

**ASHA**

American Speech-Language-Hearing Association

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Summary of the Systematic Review

ARTICLE CITATION

Interventions to Enable Communication for Adult Patients Requiring an Artificial Airway With or Without Mechanical Ventilator Support

Rose, L., Sutt, A. L., et al. (2021).

Cochrane Database of Systematic Reviews, 10(10), Cd013379.

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CONCLUSIONS FROM THIS SYSTEMATIC REVIEW

Displaying 3 of 3 conclusions

TREATMENT

The following conclusions were made regarding the use of visual augmentative and alternative communication devices or speech generation devices for individuals with tracheostomy or endotracheal tube:

- No studies investigated the impact of these interventions on communication of symptoms, needs, and/or preferences.
- No research regarding the impact of these interventions on quality of life was located.
- No statements regarding impact of these interventions on patient satisfaction or intensive care unit length of stay could be made (Very Low Certainty of Evidence).
- In one study, there was no difference in number of adverse events following this intervention when compared to usual care (Very Low Certainty of Evidence).

Limitations to this review include an overall paucity of high quality evidence with significant risk of bias. Further research is indicated.

Maps:

Augmentative and Alternative Communication (AAC)

Tracheostomy and Ventilator Dependence

SERVICE DELIVERY TREATMENT

The following conclusions were made regarding early versus routine use of voice-enabling aids (e.g., speaking valves) for individuals with tracheostomy or endotracheal tube:

- No statements of efficacy can be made regarding the impact of this intervention on ability to phonate one intelligible word (Very Low Certainty of Evidence).
- This intervention was found to have little to no effect on health-related quality of life (Very Low Certainty of Evidence).
- There might be an impact of this intervention on psychological distress, however data pooling could not be performed due to significant heterogeneity between measures (Very Low Certainty of Evidence).
- This intervention was found to have little to no effect on intensive care unit length of stay (Very Low Certainty of Evidence).
- No significant difference in number of adverse events (e.g., oxygen desaturation, increased respiratory rate) was noted following this intervention (Very Low Certainty of Evidence).

Limitations to these findings are an overall paucity of evidence and significant heterogeneity between studies. Further research is indicated

Maps:

Tracheostomy and Ventilator Dependence

TREATMENT

Overall, confidence in the results regarding effectiveness of early use of voice-enabling devices and the use of visual augmentative and alternative communication devices or speech generating devices to improve communication and health outcomes for adults with tracheostomy or endotracheal tube was very low (Very Low Certainty of Evidence). This was due to reduced methodological quality of included studies, heterogeneity between studies, inconsistency in results, and high or unclear risk of bias. Further research is indicated.

Maps:

Augmentative and Alternative Communication (AAC)

Tracheostomy and Ventilator Dependence

ARTICLE DETAILS

Description

This systematic review and meta-analysis investigates the effect of visual augmentative and alternative communication devices, sound generating devices, and voice-enabling aids and techniques (e.g., speaking valves, digital occlusion, ventilator-adjusted leak speech) for adults with tracheostomy or endotracheal tube.

Years Searched

From database inception to July 30, 2020

Study Designs Included

Randomized controlled trials (RCTs), quasi-RCTs, cluster-RCTs, controlled non-randomized parallel group, and before-after studies

Number of Studies

11

Sponsoring Body

The Cochrane Collaboration; TD Nurse Professorship in Critical Care Nursing held by Dr. Louise Rose (Canada); Discretionary Professorship Funds (Canada)

QUALITY APPRAISAL

Indicators of Review Quality ☐

YES

The review states a clearly focused question/aim.

YES

Criteria for inclusion of studies are provided.

YES

Search strategy described in sufficient detail for replication.

YES

Included studies are assessed for study quality.

YES

Quality assessments are reproducible.

YES

Characteristics of the included studies are provided.

EVIDENCE RATINGS USED IN THIS DOCUMENT

Conclusions were classified into one of four categories based on certainty of the evidence per the Grading of Recommendations, Assessment, Development, and Evaluations framework. These levels are defined as follows:

- **High Certainty of Evidence:** We are confident that the true effect lies close to that of the estimate of the effect.
- **Moderate Certainty of Evidence:** We are moderately confident in the effect estimate: the true effect is likely to be close to the estimate of the effect, but there is a possibility that it is substantially different.
- **Low Certainty of Evidence:** Our confidence in the effect estimate is limited: the true effect may be substantially different from the estimate of the effect.
- **Very Low Certainty of Evidence:** We have very little confidence in the effect estimate: the true effect is likely to be substantially different from the estimate of the effect.