



## **Position paper**

# **Speech and language therapy in adult critical care**

For review: 2018

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## 1. KEY RECOMMENDATIONS FOR IMPLEMENTATION

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- Through their detailed knowledge of communication and swallowing, speech and language therapists (SLTs) have a vital role in optimising the care, experience and outcome of patients on critical care.
- All people with critical care needs who have communication and/or swallowing difficulties due to organic, concomitant or psychogenic disorders should have access to an early, timely, responsive and appropriately skilled speech and language therapy service.
- Commissioners should ensure that speech and language therapy services are incorporated in critical care service planning and development. Therefore, speech and language therapy services should be examined to ensure they are appropriately resourced and skilled to provide quality care for people with critical care needs throughout the patient's pathway, including appropriate provision after discharge from ICU (National Institute for Health and Clinical Excellence: Rehabilitation after critical illness, hereafter referred to as NIHCE CG 83.) This would include funding for appropriate speech and language therapy staffing and equipment e.g. communication aids.
- Speech and language therapy services should provide equal access to intervention for both communication and swallowing difficulties dependent on clinical need.
- Organisations should develop critical care competency programmes for speech and language therapy staff and ensure staff are appropriately trained and competent American Speech and Hearing Association (ASHA, 2009).
- Speech and language therapy services need to engage in continuous appraisal of service provision and quality via clinical audit or research e.g. auditing unmet need.
- Speech and language therapy services for people with critical care needs should be provided within an integrated multidisciplinary context to ensure the philosophy and goals of intervention are shared and consistent.
- Communication and swallowing are the responsibility of the whole team – the role of the SLT is to empower and educate others as well as providing direct specialist input.

## 2. INTRODUCTION

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"The roles of health professionals who work in the field of critical care are often overlooked, underestimated and under resourced. Key professions in the critical care setting include ...speech and language therapy" (Quality Critical Care, 2005). The NIHCE CG 83 (2009) states: "Rehabilitation for general critical care adult patients should be delivered by appropriate members of a multidisciplinary team (for example... therapists)". The Royal College of Speech and Language Therapists (RCSLT) supports these reports and believes that any person with critical care needs with communication or swallowing difficulties has a right to access a professional with expertise in these areas. Research has shown that there is a risk of undiagnosed dysphagia in the critical care population (Macht, 2011). Therefore there is a need for speech and language therapy intervention as part of a multidisciplinary team (MDT) approach to manage this risk to improve patient outcomes. SLTs, through their role in some MDT environments, may enhance patient outcomes although more research is needed to determine the specific effects of speech and language therapy (Speed and Harding, 2012).

Despite the original RCSLT critical care position paper being written in 2006, the current situation of speech and language therapy provision for people with critical care needs in the UK is inequitable, with the majority of services not specifically funded for this client group (Ward et al, 2012).

This position paper highlights the speech and language therapy provision that should be available to ensure equity of access for people with critical care needs, and the key role that SLTs should have within critical care teams. These speech and language therapy services should be adequately planned and resourced, based on local demography and user need and the required speech and language therapy skill mix.

This paper is intended to advise and generate discussion between commissioners and service providers regarding the provision of speech and language therapy services that meet the requirements of people with critical care needs, their families, carers and other professionals in line with national policies across the UK.

Communication and swallowing difficulties cause considerable distress in critically ill people. The following are quotes from service users:

*"The worst ... part of my stay in intensive care was having no ability to communicate ... and what did that mean? It meant no say in my care, no choices, no questions, no ability to reach out and no ability to be reached..."*

**Adult, South London**

*"It was such a huge step forward when he could start to eat again. It was the first time he smiled since before his heart operation."*

**Wife of person in critical care, South Manchester**

### 3. OBJECTIVE OF GUIDELINE

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People with critical care needs who have difficulty with communication and/or swallowing require access to an early, timely, responsive, appropriately skilled speech and language therapy service to maximise their choice, participation, safety and wellbeing.

The purpose of this document is to provide SLTs with the most up to date evidence to support the provision of speech and language therapy services in critical care in order to improve patient outcomes.

### 4. DEFINITION

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This position statement refers to people who are in hospital and who have critical care needs. Critical care refers to the level of care given to a group of people who are deemed to be critically ill. Many people who are critically ill have requirements for support for their neurological, medical, respiratory and digestive systems, all of which can impact on their ability to communicate and swallow independently.

