

Tracheostomy Management Protocol for Downsizing & Decannulation in Adults in Long Term Acute Care



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BACKGROUND

- * Tracheostomy tubes (TT's)short & long term to maintain patent upper airway.
- * LTAC LOS, cost & complicationsassociated with TT's.
- * Successful decannulation72 hours w/o recannulation.
- * Many approachesNO EBP guideline
- * Long Term Acute CareLTAC



\$\$\$\$ Financial Impact of TT \$\$\$

- * \$1700.....placement of TT
- * \$123-156,000.....acute care hospital costs
- * \$367.....additional/day @ LTAC w/ TT
- * \$46-48,000.....per stay @ LTAC hospital
- * \$375.....initial + daily expense at home

STATEMENT OF PURPOSE

*To assess the impact of downsizing on successful decannulation in adults with TT's in an LTAC hospital in the Midwest United States.

METHODS & PROCEDURES

*Tracheostomy Management Protocol
-by Dr. Johnny Venter (2008)

DOWNSIZING CRITERIA

- 1) Free from mechanical ventilation
- 2) TT @ least 7 days & sutures removed
- 3) Goal of short term airway management
- 4) No foreseeable surgery
- 5) Minimal secretions
- 6) Adequate cough & swallow
- 7) Oxygen saturation $\geq 90\%$ on $\leq 40\%$ oxygen
- 8) Free of respiratory infection
- 9) Supportive CXR

DATA COLLECTION

- *Retrospective descriptive study
- *LTAC in Midwest US
- *Reviewed 250 paper charts over 6 months
 - Admission dates 01/31/09-01/31/12 (3 yr span)
 - V55.0 Attention to Tracheostomy
- *Sampling criteria
 - Adults ≥ 18 years w/ TT's weaned from ventilator
 - Goal of decannulation
- *14 Data Points collected
 - Patient number, gender, race, & age
 - Date, size, & reason TT placed
 - ICD 9 codes/diagnoses
 - LTAC admission date & if patient placed on TMP
 - Date & size of TT downsizing
 - Date of decannulation
 - If remained decannulated @ 72 hours
 - Reason for recannulation before 72 hours

PARTICIPANTS REMOVED FROM STUDY

| Reason | n | % |
|--|----|----|
| Chronic TT without ventilator dependence | 62 | 25 |
| Remained ventilator dependent when discharge from LTAC | 25 | 10 |
| On ventilator or off ventilator < 24 hours and expired | 19 | 8 |
| Duplicate patient chart | 16 | 6 |
| Improperly coded V550 chart | 10 | 4 |
| Kept TT due to pre-existing chronic vent dependence | 5 | 2 |
| Chart in legal review | 3 | 1 |
| Discharged home before 72 hour status post decannulation | 3 | 1 |
| TT present & transferred to ICU/ER for higher level care | 3 | 1 |
| TT kept for scheduled surgery | 2 | 1 |
| TT kept due to dysphagia | 2 | 1 |
| Self decannulated | 1 | <1 |
| TT kept due to halo vest | 1 | <1 |

PARTICIPANTS' DEMOGRAPHICS

| Demographic | n | % |
|---------------|----|----|
| RACE | | |
| White | 94 | 96 |
| Asian | 1 | 1 |
| Black | 1 | 1 |
| Latino | 2 | 2 |
| GENDER | | |
| Male | 43 | 44 |
| Female | 55 | 56 |

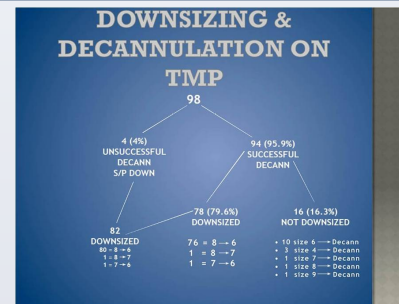
TT SIZE upon admission to LTAC

| | | |
|---|----|----|
| 4 | 3 | 3 |
| 6 | 10 | 10 |
| 7 | 2 | 2 |
| 8 | 82 | 84 |
| 9 | 1 | 1 |

DAYS BETWEEN PROCEDURES

| Variable | M | Mdn | SD |
|---|-------|-------|-------|
| TT to LTAC | 7.51 | 5.00 | 6.92 |
| LTAC to 1 st downsizing | 17.23 | 10.00 | 41.92 |
| TT to decann | 26.22 | 24.00 | 12.54 |
| LTAC to decann | 23.01 | 18.00 | 39.19 |
| 1 st downsizing to decannulation | 12.05 | 6.00 | 41.20 |

FREQUENCIES



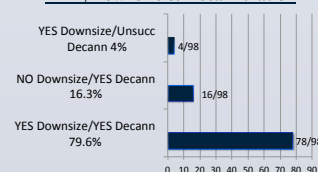
FISCHER'S EXACT TEST OF PROBABILITY

Downsized and Remained Decannulated after 72 Hours

| Variable | No | | Yes | | p |
|-----------|------|------|------|------|------|
| | Obs. | Exp. | Obs. | Exp. | |
| Downsized | | | | | .484 |
| No | 0 | 0.7 | 16 | 15.3 | |
| Yes | 4 | 4.0 | 78 | 78.7 | |

Note. Obs. = observed frequency. Exp. = expected frequency.

TMP, Downsize & Decannulation



PICOT

In (P) adult patients in an LTAC hospital with recently placed tracheostomy tubes, does (I) application of the TT downsizing portion of a Tracheostomy Management Protocol (TMP) versus (C) not applying the TT downsizing portion of a TMP (O) impact rates of successful decannulation (T) prior to discharge from the LTAC hospital?

DISCUSSION

- This TMP is associated with:
- 45.2% higher rates of successful decannulation & 53.3% (Mdn 21 days less) shorter in duration decannulation rates as compared with O'Connor, et al. (2009)
 - 50.2% higher rate of successful decannulation as compared to Enorgen, Arslanian-Enorgen, & Fern-Buderer (2004)= 79.6 vs 29.8%

CONCLUSION

- This study contributes to current knowledge
- Study can be replicated
- 5 year time span would allow larger sample size
- Additional research needed
- A TMP EBP guideline is needed
- The research facility should continue to use the TMP

LIMITATIONS OF STUDY

- *Small Sample Size
- *Comparison studies did not report use of TMP
- *Possible Confounders
 - Diagnoses (past and present)
 - Body Mass Index
 - Nature of Hospital Stay prior to LTAC transfer
 - Comorbidities

FUTURE RESEARCH OPPORTUNITIES

- * To evaluate why downsizing prior to decannulation may play a role in successful removal of the TT.
- * To assess the impact of psychological, social, and cultural status on shorter time to and higher rates of successful decannulation for this unique & growing patient population.

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- Author of TMP

REFERENCES

Furnished Upon Request