (1) demonstrated a 50% reduction in mortality in 2004 when tracheostomy was performed within the first 2 days of intubation compared to day 14 to 16. This study was sponsored by the University of Oxford with funding provided by the UK Intensive Care Society and the Medical Research Council to evaluate potential benefits associated with early tracheostomy in a larger patient population. Patients from 72 different UK critical care centers were randomized to early tracheostomy (within the first 4 days) or late tracheostomy (after day 10 if still clinically indicated).

Between November 2004 and November 2008, 909 patients were randomized with 2 years of follow-up data available (January 2011). Inclusion and exclusion criteria were relatively straightforward. Patients were included if a senior physician believed they were likely to require another 7 days of intubation. Patients were excluded if they required immediate, life-saving tracheostomy; tracheostomy was contraindicated for anatomical or other reasons; or if respiratory failure was due to chronic neurological disease. The primary outcome was all cause mortality 30 days post-randomization. Secondary outcomes included mortality at discharge from the critical care unit, from the hospital, 1 year post randomization, and 2 year post randomization, duration of critical care and hospital stay, days of intravenous sedative administration, and antimicrobial free days in the critical care. The authors had planned a sample size of 1692 patients to detect a 6.3% absolute reduction in mortality with 80% power but because of declining recruitment, the final study had an 80% power to detect an 8.3% absolute reduction in mortality.

The results demonstrated no statistical difference between the two study groups in the primary outcome and most of the secondary outcomes. The only significant finding was patients in the early tracheostomy group received less days of intravenous sedation. Among the late tracheostomy group, 53.7% of the patients never had tracheostomy performed because they had been discharged from the critical care unit or no longer required mechanical ventilation. The primary outcome of this study agrees with many recently published smaller randomized controlled trials which showed early versus late tracheostomy provided no improvement in mortality (2-5).

In conclusion, this study suggests that a “wait and see” approach to tracheostomy is justified in the majority of patients admitted to the intensive care unit requiring mechanical ventilation. It is not clear why the earlier Rumbak (1) study yielded such a strong signal for reduced mortality with early tracheostomy. It is possible that ventilation

devices and management strategies have improved since the original study period, thereby, reducing harms associated with prolonged translaryngeal intubation.

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