The classification system set up by Comprehensive Critical Care was revised by the Intensive Care Society in 2009 and provides a helpful framework as follows:

#### Level 0

Requires hospitalisation  
Needs can be met through normal ward care

#### Level 1

Patients recently discharged from a higher level of care  
Patients in need of additional monitoring/clinical interventions, clinical input or advice  
Patients requiring critical care outreach service support

#### Level 2

Patients needing pre-operative optimisation  
Patients needing extended postoperative care  
Patients stepping down to Level 2 care from Level 3  
Patients receiving single organ support  
Basic respiratory support [ $>50\%$  FiO<sub>2</sub>]  
Basic cardiovascular support  
Renal, Neurological, Dermatological or Hepatic support singly

#### Level 3

Patients receiving advanced respiratory support alone or a minimum of two organs supported  
Patients receiving advanced cardiovascular support

Technologies to prolong life/enable clinical management of people who are critically ill may include mechanical ventilation (invasive or non-invasive), tracheostomy tubes, nasogastric tubes and endotracheal airways. The presence of these can also impact on communication and oropharyngeal swallowing abilities.

## 5. AETIOLOGY

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While the focus of critical care is on levels of care rather than location, some patients require care in specialist ICUs such as neuroscience, cardiothoracic or burns. Many of these patients will require speech and language therapy input due to specific conditions which increase their risk of swallowing and communication problems. Patients exhibit a range of aetiologies (neurogenic or structural, e.g. unilateral vocal fold palsy following thoracic surgery or inhalation burns to the larynx). These patients often have complex swallowing and communication difficulties of multiple aetiologies. More generally, critical care patients are at risk of swallowing and communication problems as a result of muscle weakness, prolonged intubation and procedures such as tracheostomy (NIHCE CG 83).

Some patients may also have difficulty in swallowing and communication as a result of muscle weakness, prolonged intubation or procedures such as tracheostomy. The prevalence of swallowing dysfunction after extubation has been reported in between 20% and 83% of patients intubated for longer than 48 hours (Leder et al, 1998; Tolep et al, 1996; Skoretz et al, 2010; Heffner 2010, NIHCE CG 83).

There are three main causes of communication and/or oropharyngeal swallowing disorders in critical care patients:

- Organic communication or oropharyngeal swallowing disorders, such as those caused by stroke, major trauma, head injury, Guillian Barre syndrome, post-surgery to the oral cavity/pharynx or larynx, chronic obstructive pulmonary disorder (Martin-Harris-B 2001), Adult Respiratory Distress Syndrome (ARDS), spinal cord injury, tumours, etc.
- Concomitant communication or oropharyngeal swallowing disorders, such as the effects of critical care neuropathy (due to disuse atrophy of striated muscle) or the effects of technologies to prolong life/enable clinical management of the illness such as mechanical ventilation, tracheostomy tubes, nasogastric tubes and naso-pharyngeal airways (Conlan and Kopec 2000; Pannunzio 1996).
- Psychogenic communication or oropharyngeal swallowing disorders, such as those resulting from critical care psychosis, delirium or clinical depression.

In addition, within the ICU environment an undervaluing of communication can occur due to the level of arousal and medications (Hemsley et al, 2001). Mechanically-ventilated people report high levels of frustration when communicating their needs (Patak et al, 2004).

## 6. DEMOGRAPHICS

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Approximately 18.5% of hospitalised people require treatment in a critical care environment (Level 1-3) (North West London Critical Care network critical illness audit, 2003). Recent data presented at the 2011 UK Intensive Care Society Conference reported a current provision of 3,747 critical care beds across 156 ICUs with admissions increasing year on year. In 1996 there were 85,000 admissions rising to 120,000 in the year 2000, and 201,000 in 2009. Importantly, admission of 80+ year olds has doubled between 1996 and 2009, to 1,700. This is due to a combination of factors such as people living longer, improvements in healthcare technologies and raised expectations of survival.

Tracheostomies are also increasingly commonplace. Recent work undertaken in the North West of England (McGrath, National Tracheostomy Safety Project 2013) extrapolating from HES statistics, has estimated approximately 15,000 percutaneous tracheostomies are managed in England's critical care units annually. The implications of this, along with the growing critical care population, are an increasing demand for speech and language therapy in order to meet swallowing and communication needs.

