

Summary of Findings – Techniek voor tracheacanule plaatsing

Population: Adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated

Intervention: Percutaneous dilatational tracheostomy

Comparator: Surgical tracheostomy

Outcome Timeframe	Study results and measurements	Absolute effect estimates		Certainty of the evidence (Quality of evidence)	Conclusions
		Surgical tracheostomy	Percutaneous dilatational tracheostomy		
Successful tracheostomy placement (critical)	-	-	-	No GRADE (no evidence was found)	No evidence was found regarding the effect of percutaneous dilatational tracheostomy on successful tracheostomy placement when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
<i>Major complications</i>					
Intraoperative serious, life-threatening adverse events (critical)	Relative risk: 0.93 (CI 95% 0.57 - 1.53) Based on data from 1211 participants in 12 studies	49 per 1000	46 per 1000 Difference: 3 fewer per 1000 (CI 95% 21 fewer - 26 more)	Very low Due to serious risk of bias, due to very serious imprecision ¹	The evidence is very uncertain about the effect of percutaneous dilatational tracheostomy on intraoperative serious, life threatening events when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
Direct postoperative serious, life-threatening adverse events (critical)	Relative risk: 0.72 (CI 95% 0.41 - 1.25) Based on data from 984 participants in 10 studies	49 per 1000	35 per 1000 Difference: 14 fewer per 1000 (CI 95% 29 fewer - 12 more)	Very low Due to serious risk of bias, due to very serious imprecision ¹	The evidence is very uncertain about the effect of percutaneous dilatational tracheostomy on direct postoperative serious, life threatening events when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
	Relative risk: 0.29	161	47	Moderate	

Significant infection (critical)	(CI 95% 0.18 - 0.45) Based on data from 1096 participants in 15 studies	per 1000 Difference: 114 fewer per 1000 (CI 95% 132 fewer - 89 fewer)	per 1000 Due to serious risk of bias ²	Percutaneous dilatational tracheostomy likely results in a reduction in infection when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
Postoperative bleeding (critical)	Relative risk: 0.62 (CI 95% 0.31 - 1.23) Based on data from 1144 participants in 13 studies	79 per 1000 Difference: 30 fewer per 1000 (CI 95% 55 fewer - 18 more)	49 per 1000 Very low Due to serious risk of bias, due to serious inconsistency, due to serious imprecision ³	The evidence is very uncertain about the effect of percutaneous dilatational tracheostomy on postoperative bleeding when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
Procedural bleeding (critical)	Based on data from 2 studies	Kim (2023) reported a mean difference of 0.60 mL (95%CI -0.58 to 1.78) in procedure-related estimated blood loss in favor of surgical tracheostomy. Pandit (2023) reported a risk ratio of 0.91 (95%CI 0.55 to 1.50) for minimal peri-operative hemorrhage and a risk ratio of 1.20 (95%CI 0.46 to 3.15) for moderate peri-operative hemorrhage.	Very low Due to serious risk of bias, due to very serious imprecision ⁴	The evidence is very uncertain about the effect of percutaneous dilatational tracheostomy on procedural bleeding when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
Air leakage (critical)	-	-	No GRADE (no evidence was found)	No evidence was found regarding the effect of percutaneous dilatational tracheostomy on air leakage when compared with surgical tracheostomy.
Airway loss (critical)	-	-	No GRADE (no evidence was found)	No evidence was found regarding the effect of percutaneous dilatational tracheostomy on airway loss when compared with surgical tracheostomy.
Tracheomalacia (important)	-	-	No GRADE (no evidence was found)	No evidence was found regarding the effect of percutaneous dilatational tracheostomy on tracheomalacia when compared with surgical tracheostomy.

Stenosis (important)	Based on data from 1 study	Pandit (2023) reported that 1 of the 16 patients (6.3%) who underwent percutaneous dilatational tracheostomy had a tracheal stenosis, while this did not occur in patients who underwent surgical tracheostomy.	Very low Due to serious risk of bias, due to very serious imprecision ⁴	The evidence is very uncertain about the effect of percutaneous dilatational tracheostomy on stenosis when compared with surgical tracheostomy in adult patients admitted to the ICU who are going to have a tracheostomy placed and who are intubated.
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1. Risk of Bias: serious. Due to study limitations.

Imprecision: very serious. Due to overlap of the upper and lower limit of the 95% confidence interval with the minimal clinically important difference.

2. Risk of Bias: serious. Due to study limitations.

3. Risk of Bias: serious. Due to study limitations.

Inconsistency: serious. Due to conflicting results and heterogeneity in the definition of the outcome measure.

Imprecision: serious. Due to overlap of the lower limit of the 95% confidence interval with the minimal clinically important difference.

4. Risk of Bias: serious. Due to study limitations.

Imprecision: very serious. Due to the optimal information size which was not achieved.