

# Our Experience of Adult Bedside Tracheostomy in the Intensive Care Unit

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## ABSTRACT

**Objective:** To determine surgical outcome and difficulty of adult bedside tracheostomy in the intensive care unit in a tertiary care hospital.

**Method:** Retrospective medical chart review at Lady reading Hospital / Medical Teaching Institution (LRH/MTI), Peshawar, with facility of 33 beds in intensive care unit. Total 428 adult patients, underwent elective bedside tracheostomy in the intensive care unit between July 2019 and December 2020. Major and minor peroperative and postoperative complications, cost saving and surgical outcome were analyzed.

**Results:** There were 9 major complications (2.1%): 5 bleeding episodes requiring reoperation, and 4 non-fetal respiratory arrest; and 15 minor complications (3.5%): 7 episodes of minor bleeding and 8 episodes of mucus plugging. One late complication (tracheal stenosis) was identified.

**Conclusion:** Adult bedside tracheostomy in the intensive care unit is as effective and safe as operating room tracheostomy. In addition, it gives a significant cost saving for the patient.

**Key words:** Tracheostomy, Bedside, Intensive Care Unit, Complications

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## INTRODUCTION

The tracheostomy is generally takes place when physicians and nurses of the ICU expect the need for long-to-be-ventilated patients. assistance requires long-term ventilator help to wean patients from the ventilator, good accessibility to prevent constant endotracheal and lingual injuries, and avoidance of the need for tracheostomy. He set out early because he had to be in the library by 8 a. Because the scheduled meeting didn't start until eight, he was already there at seven. In some hospitals, a tracheotomy is performed in the operating room to save a critically ill patient's life.

There has been a dramatic improvement in medical technology in the past decade, with tragic financial consequences, which has fueled today's pursuit of cost-effective medicine. To cope with the costs, we have increased the use of ambulatory surgeries and minimally invasive ones while decreasing the amount of operative procedures in the OR. 4

We revisited our previous knowledge of adult ICU ventilator-tube endotracheal intubation. compared to surgical procedures, the procedure has low morbidity and mortality. This treatment is also less costly for patients as well.

## METHOD

A chart review of all adult patients underdone elective bedside tracheostomy in the medical and surgical intensive care units between July 2019 and December 2020. The operations were performed by same senior ENT residents under the supervision of the attending consultant.

Any of the procedures conducted on the adult wards were done under the supervision of the an intensivist's supervision. The endotracheal tube was used to maintain

an airway's patency in any patient. A function was performed with the neck hyperextension and a sterile field draping developed. Doctors don't like to use more than one kind of surgical headlight. The operation was performed 2 finger-breadths above the sternum. In order to ease exposure, a limited amount of subcutaneous fat was removed separated by mosquito artery forceps The trachea was carefully dissected superior to the thyroid, and the gap between the second and third rings was found to be several centimeters large. A preoperatively determined bilateral laryngeal periaposteal laryngostomith incision was performed on the patient to prepare for an upper periosteal laryngeal laryngeal flap. With the endotracheal tube softly directing it, the trachea was first, then an acrylic tracheal tube with a cuff was used. A surgeon used a fabric tie and needles to secure the tube around the patient's neck to avoid discomfort. Tidal volume was registered with the ventilator confirms this tube location.

Significant and minor complications were reported. Major complications were described as complications requiring reexploration of the bled and in-flight loss of oxygen. Potential bleeds, build-up, contamination, and moisture plugging is seen as 'incidental'. For six months, follow-up therapy to see whether any patients experience facial or laryngeal scarring, difficulties in swallowing, or speech problems.