The literature reports a high range (50-76%) of aspiration in the critical care population (Elpern et al, 1987; DeVita and Spierer-Rundback, 1990; Elpern et al 1994; Tolep et al, 1996; Leder, 2002; Gross et al, 2003; Toniolo and Soneghet, 2007; Barker et al, 2008; Hafner et al, 2008). The prevalence of swallowing dysfunction after extubation has been reported in between 20-83% of patients intubated for longer than 48 hours (Leder et al, 1998; Tolep et al, 1996). In particular, aspiration can frequently be seen in people requiring prolonged ventilation of three or more weeks (Elpern et al, 1994; Tolep et al, 1996; Leder, 2002). Long duration of mechanical ventilation was independently associated with postextubation dysphagia and the development of postextubation dysphagia has been independently associated with poor patient outcomes (Macht, 2011). There is a greater impact of aspiration in this vulnerable group, e.g. reduced mobility, reduced arousal, possible reduced awareness or cognitive impairment.

However, there have been numerous difficulties in trying to establish the true prevalence and incidence of aspiration in the mechanically-ventilated population. The main reason for this is that aspiration is identified in different ways in different studies. Some studies employ bedside assessments (Elpern et al, 1987) and others use instrumental techniques (Leder, 2002; Gross et al, 2003). In the studies that have employed instrumental techniques it is reported that aspiration can be "silent" or covert. This questions the veracity of those studies that have relied on overt aspiration detection; indeed, the true incidence of aspiration could be higher than is reported.

The prevalence of communication difficulties in this population is reported to be between 16-24% (Thomas and Rodriguez, 2011). The inability to speak and the associated communication difficulties that result are a major source of stress for people who are or have been intubated (Menzel, 1998).

Cognitive impairment (which could include critical care psychosis) may impact on patients' awareness of dysphagia and impact on functional recovery as patients are unable to modify their behaviour to reduce risks (Parker et al, 2004).

## 7. PHILOSOPHY OF CARE

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NIHCE CG 83 emphasises patient-centred care which takes "into account patients' individual needs ... to allow patients to reach informed decisions about their care".

Many people who are critically ill have full decision-making capacity and should have access to the same level of services and choices offered to less critically-ill people in hospital. People who are critically ill have the right to maintain optimal use of their current communication and swallowing functions. Patients who do not have full decision-making capacity additionally have the right to have communication skills supported to optimise their capacity and the right to access 'Best Interest' processes in the informed absence of capacity.

Speech and language therapists have the specialist skills to assess an individual's capacity to communicate and understand information and to facilitate optimal communication. The SLT is the person best qualified to advise on the most effective means of presenting information and choices to the person in critical care with a significant communication disorder. This facilitates the person's participation in their own care and decision-making process by maximising opportunity to exert free choice. This is a particularly important role for SLTs in relation to current legislation such as the Adults with Incapacity Act 2000 (Scotland), the Mental Capacity Act 2005 (England and Wales), and the Human Rights Act 1998.

The critical care context itself indicates the need for a flexible approach to service delivery, which reflects the limited windows of opportunity for speech and language therapy intervention. The intensity of the environment lends itself to a model of care, which can be labour intensive and requires extensive multi-disciplinary collaboration.

## 8. NATIONAL CONTEXT

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The specific value of speech and language therapy within the critical care setting has been highlighted in a number of national documents. The latest policy documents which relate to the provision of critical care services across the UK can be found in the link on the RCSLT website ([www.rcslt.org](http://www.rcslt.org)).

The NIHCE CG 83 states that: "Rehabilitation for general critical care adult patients should be delivered by appropriate members of a multidisciplinary team (for example ... therapists)".

In November 2010, a number of professional bodies (including Intensive Care Society (ICS), National Patient Safety Agency (NPSA), Difficult Airway Society, ENT UK, and RCSLT) endorsed the "National Tracheostomy Safety Project" which

produced an information resource for the safer management of patients with tracheostomies and laryngectomies ([www.tracheostomy.org.uk](http://www.tracheostomy.org.uk)). This document states the need for a speech and language therapy assessment for patients who cannot swallow safely.

Currently, there is no agreed national guidance regarding the minimum staffing levels for speech and language therapy services in ICUs. It is acknowledged that this issue needs addressing and requires both a benchmarking exercise to establish current speech and language therapy ICU services and development of subsequent guidelines on best practice staffing levels. Consequently, the gap between the current and desired service levels remains unclear but it is recognised that local variation exists and is dependent upon the available resources and skills, recognition of the speech and language therapy role and type of ICU.

