

RCSLT position statement: speech and language therapy in adult Respiratory Support Units

Context

The purpose of this position statement is to summarise the contribution of speech and language therapy in a Respiratory Support Unit (RSU) and provide guidance for multiprofessional colleagues and service managers. This guidance is intended for patients aged 18 or older who are being treated in an RSU or who would qualify under the criteria as an acute respiratory patient.

Due to excessive demand on critical care capacity during the COVID-19 pandemic, respiratory support pathways for patients with acute hypoxaemic respiratory failure were developed to enable care outside the intensive care unit (ICU). Since then, the Intensive Care Society (ICS) and British Thoracic Society (BTS) are developing further guidance beyond COVID-19 in relation to RSUs.

An RSU aims to bridge the gap between ward level and critical care and is aimed at those individuals who require more respiratory monitoring and/or interventions than can typically be provided in a ward environment but who do not need critical care (BTS and ICS, 2021).

Speech and language therapists (SLTs) have a well-established role in the management of patients with respiratory disease or those requiring respiratory support, and are essential core members of the multidisciplinary team (MDT) (GPICS 2019).

Respiratory disorders and the treatment of acute respiratory failure are frequently associated with oro-pharyngeal dysphagia (Gonzalez et al 2017, Bone et al 2017). Management and recovery from respiratory failure can be compounded by poor secretion management, laryngeal dysfunction, breathlessness and fatigue. Invasive and non-invasive mechanical ventilatory support can also reduce the coordination between breathing and swallowing, leading to asynchrony and aspiration (Oomagari et al, 2015). Non-invasive ventilation technology is developing with increasing options of use in respiratory patients. There are promising signs for the use of non-invasive ventilation (Ferreyro et al, 2020), however, the patient outcomes were not improved when trialled on wards with insufficient monitoring (Ergan et al 2018).

Complications of respiratory interventions such as intubation and tracheostomy commonly cause xerostomia, laryngeal injury, desensitisation and oropharyngeal weakness resulting in dysphagia and dysphonia (Brodsky et al 2018, Mota et al 2012, Wallace et al 2021). Common comorbidities such as oesophageal dysmotility and reflux also contribute to the complex picture of dysphagia aetiology.

In addition to swallowing difficulties, patients with compromised respiratory function and those requiring ventilation are likely to have significant and unmet communication needs as a result of their condition (Happ M B, Barnato A E, 2014, Binazzi et al 2011).

Benefits of providing a speech and language therapy service in RSUs

Patient flow

- SLTs play a key role in early detection of concomitant factors which may influence patient pathways of care, using a combination of skilled clinical and instrumental assessments (RCSLT 2019). For example, detecting the impact of intubation and proning on the larynx, which impacts on weaning progress, voice and swallowing (RCSLT 2021).
- Speech and language therapy intervention positively impacts patient flow and quality of care by facilitating timely step-down to ward care and early identification of risk for care escalation (Turra et al 2021, Steidl et al 2015, NG42,CG158).
- Speech and language therapy rehabilitation can provide enhanced recovery from dysphagia and dysphagia related complications (Carnaby and Madhavan 2013, Ceravolo et al 2020, CG158).
- SLTs work closely with other MDT members in assessing and treating patients. For example SLTs work closely with ENT, to provide airway assessments and management plans for patients with complex voice and airway problems (Patterson et al 2020).

