



# Position paper on the use of thickened fluids in the management of people with swallowing difficulties

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2 White Hart Yard, London SE1 1NX

020 7378 1200 [www.rcslt.org](http://www.rcslt.org)

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**This position paper is endorsed by:**



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## Summary

- Thickened fluids are a well-known tool used in the management of eating, drinking and swallowing problems (dysphagia).
- Thickened fluids can reduce the risk of laryngeal penetration and aspiration.
- Some patients might prefer thickened fluids as they can improve oral control, fluid intake, or reduce distressing or unacceptable coughing when drinking.
- The overall evidence to date is unable to conclude definitively that thickened fluids can prevent or reduce dysphagia-related complications like aspiration pneumonia, dehydration or death, or that they can improve quality of life.
- Thickened fluids can lead to thirst, dehydration, reduced quality of life, impaired bioavailability of certain medications, altered bowel habits and increased risk of respiratory tract infections if aspirated.
- Studies reporting patients' views generally indicate a preference against thickened fluids.
- The uncertainty created by the evidence does not mean that the practice should be abandoned. Decisions about thickened fluids should be carefully considered after comprehensive assessment and informed consent.
- In the event that a patient uses thickened fluids, a trial and ongoing review will allow for monitoring of any potential adverse effects and ascertain whether continued use is necessary.
- Rather than being used as a blanket approach or go-to treatment, thickened fluids are better considered as one of a number of dysphagia management tools.

## Background

### Terminology

**Aspiration:** In this paper, the term 'aspiration' refers to the entry of foreign materials such as food, fluids, stomach contents, saliva and airborne particles below the level of the vocal folds and into the lungs.

**Aspiration pneumonia:** There are many different and overlapping definitions of aspiration pneumonia in the literature due to the lack of standard definition or diagnostic criteria ([Ferguson et al, 2018](#)). For this position paper, we refer to aspiration pneumonia as a lower respiratory tract infection caused by aspiration of material from the stomach (e.g. reflux, vomit) or the oropharynx (e.g. saliva, food or fluid) ([Niederman and Cilloniz, 2022](#)).

**Aspiration pneumonitis:** Acute chemical injury to the lungs, caused by the inhalation of refluxed, typically sterile gastric contents ([Son et al, 2017](#)).

**Dysphagia:** In this paper we use the term 'dysphagia' to refer to eating, drinking and swallowing problems caused by impaired structure or function of the oropharynx, otherwise described as 'oropharyngeal dysphagia'. Oesophageal dysphagia is out of the scope of this paper.

**Thickened fluids:** For consistency, we use the term 'thickened fluids' to refer to any naturally occurring thick fluids intended for oral consumption, or any liquids including infant formula, breast milk and supplements intended for oral consumption that are thickened by adding either commercial or natural thickening agents for the clinical purposes of assessing, treating, or managing dysphagia.

**Patient:** There are various terms used to describe people who are recipients of dysphagia services, including 'patient', 'service user' and 'client'. In this paper we use the term 'patient' to refer to a person of any age who experiences dysphagia.

## Scope and objective of the position paper

The aim of this position paper is to support clinicians' awareness of and reflection on the best available evidence on the use of thickened fluids in the assessment, treatment, and management of dysphagia, to enable informed decision-making and support the application of evidence-based practice (EBP) principles. Within the UK, speech and language therapists (SLTs) are recognised as the professionals most likely to lead on the assessment and management of dysphagia. Other dysphagia clinicians and those generally supporting people with dysphagia may also find it useful to refer to this position paper.

This position paper and its preceding position statement ([RCSLT, March 2023](#)) were developed in response to RCSLT members requesting guidance on the use of thickened fluids in the management of dysphagia. It is not within the remit of this paper to advise SLTs about when or whether they should or should not use thickened fluids in specific clinical populations, or about alternative dysphagia management methods. Please see [appendix 1](#) for full information on the position paper development process. SLTs are autonomous practitioners who are required to implement a set of professional standards in order to join and remain on the Health and Care Professions Council (HCPC) Register. These standards include being able to:

“1.3 keep their skills and knowledge up to date and understand the importance of continuing professional development throughout their career;

12.2 demonstrate awareness of the principles and applications of scientific enquiry, including the evaluation of treatment efficacy and the research process;

13.10 critically evaluate research and other evidence to inform their own practice;

13.1 change their practice as needed to take account of new developments, technologies and changing contexts” ([HCPC, 2023, pp. 6-16](#)).

## Applicability to clinical populations

As with all interventions, research evidence cannot be extrapolated to all clinical populations in all environments. There are fewer studies in the use of thickened fluids with children and specific populations like individuals with a learning (intellectual) disability than there are in adult populations in hospital settings. This does not necessarily preclude consideration of these populations when evaluating the literature. Evidence-based practice relies on critically appraising and subsequently integrating the best available evidence with the experience of clinicians and patients in different settings and measuring the impact of conditions and interventions on patients' lives.

## Process

**Scoping the evidence:** This position paper does not aim to provide a systematic review of the literature. The most updated systematic reviews of the evidence for the use of thickened fluids in adults are in [Werden Abrams et al, 2023a](#), [Hansen et al, 2022](#) and [Beck et al, 2018](#); and in children in [Gosa et al, 2011](#).

**Writing:** All drafts and the final position paper were written by the three lead authors following extensive collaboration with the expert working group of SLT clinicians, researchers and non-SLT specialists.