## **9. THE ROLE OF THE SPEECH AND LANGUAGE THERAPIST**

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Speech and language therapists have clinical expertise in the areas of assessment and management of communication and swallowing difficulties, whether they arise due to the nature of the underlying medical conditions, due to concomitant conditions, or due to the presence of equipment/technologies to support life. They are therefore integral to the critical care MDT and provide specialist knowledge and skills, which all people with complex communication or swallowing difficulties should be entitled to access (Baumgartner, 2008; Braine and Sweby, 2006; Batty, 2009).

The role of the SLT in critical care is to work as an integral part of the MDT to:

- Use specialist skills to inform differential diagnosis regarding the nature and cause of communication and swallowing difficulties, including higher level cognitive-linguistic difficulties/cognitive difficulties and disorders of consciousness.
- Carry out specialised instrumental methods of assessment for swallowing difficulties such as fiberoptic endoscopic evaluation of swallowing (FEES) and videofluoroscopy, where appropriate.
- Provide specific communication and swallowing rehabilitation, goals, programmes, equipment and advice to optimise and maintain function, in liaison with the MDT.
- Reduce the impact of the communication and/or swallowing difficulty “throughout the person’s journey from the hospital stay and into primary care” (Quality Critical Care Beyond “Comprehensive Critical Care”, 2005), by providing support, education, advice and advocacy to the person, carers and MDT.
- Provide training to the MDT and carers regarding communication and swallowing difficulties, such as screening and managing non-complex difficulties.

- Assess and manage swallowing and communication in ventilator-dependent and tracheostomised patients, contributing to the MDT assessment of weaning and ability to safely swallow oropharyngeal secretions.
- Identify communication and swallowing difficulties that may impact on the patient's ability to function in their normal environment, and support appropriate discharge destination planning and referral to rehabilitation, should this be required (including patients with higher level cognitive communication difficulties).
- Carry out clinical audit and engage in collaborative research (e.g. user experience) and evaluate outcomes of therapy.

Speech and language therapists should understand and work within the specific demands of the different environments. They will be influenced by facilities and resources available, client needs, speciality skills of other team members, local policies and procedures. Speech and language therapists with specialist skills working within the field also have a role to provide training and support to other SLTs who are developing skills or services to critically ill people.

## **10. THE BENEFITS OF PROVIDING A SPEECH AND LANGUAGE THERAPY SERVICE**

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### **10.1 Communication**

Speech and language therapists can facilitate a person's participation, choice and satisfaction with treatment and recovery within the critical care setting by providing:

- Early identification, differential diagnosis and expected trajectory of communication difficulties, caused by or co-existing with the use of tracheostomy or mechanical ventilation.
- Specialist, individualised treatment/advice/strategies for the person to maximise communication ability, including interventions to increase patient engagement, choice and user experience (including use of cuff deflation, speaking valves, capping off, and specialist tubes to facilitate communication in the presence of a tracheostomy tube).
- Specialist advice/strategies to family members and MDT staff to minimise communication difficulties between the person and others.
- Facilitation of capacity assessments.
- Screening assessment of laryngeal injuries, dysphonia and concomitant conditions that may require further referral for clinical specialist upper airway investigations (e.g. ENT assessment or videostroboscopy).
- Alternative communication devices (both low and high tech) where appropriate, to facilitate/augment communication.

Speech and language therapists have specialist skills in developing communication with even the most severely-impaired people. They can offer assessments in communication with low and high tech aids, communication with ventilator adaptations (Tippett and Siebens, 1991; Hoit and Banzett, 1997), speaking valve/tube assessments (including Passy Muir) and modification of environment and switch controls for people with very limited dexterity. Speech and language therapists can contribute to the team's management of the ongoing and changing needs of these people (Grossbach et al, 2011).

They have specialist skills in assessing comprehension of language and language-based, higher-level cognitive communication skills, both of which are crucial components in ascertaining a person's capacity to engage in consent discussions regarding their treatment and complex ethical decisions. They are also skilled in facilitation of communication to enable people to participate in consent discussions. This role is clearly delineated in the Adults with Incapacity Act 2000 (Scotland) (Code of Practice 2002), which states: "A number of defining characteristics of incapacity clearly relate to communication skills, such as comprehension and expressive skills. Although many health and social care professionals have an awareness and training in human communication, clinical psychologists and speech and language therapists have a specialist knowledge and expertise. Where doubt exists, available expertise should be called upon to help medical practitioners and others who may require assistance in assessing a person's capacity."

