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# Emergency open tracheostomy and emergency percutaneous tracheostomy: A comperative study

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ABSTRACT

Emergency Tracheostomy is a widely used procedure in intensive care unit in India. This study reveals that emergency percutaneous tracheostomy is better than emergency open tracheostomy. Percutaneous tracheostomy is associated with better outcome, less bleeding, shorter time, less sedation, less damage to the trachea, and low collection of hematoma.



## 1. Introduction

Emergency tracheostomy procedure is full of risks. Immediate complications include severe damage to the trachea, hematoma formation, subcutaneous emphysema, esophageal injury, thyroid gland or nerves injury. A collection of blood (hematoma), which may form in the neck and compress the trachea, causing breathing problems in this study we compared the complication between emergency open and percutaneous tracheostomy.

## 2. Material and Methods

In this retrospective study emergency open tracheostomy was done in 23 cases and emergency percutaneous tracheostomy was done in 52 cases. Immediate complications were compared in both these procedure.

## 3. Observation

The Table 1 shows the complications rate in emergency open and emergency percutaneous tracheostomy.

**Table 1:**

| Complications | Emergency open tracheostomy (23 cases) | Emergency percutaneous tracheostomy (52 cases) |
|---|---|---|
| Time taken | 7 to 10 minutes | 3 to 5 minutes |
| Severe damage to the trachea | 5 (21.7%) | 2(3.8%) |
| Hematoma formation | 7 (30.4%) | 1(1.9%) |
| Subcutaneous emphysema | 3 (13%) | 1(1.9%) |
| Esophageal injury | 1 (4%) | nil |
| Thyroid gland injury | 3 (13%) | nil |
| Nerves injury | 2 (8.6%) | nil |

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## 4. Discussion

Emergency tracheostomy procedure is full of risks. In our study it is clear that emergency percutaneous tracheostomy is far better than emergency open tracheostomy and it is statistically significant. On review of literature we found that percutaneous tracheostomy is generally preferred to surgical tracheostomy (ST) in intensive care patients as it can be performed more readily on the ICU.[1–6] Kevin M. Higgins et al. study also suggested that in their meta-analysis had shown that percutaneous tracheotomies trend toward fewer overall complications than open techniques and appear to be more cost-effective by releasing operating room resources including time and personnel, provide greater feasibility in terms of bedside capability.[7] Thyroid injury seems to complicate both percutaneous and surgical tracheostomy. One may be encouraged by the knowledge that in an autopsy case series many of the percutaneous attempts did in fact skewer the thyroid safely, without incurring any new haemorrhagic complications.[8]

## 5. Conclusion

Emergency percutaneous tracheostomy is a better option for critically ill patients in compression to the Emergency Open tracheostomy.

## 6. Source of Funding

None.

## 7. Conflict of Interest

The authors declare that there is no conflict of interest.

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