## RESULTS

A total of 428 adult bedside tracheostomies were performed (246 male, 182 female with male to female ratio of 1.3:1) from July 2019 to December 2020. Patients were in age range 20 to 55 years with mean age 52.6 + SD10 years. The indications for tracheostomy were chronic ventilator dependence 81%, airway protection 12%, and

pulmonary toilet 7%. The mean time on the ventilator prior to tracheostomy was 12 days for medical patients and 9 day for surgical patients. (Table 1)

Table No 1: Baseline details of all the patients

Variables	Frequency No.	%age
Mean Age (Years)	52.6 +10	-
Gender		
Male	246	57.48
Females	182	42.52
Indications		
chronic ventilator	346	81
airway protection	51	12
pulmonary toilet	31	7

There were 9 (2.1%) major complications: five bleeding episodes requiring reoperation and four non-fetal respiratory arrests; and fifteen (3.5%) minor complications: seven episodes of minor bleeding and eight episodes mucus plugging. One late complication (tracheal stenosis) was identified. (Table 2)

Table No 2: Postoperative complications

Variables	Frequency No.	%age
Major Complications		
bleeding episodes requiring reoperation	5	1.17
non-fetal respiratory arrests	4	0.93
Minor Complications		
Minor bleeding	7	1.64
Mucus plugging	8	1.87
late Complication		
Tracheal Stenosis	1	0.23

Two hundred thirty four patients (54.6%) died during their hospitalization of causes not related to their tracheostomy. The average time to weaning following tracheostomy was 19 days. One hundred thirty seven (70.6%) of the one hundred ninety four surviving patients had their tracheostomies removed at the time of discharge, while fifty seven (29.6%) were discharged with the tube in place. Of the one hundred ninety four patients alive at the time of discharge, advised for follow-up. On follow-up one patient reported symptoms of tracheal stenosis requiring dilation. No other complications were noted.

During the period of the study, the average cost of a tracheostomy in the operating room at our hospital was 4,000 rupees, and the average cost for bedside tracheostomy was 600 rupees.

## DISCUSSION

Tracheotomy is performed in critically ill patients to help them recover. In patients who are intubated, tracheostomy is usually conducted in the operating room. ICU intensivists understood that putting a critically ill patient into the OR created considerable danger and moved the ICU away from the OR to avoid it. Owing to these complications, a protocol was devised and tracheal tracheostomy surgery was performed.

A similar study was performed by another researcher who recorded that the mean age of the patients to be 58.7 years, which concludes that male patients have a relatively more active lifestyle, with the pathologies needing ventilator

assistance, whereas female patients have more risk for underlying disease that could impair their respiratory function.

Either/or means it's black or it's white. You're wearing a party hat, and that means you're good or you're bad.

Due to our limited data, it is difficult to determine if the complication rate in our operating room varies from that in the operating room. However, our rate for major problems is at 2.1% and our rate for minor problems is 3.5%, according to the literature It wasn't a difficult decision for her. It was a straightforward choice for her.

Prospective studies have shown that the open and percutaneous tracheostomy procedures are equal when it comes to postoperative complications. Trachealoplasty, from India was also shown to be the most cost-effective and prevented complications. Have you discovered any laws of biology that I don't know about the subject?

To further mitigate the chance of tracheal fistula complication, we use a second tracheal ring flap. Second-, third-, fourth-, and fifth-year students (over 2, 3, 3, and 4 semester hours per week for third-, fourth-, fifth-, and sixth-year students respectively, as well as 2, 3 in the 2nd, 3-year, and 3rd to 4th, each semester or 2nd, 3rd, 4th, and 4 semesters; for all semesters and fifth years as well as the third and sixth years)

It was said that one of the patients could not tolerate the tracheal opening being made wider after the procedure was completed, so another had to be brought in to dilate it. There was no confirmation of the actual existence of stenosis.

The overall findings are favorable for outpatient tracheostomy, cost-effective, and life-saving.

This research suffers from the same problem as most in that it is a retrospective one, rather than a longitudinal one, as larger samples can help solve it.

## CONCLUSION

Bedside tracheostomy in an intensive care unit is a safe, cost-effective means of providing a secure airway in the critically ill patient. It avoids the morbidity and mortality associated with transporting critically ill patients between a critical care unit and an operating room.

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