By providing timely, ongoing assessment and intervention, and providing effective communication strategies and/or aids, there may be a reduction in the negative emotional responses (such as fear, anxiety, frustration) and an improvement in the psychological wellbeing of the person, family and staff (Manzano et al, 1993; Dikeman and Kazandjian, 2003).

By restoring or facilitating communication the person may participate more readily in treatment and provide valuable feedback on clinical issues, such as work of breathing, which can often be the clinician's greatest diagnostic tool (Isaki and Hoit, 1997; Spremulli, 2005).

## **10.2 Swallowing disorders (dysphagia)**

It is well documented and recognised that prompt intervention in the management of dysphagia can prevent costly and life-threatening complications, such as aspiration pneumonia (Barquist and Leder, 2002). Odderson (1995) showed that the incidence of aspiration pneumonia due to dysphagia could be reduced from 6.7% to 0% through effective management.

Speech and language therapists can minimise preventable secondary respiratory and nutritional complications of swallowing difficulties, which arise from or co-exist with use of tracheostomy/ventilator, by providing:

- Specialist evaluation of swallow function, which may include instrumental assessment using FEES or videofluoroscopy (McGowan et al 2007; Hales et al 2008; Intensive Care Society Standards 4.7 2008).

- Information to the MDT on early identification of dysphagia and swallowing status, aetiology and prognosis, enabling informed decision-making regarding tracheostomy/ventilator weaning and commencement and timing of oral intake and including postural advice for optimal swallowing function, the consistency of food, fluid and medication and methods of alternative feeding.
- Specialist advice and assessment in situations where the patient is non-compliant, risk managed/palliatively managed.
- Specialist individualised treatment, advice and strategies to maximise and rehabilitate swallowing abilities, including interventions to promote quality of life and psychological wellbeing (Segaran, 2006).
- Specialist advice on strategies for management of oral hygiene and oral secretions where people are dysphagic and/or where there is a requirement for oral desensitisation, e.g. the management of bite reflex. This may include early intervention to reduce the occurrence of complications, such as hypersensitivity, at a later stage and may include sensory integration approaches such as Facial Oral Tract Therapy (F.O.T.T.™) (Gilmore et al, 2003). Also stimulation of both sensory and motor components of the cerebral swallowing system (Lowell et al, 2008).
- Specialist weaning interventions which may reduce the time taken to wean from the tracheostomy/ventilator and may potentially reduce the length of stay in critical care and possible complications of long-term trache (Thompson and Ward et al, 1999; ICS standards 7.1 2008).

## 11. THE RISKS OF NOT PROVIDING A SPEECH AND LANGUAGE THERAPY SERVICE

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### 11.1 Communication disorders

**11.1.1 Clinical risk:** Frustration of critically ill person and staff with ineffective means of communication.

Establishing communication for critically ill people is largely overlooked in most critical care settings. At best, units may provide communication boards or rely upon attempting to lip read. Both of these options can be time consuming and frustrating, leading to significant fatigue for the already-fatigued person (Albarran, 1991). Loss of speech whilst a tracheostomy is in place could cause great distress to the patient even if the patient is warned beforehand (National Tracheotomy Safety Project 2013). Nurses often report feeling frustrated and incompetent when they are unable to understand and meet people's needs (Bergbom-Engberg and Haljamae, 1989).

**11.1.2 Clinical risk:** Inability to communicate effectively regarding clinical needs, such as pain or to convey consent or opinions regarding treatment and hospital management.

Many people in ICU describe feelings of disempowerment and social isolation due to their inability to communicate effectively and because they are unable to express how they feel (Hemsley et al, 2001). Studies that look at the impact of having communication difficulties in a critical care environment report that "anxiety, fear, insecurity and inability to sleep are all associated with being unable to speak" (Menzel, 1994). A study by Bergbom-Engberg et al (1989) involving 158 people who had been treated with a respirator found that inability to talk and communicate was the dominant reason for anxiety and/or fear during their treatment. It is assumed that communication problems only affect the person during the intubation period. However, there is evidence that, even after discharge from hospital, the psychological wellbeing of many people is affected. This often relates to communication difficulties experienced during their stay in critical care (Hemsley, 2001).