Dysphagia and tracheostomy weaning

Speech and language therapists:

- are experts in detecting and managing dysphagia and mitigating the potential risks of silent aspiration and aspiration with overt signs. For example, SLTs can identify the effectiveness and timing of coughing when carrying out a fibreoptic endoscopic evaluation of swallowing (FEES) assessment (RCSLT 2020). For patients with respiratory conditions, this entails minimising subsequent exacerbations of acute respiratory failure and chronic respiratory disease (RCSLT 2019, NG42 2019, Steidl et al 2015).
- work closely with other members of the MDT to optimise levels of ventilation and cough-assist therapies by assessing laryngeal functional compromise (Anderson et al 2017).
- assess and advise on saliva/secretion management providing an increased understanding of airway complications, effectiveness of secretion clearance, medications and adjunctive therapies (RCSLT 2020, NG42).
- support the adherence to recommended care and safety algorithms such as the NTSP Tracheostomy Algorithm (tracheostomy.org.uk).
- perform FEES to evaluate laryngeal function, airway protection and secretion management when using respiratory therapies such as NIV,

HFNC, and increase in multidisciplinary work by using FEES to support effectiveness of cough-assist devices.

- assess and manage laryngeal dysfunction and upper airway complications following interventions such as intubation, surgical procedures and tracheostomies (Wallace et al 2021, RCSLT 2020, McGrath et al 2020, Brodsky et al 2018, Mota et al 2012).
- provide key input to MDT tracheostomy weaning plans and protocols (ICS FICM 2020, Bonvento et al 2017).
- carry out rehabilitation of laryngeal sensation and vocal fold movement to support the weaning process (Desjardins et al 2017). SLTs carry out rehabilitation to improve breath-swallow coordination, cough assessment and rehabilitation and expiratory muscle strength training as it relates to swallow and cough function (Langmore and Pisegna 2015, Wheeler Hegland et al 2016).
- will signpost to other specialities based on findings; for example ENT, dietetics, gastroenterology and neurology.

Communication

Speech and language therapists:

- assess a patient's ability to communicate, to detect communication disorders and need for augmentative and alternative communication (AAC) devices.
- encourage the early use of vocal folds through in-line Passy Muir speaking valves for patients unable to tolerate lower levels of ventilation, speaking valves and above cuff speech.
- support patients to communicate with the MDT and participate in rehabilitation.
- enhance the patient's ability to engage with their family/carers and maintain social connections vital to psychosocial wellbeing.
- facilitate patients to communicate decisions about their care to ensure an individualised care plan (NG115, 2018).
- are adept at communication assessments and are able to identify communication disorders, such as receptive dysphasia or reduced cognition secondary to respiratory disorders (Brighton et al 2019, Baird et al 2017). This can help in individualising mental capacity assessments (RCSLT 2018).

Strategic

Speech and language therapists:

- participate, plan and engage in the RSU development and implementation (NHS England, NHS Improvement and HEE 2020, NG42, 2018).
- have established links with other professional bodies and clinical networks relevant to the RSU; for example ICS, ENT-UK, BTS, RCSLT and Association of Chartered Physiotherapists in Respiratory Care (ACPRC).
- lead in the development, auditing and identification of appropriate validated rating scales which ensures that acute respiratory patients have access to high quality and efficient airway, swallowing and communication assessment and treatment throughout the pathway (RCSLT 2020).

- support patients with their communication, which enables patient involvement in RSU development, audits and research
- actively audit and use outcome measures to monitor the impact and added value of interventions, facilitating the development of new treatments.
- can support and lead in collaborative research that further improves the quality of care provided for patients in acute respiratory failure (Newington et al, 2021).

Planning speech and language therapy input in RSUs: workforce and key recommendations

Dedicated speech and language therapy provision should be included as part of the RSU MDT workforce.

Due to the evolving nature of RSUs and parallels with the critical care patient population, relevant critical care position statements and frameworks (RCSLT 2019, ICS FICM 2018, ICS 2020, ICS 2018) should be used to guide development and implementation of SLT RSU services.