**11.1.3 Clinical risk:** Increased length of stay in intensive care beds due to inability to participate in goal setting, clinical treatment and end of life decisions.

Numerous studies have explored the length of stay in intensive care beds related to lack of participation in goal setting, clinical treatment and end of life decisions. Poor communication between the person who is critically ill and the physician, difficulties ascertaining the person's capacity for informed consent and a failure to understand their preferences were seen to contribute to length of stay in intensive care settings, particularly for those receiving longer-term interventions (Dowdy et al, 1998). Teno et al (2000) reported that "among patients who spent 14 or more days on an ICU, a substantial majority had not talked with their physicians about their preferences or prognoses". Lilly et al (2000) reported that "more than 50% of patient days were spent providing advanced supportive technology for patients that did not survive". Increased communication with people about their values and preferences particularly related to end-of-life decisions were positively correlated with reduced length of stay (due to pro-active decisions regarding acceptance of palliative care) within the critical care environment (Dowdy et al, 1998). Hemsley et al (2001) state that "having severe communication impairment could affect the length of stay for a patient as negative mood would impact on the patient's recovery or reduce the patient's ability to participate effectively in therapy".

**11.1.4 Clinical risk:** Undiagnosed laryngeal injuries and concomitant voice disorders.

Lundy et al (1998) described a range of laryngeal injuries frequently resulting in communication disorders following decannulation from both short- and long-term endotracheal intubation. Positive correlations were also made between laryngeal injuries and the presence of a nasogastric tube; however, it was unclear if this was purely related to the presence of the tube or that people requiring enteral feeding were generally intubated longer term.

**11.1.5 Clinical risk:** Compromised psychosocial wellbeing.

**11.1.6 Clinical risk:** Lack of reliable outcome measures.

Menzel (1997 and 1998) demonstrated that self-esteem of people in an ICU who were unable to speak was significantly associated with the person's emotional responses. Lack of communication can have a significant impact on psychosocial and emotional wellbeing of the person and affect reliable measurement of outcomes. These types of measures, especially those looking at psychosocial factors, tend to be verbally dependant. If the person is unable to communicate, results will be skewed.

## **11.2 Swallowing disorders (dysphagia)**

**11.2.1 Clinical risk:** Aspiration pneumonia, including increased length of stay.

It is recognised that if the complex interrelationship between eating, swallowing and breathing is disrupted by the presence of assistive ventilatory technologies, then impairment in swallowing can result (Nishino et al, 1989; Dikeman and Kazandjian 2003). Speech and language therapists can help to manage these difficulties by providing specialist skills in the assessment, diagnosis and management of the dysphagia. It is well documented and recognised that prompt intervention in the management of dysphagia can prevent costly and life threatening complications such as aspiration pneumonia. "Aspiration is the leading cause of pneumonia in the ICU and contributes significantly to the overall morbidity and mortality of the critically ill patient" (McClave et al 2002). This complication can cause significantly longer hospital stays, thus increasing the cost of care (Carter-Young et al, 1990; Romero et al, 2010). Odderson (1995) stated that people with aspiration pneumonia stayed in hospital on average 5.5 days longer.

**11.2.2 Clinical risk:** Compromised nutrition and hydration.

In Nutrition Support Guidance developed by the National Institute for Health and Clinical Excellence (2006), malnutrition has been linked to impaired wound healing, reduced muscle strength and fatigue, poor cough pressure, predisposing to and delaying recovery from chest infections and increased length of hospital stay: "In critically ill patients, malnutrition is associated with impaired immune function, impaired ventilatory drive and weakened respiratory muscles, leading to prolonged ventilatory dependence and increased infectious morbidity and mortality". Malnutrition is prevalent in people on ICUs and has been reported as being as high as 40% (Heyland et al, 2003). Comparative studies of critically ill people have indicated that "there is a significant reduction in infectious complications" if nutrition is delivered via the gut (enteral nutrition) (Heyland et al, 2003). However, "aspiration is the most serious side effect of enteral tube feeding ... and has been shown to have a frequency of 40% in patients receiving enteral tube feeding" (McClave et al, 2002).

**11.2.3 Clinical risk:** Disuse atrophy.

Evidence indicates that between 20% and 83% of patients who have prolonged intubation with an endotracheal or a tracheostomy tube have swallowing disorders, predisposing them to aspiration (Leder et al, 1998; Tolep et al, 1996; Skoretz et al, 2010; Heffner, 2010). These swallowing deficits may be secondary

to disuse muscle atrophy as reduced swallow frequency and reliance on non-oral feeding result in less activation of the swallowing muscles, resulting in a weak and uncoordinated swallow response (DeVita and Spierer-Rundback, 1990; Burkhead, Sapienza and Rosenbek, 2007). Dikeman and Kazandjian (2003) also document how decreased base of tongue movement may occur as a result of continuous pressure by the endotracheal tube placed for mechanical ventilation. This effect begins on day one of intubation and impacts on swallowing (de Larminat et al, 1995). The tongue may become deconditioned but this may be amenable to indirect therapy e.g. oromotor exercises. In addition, people who are ventilator-dependent and tracheostomised may develop dysphagia as a result of disuse atrophy and desensitisation and these effects accumulate over time (Davis and Thompson Stanton, 2004). Speech and language therapists have a vital role in assisting with the recognition, assessment and rehabilitation of these problems.

#### **11.2.4 Clinical risk:** Prevention of weaning.

Factors preventing weaning from mechanical ventilation and artificial airway include determining if the person has an inadequate cough and swallow and if they are systemically unwell e.g. due to pulmonary infection (Intensive Care Society Weaning Guideline). Aspiration pneumonia therefore impacts on ventilator status and may physically debilitate a person interrupting the weaning process (Dikeman and Kazandjian 2003). Delayed weaning, as a result of inadequate swallowing and risk of aspiration, is a common problem and is also associated with increased mortality and cost implications (Sheerson 1997). By assessing swallowing, SLTs can advise on ways to minimise the risks of aspiration and contribute to the effective weaning process.

#### **11.2.5 Clinical risk:** Identification of complications of intubation.

There is controversy in the literature in the last 30 years as to the real effect of a tracheostomy and endotracheal tube on laryngeal protective mechanisms and laryngeal injuries, which may cause or contribute to dysphagia and aspiration. More recently, dysphagia is primarily thought to originate from the patient's medical diagnosis, with the presence of a tube possibly having a contributory rather than causative effect. (Buckwater et al, 1984; Larminat et al, 1995; Sasaki et al, 1977; Shaker et al, 1995; Leder and Ross, 2009). Endotracheal intubation has also been closely linked with the presence of dysphagia and aspiration particularly in the immediate post extubation period (Ajemian et al, 2001; Barquist et al, 2001; Leder et al, 2002; Solh et al, 2003; Skortez et al, 2010). Sohl (2003) reported aspiration in 52% of elderly critically-ill patients post extubation with delayed resolution of swallowing impairment and recommended consideration of FEES for those with impaired preadmission functional status.

Speech and language therapists contribute to the assessment of swallow parameters which guide the contributory/causative decision and impact of these on patient management.

## 12. MEDICO-LEGAL ISSUES

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It is not within the scope of this document to discuss at length the medico-legal issues associated with professional practice. The reader is directed to the following documents covering this area:

- Communicating Quality 3 (2006)
- Health and Care Professions Council (HCPC): Managing fitness to practise (2006)
- HCPC: Continuing fitness to practise (2008)
- White paper 'Trust, assurance and safety – The regulation of Health Professionals in the 21<sup>st</sup> Century, 2007
- Department of Health, Practitioners with Special Interests 2003

However, as in all professional areas, the individual SLT's right to practise in the area of critical care is governed by the regulations of the HCPC. The role of the HCPC is "to safeguard the health and wellbeing of people who use the services of the professionals registered with them. The HCPC maintains a register of health professionals who meet the standards for training, professional skills, behaviour and health." (Your guide to our standards for CPD, HCPC May 2006). Adherence to the HCPC's codes of practice is the professional responsibility of the individual therapist.

"When an AHP is employed by an NHS organisation, that organisation has vicarious liability for the AHP's actions. This is in addition to the AHP's professional accountability to the HCPC" (Department of Health, Practitioners with Special Interests).

The RCSLT is the professional body for SLTs. It "provides leadership so that issues concerning the profession are reflected in public policy and people with communication, eating, drinking or swallowing difficulties receive optimum care" (Communicating Quality 3: 4.1.1).

It is the responsibility of the individual SLT "to provide evidence-based services that anticipate and respond to the needs of individuals who experience speech, language, communication or swallowing difficulties" (Communicating Quality 3: 1.1).