A minimum standard recommendation includes:

- Appropriate funding to deliver:
 - speech and language therapy provision that is part of an integral RSU MDT; and
 - \circ $\,$ a minimum five-day speech and language therapy service with required skills.
- All tracheostomy patients to be referred to speech and language therapy.
- Early referral for rehabilitation should be made with patients whose ventilatory requirements are likely to lead to a prolonged period of non-oral intake or use of voice.
- All patients receiving NIV and/or HFNC should have their swallowing screened. Early referral to SLT should be made where there are concerns about swallowing safety, readiness for eating and drinking following extubation to respiratory support, and eating/drinking efficiency, so that informed risk-managed approaches to oral versus enteral feeding may be taken in line with the overall trajectory of care.
- SLTs should have appropriate specialist skills, knowledge and experience for the patient group (Freeman-Sanderson et al, 2021). They must develop and maintain appropriate competencies based around relevant frameworks; for example RCSLT Tracheostomy Competencies (2014).
- Regular attendance at appropriate clinical network study days and local training opportunities.
- Specialist skills and knowledge may require additional funding to support the training and development of the post holder.
- Maintenance of existing instrumental assessment services. If there is an absence or insufficient access to instrumental assessment, the development of FEES and videofluoroscopy (to include training, equipment and funding) should be prioritised in respiratory patients, as part of the diagnostic and management process.

• Access to a range of alternative augmentative communication aids to support rehabilitation of patients and develop compensatory strategies.

References

Andersen T., Sandnes A., Brekka A.K., et al (2017) Laryngeal response patterns influence the efficacy of mechanical assisted cough in amyotrophic lateral sclerosis. Thorax, 72, 221-229.

Baird C., Lovell J., Johnson M., et al (2017) The impact of cognitive impairment on self-management in chronic obstructive pulmonary disease: a systematic review. Respiratory medicine, 129, 130-139.

Binazzi B., Lanini B., Romagnoli I., et al (2011) Dyspnea during Speech in Chronic Obstructive Pulmonary Disease Patients: Effects of Pulmonary Rehabilitation. Respiration, 81, 379-385.

Brighton L.J., Miller S., Farquhar M., et al (2019) Holistic Services for People with Advanced disease and chronic breathlessness: a systematic review and systematic analysis. Respiratory Research, 74, 270-281.

Brodsky M.B., Levy M.J., Jedlanek E., et al (2018) Laryngeal injury and upper airway symptoms after oral tracheal intubation with mechanical ventilation during critical care, a systematic review. Crit care Med, 46(12), 2010-2017

BTS/ICS (2021) BTS/ICS Guidance: Respiratory care in patients with Acute Hypoxaemic Respiratory Failure associated with COVID-19. London BTS/ICS

Carnaby G. and Madhavan A. (2013) A systematic review of randomised trials in the field of dysphagia rehabilitation. Current Physical Medicine and Rehabilitation Reports, 1(4), 197-215.

Ceravolo M.G., Arienti C., De Sire A. et al (2020) Rehabilitation and COVID-19: the Cochrane Rehabilitation 2020 rapid living systematic review. Eur J Phys Rehabilitation, 642-651

Desjardins M., Halstead L., Cooke M., et al (2017) A systematic review of voice therapy: What "effectiveness" Really Implies. Journal of Voice, 31(3) <u>https://doi.org/10.1016/j.jvoice.2016.10.002</u>.

Ergan B., Nasitowski J., Winck, J.C. (2018) How should we monitor patients with acute respiratory failure treated with noninvasive ventilation? Eur Respir Rev 2018

Ferreyro B., Angriman F., Munshi L. et al (2020) Association of Noninvasive Oxygenation Strategies with All-Cause Mortality in Adults with Acute Hypoxemic Respiratory Failure. JAMA, 324(1) 57-67.

Freeman-Sanderson A., Ward E.C., Miles A., et al (2021) A Consensus Statement for the Management and Rehabilitation of Communication and Swallowing Function in the ICU: A Global Response to COVID-19. Archives of Physical Medicine and Rehabilitation, 102 835-842

Gonzalez Lindh M., Blom Johansson M., Jennische M., et al (2017) Prevalence of swallowing dysfunction screened in Swedish cohort of COPD patients. International Journal of COPD, 331-337.