Additionally, "RCSLT provides an insurance policy that indemnifies all its practising members in the UK, Channel Islands and the Isle of Man. This covers proven liability arising from alleged professional negligence, breach of professional conduct and damage to property" (Communicating Quality 3: 4.1.4).

### 13. WORKFORCE DEVELOPMENT AND PLANNING

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The appropriate speech and language therapy skill mix must be provided and reviewed to meet the needs of people receiving care for critical illness regardless of the setting. However, it is not currently possible to recommend a notional caseload figure at an individual or service level. This is due to difficulties in establishing accurate prevalence and incidence data and regional variation in critical care service structure (see section 6).

The configuration of the speech and language therapy service will be different depending on the skill mix, local environment, health economy, staffing, resources and levels of expertise. One model of provision of care is where the skill mix exists across the speech and language therapy service, since many skills are transferable from one area of current clinical practice to another e.g. communication aid assessments, bedside swallowing assessment, voice management. Another model could be where highly-specialised clinicians provide speech and language therapy services. Clinical and or service leaders should carry out regular appraisal of skill mix in order to address fluctuations and changes in service needs. It is recommended that a systematic review of service planning and succession planning be regularly undertaken.

It is the responsibility of the SLT with expertise in critical care to share knowledge and expertise with speech and language therapy colleagues within the service and throughout local/regional networks/hubs e.g. RCSLT e-group, Clinical Excellence Networks, Journal Clubs, Allied Health Professional (AHP) networks, mentoring, critical care networks, clinical supervision, RCSLT advisors.

It is recommended that SLTs routinely collaborate with other disciplines on training, development, audit and research, such as respiratory physiotherapists, critical care nurses, and anaesthetists.

There should be local discussion and negotiation regarding multidisciplinary role boundaries and associated competencies e.g. suctioning, initial cuff deflation assessment, provision of low tech augmentative and alternative communication and screening of communication/swallowing disorders.

The RCSLT critical care working group has developed a Knowledge and Skills Framework (KSF) to act as a guide for clinical/technical skill development for SLTs developing skills in tracheostomy and critical care (these are available to RCSLT members through the RCSLT website). The KSF competency document is designed to elaborate only clinical skills that are specific to critical care and therefore does not encompass more generic skills that may be incorporated in an individual clinician's KSF outline. Therefore, this document is designed to have relevant sub-sections incorporated into individuals overall KSF framework. It is recommended that managers consider using the framework to develop KSF outlines for a range of clinical staff grades from SLT assistant and newly qualified therapists to principal therapists to ensure SLTs are appropriately trained and competent (ASHA 2009).

## 14. FURTHER INFORMATION

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This document complements several other publications, which are outlined below:

**Clinical Guidelines (2003).** The guidelines contain recommendations that are explicit statements providing specific clinical guidance on the assessment and management of each clinical area. Each recommendation is supported by evidence from the literature or is based upon the consensus of clinical experts.

**Communicating Quality 3 (2006).** Standards and guidelines that represent the benchmarks of speech and language therapy practice and provide criteria against which compliance can be judged.

**RCSLT Workforce Project (2006).** Describes how SLTs work and how they are key to delivering priorities in service delivery, such as reducing waiting times and achieving health targets in the current NHS environment: [www.rcslt.org](http://www.rcslt.org)

**Kelly AM, Hydes K, McLaughlin C and Wallace S. (2007) Fiberoptic endoscopic evaluation of swallowing (FEES):** The role of speech and language therapy. RCSLT Policy Statement

**Position paper on videofluoroscopy (RCSLT 2006)** Currently under revision.

**Guidelines for the development of local standards of oral health care for dependent, dysphagic, critically and terminally ill patients. (2000)** British Society for Disability & Oral Health: <http://www.bsdh.org.uk/>

**Department of Health. Practitioners with Special Interests. November 2003** Implementing a scheme for Allied Health Professionals with Special Interests. London: <http://www.dh.gov.uk/assetRoot/04/06/16/11/04061611.pdf>

**HPC: Managing fitness to practise. HCPC February 2006:** <http://www.hpc-uk.org/assets/documents/10001344Managingfitnesstopractise.pdf>

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## **17. ACKNOWLEDGEMENTS**

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This final document is the result of extensive consultation within and beyond the SLT profession. The authors would like to acknowledge the contribution of Tracheostomy Clinical Excellence Network (Specific Interest Group) and RCSLT Dysphagia Advisors in commenting on the draft versions of this document.