Happ M.B., Barnato A.E., (2015) The number of mechanically ventilated ICU patients meeting communication criteria. Heart and Lung, 44(1) 45-49.

Wheeler Hegland K., Davenport PW, Brandimore A.E., et al (2016) Rehabilitation of Swallowing and Cough Functions Following Stroke: An Expiratory Muscle Strength Training Trial. Arch Phys Med Rehabil, 97(8) 1345-1351.

Intensive Care Society (2018) Allied Health Professionals: Critical Care Professional Development Framework. London: ICS.

Intensive Care Society (2019) Guidelines for the provision of intensive care service. 2nd edn. London: ICS

Intensive Care Society (2020) Responding to COVID-19 and Beyond: Framework for assessing early rehabilitation needs following treatment in intensive care. London: ICS

McGrath B., Wallace S. and Goswamy J. (2020) Laryngeal oedema associated with COVID-19 complicating airway management. Anaesthesia, 75, 972.

Mota A., Alberto L., Barbosa G., Brito V. (2012) Laryngeal complications by orotracheal intubation : literature review. Int Arch Otolaryngol 16:236-245

National Tracheostomy Safety Project. www.tracheostomy .org.uk. https://www.ficm.ac.uk/sites/default/files /2020-08-tracheostomy care guidance final.pdf

Newington L., Wells M., Adonis A., et al (2021) A qualitative systematic review and thematic synthesis exploring the impacts of clinical academic activity by healthcare professionals outside medicine. BMC Health Services Research, 21(400), 1-20.

NHS England, NHS Improvement and Health Education England (2020) Advice on acute sector workforce models during COVID-19. London: NHS.

NICE Guideline (CG158) (2017) Rehabilitation after critical illness in adults. London: NICE

NICE Guideline (NG42) (2019) Motor Neuron Disease: Assessment and management. London: NICE

NICE Guideline (NG115 (2018) Non-Invasive Ventilation. Improving patient outcomes and outcomes through understanding. London: NICE

Oomagari M., Fujishima I., Katagiri N., et al (2015) Swallowing function during high-flow nasal cannula therapy. European Respiratory Journal 46 (suppl 59).

Patterson J.M., Govender R., Roe J., et al (2021) COVID-19 and ENT SLT services, workforce and research in the UK: A discussion paper. International Journal of Communication Disorders 55(5) 806-817.

RCSLT (2018) The Royal College of Speech and Language Therapists. The Mental Capacity (Amendment) Bill (HL). House of Commons Second Reading. London: RCSLT.

RCSLT (2019) Position statement: Speech and language therapists working in adult or paediatric critical care units. London: RCSLT.

RCSLT (2020) Fibreoptic Endoscopic Evaluation of Swallowing. London: RCSLT

RCSLT (2021) Long COVID and speech and language therapy: Understanding mid-to-longterm speech and language therapy needs and the impact on services. London: RCSLT.

Steidl E., Ribeiro C., Goncalves B.F., et al (2015) Relationship between Dysphagia and Exacerbations in Chronic Obstructive Pulmonary Disease: A Literature Review. International Archives of Otorhinolaryngology, 19(1), 74-79.

Turra G.S., Schwartz I.D., Tamaninide Almeida S., et al (2021) Efficacy of speech therapy in post-intubation patients with oropharyngeal dysphagia: a randomised controlled trial. CoDAS. 33(2)

Wallace S and McGrath BA. (2021) Laryngeal complications after tracheal intubation and tracheostomy. BJA Ed 19 Feb 2021 doi:10.1016/j.bjae.2021.02.005

Yang P., Yu J. and Chen H. (2020) High-flow nasal cannula for acute exacerbation of chronic obstructive pulmonary disease: A systematic review and meta-analysis. Heart and Lung, 50(2), 252-261

Zhang X., Cai X., Shi X., et al (2016) Chronic obstructive pulmonary disease as a risk factor for cognitive: a meta-analysis of current studies. Journal of Alzheimer's Disease, 52(1), 101-111.