**Consultation:** The RCSLT facilitated the consultation process of the second and third drafts with the project reference group of SLT experts as well as the RCSLT membership, RCSLT clinical advisers and applicable RCSLT Clinical Excellence Networks (CENs), academics and researchers, industry and service user organisations and consultants, physicians and other multidisciplinary team (MDT) colleagues working within the field of dysphagia. Comments and suggestions for amendments were considered and inclusion/rejection responses were agreed, explained and documented by the lead authors in order to shape the final version of this paper.

See [appendix 1](#) for further information on the position paper development process.

## Introduction

Dysphagia is known to negatively, and sometimes profoundly, impact health and quality of life. Complications of dysphagia include increased risk of dehydration, malnutrition, reduced oral intake, social isolation, prolonged hospital stays and associated costs, airway obstruction, aspiration, aspiration pneumonia, lung changes and mortality and morbidity ([Palmer and Padilla, 2022](#); [Beck et al, 2018](#)).

The long-standing practice of using commercially thickened or naturally thick fluids is among the most common tools in the management of dysphagia. Thick fluids flow more slowly in the mouth and can alter swallow physiology and reduce aspiration ([Peña-Chávez 2023](#); [Bolivar-Prados et al, 2019](#); [Steele et al, 2015a](#); [2015b](#)). Thickened fluids are also considered to have a role in reducing cough-related distress and aspiration-related complications such as respiratory infections, and in improving hydration, oral motor control, medication administration and quality of life ([McCurtin et al, 2020a](#); [Cichero, 2019](#)). However, there is a paucity of high quality evidence supporting these potential benefits and thickened fluids are becoming increasingly scrutinised for their potential adverse effects and lack of evidence-based guidelines ([Steele et al, 2021](#); [McCurtin et al, 2020b](#); [Dion et al, 2015](#)).

## Thickened fluids and aspiration

It is important to understand the role of thickened fluids in the management of aspiration, as concerns about aspiration risk and its harmful sequelae are among the most common reasons influencing thickened fluids decisions ([McCurtin et al, 2020a](#); [Berkman et al, 2019](#); [Garcia and Chambers, 2012](#)).

While aspiration and laryngeal penetration have been observed in individuals without dysphagia and are not always harmful ([Butler et al, 2018](#); [DiBardino and Wunderink, 2015](#)), aspiration can lead to significant and life-threatening respiratory health consequences, especially in children and adults with dysphagia ([Serel Arslan et al, 2018](#); [Wirth et al, 2016](#)).



The relationship between aspiration and respiratory complications is not straightforward or linear. The impact of aspiration is influenced by a range of interrelated factors connected to the aspiration event (e.g. pH, frequency, density, volume and the source of the aspirate) and to the individual (e.g. prevalence of dysphagia signs, health status and defence mechanisms like cough, mucociliary clearance and immune system function) ([Palmer and Padilla, 2022](#); [Lazenby-Paterson, 2020](#); [Neill and Dean, 2019](#)). Conditions other than dysphagia such as oesophageal disorders, supine positioning, the presence of a tube, and impaired cognition and consciousness can increase aspiration risk ([Kollmeier and Keenaghan, 2023](#)). Identifying the presence of aspiration and the subsequent impact of thickened fluids may be challenging given that observed isolated clinical indicators like cough or wet voice have a limited ability to predict dysphagia or aspiration ([Duncan et al, 2018](#); [Miles et al, 2018](#); [Velayutham et al, 2017](#)).

Several studies have shown that thickened fluids can alter swallow physiology and reduce aspiration and laryngeal penetration in patients with dysphagia when compared to thin fluids ([Masuda et al, 2022](#); [Bolivar-Prados et al, 2019](#); [Newman et al, 2016a](#); [2016b](#); [Logemann et al, 2008](#)). Studies also show that aspiration of thickened fluids can still occur; sometimes silently ([Simon et al, 2020](#); [Miles et al, 2018](#); [Krummrich et al, 2017](#); [McGrattan et al, 2017](#); [Logemann et al, 2008](#)).

## Thickened fluids and respiratory health

Dysphagia increases the risk of laryngeal penetration and aspiration, which increases risk of aspiration-related respiratory complications such as bacterial bronchitis (airway infection and inflammation), bronchiectasis (dilatation of the airways), bronchial thickening, pulmonary fibrosis, acute respiratory distress syndrome (ARDS) and pneumonia ([Bond et al, 2023](#); [Maybee et al, 2023](#); [Simpson et al, 2023](#); [Tanaka et al, 2019](#)).

Although SLTs may recommend thickened fluids to reduce these risks, the role of fluid aspiration and thickened fluids treatment in the pathogenesis of respiratory infections remains poorly understood. Not all patients with dysphagia who aspirate thin fluids go on to develop aspiration pneumonia ([Stewart and Burr, 2021](#); [Murray et al, 2019](#); [Meyer et al, 2017](#)). Other factors may influence the development of aspiration pneumonia, such as reliance on others for eating, drinking

and oral care, enteral tube feeding ([Langmore et al, 1998](#)), prematurity ([Collins et al, 2018](#)), asthma ([Weir et al, 2007](#)), impaired level of consciousness ([Komiya et al, 2022](#)), poor mobility, increasing age, multiple comorbidities, polypharmacy, nil-by-mouth status ([Hibberd et al, 2013](#)) and poor oral health ([Son et al, 2020](#); [Ashford, 2012](#)). Additional predictors include insensate larynx, vocal fold palsy, weak or absent cough, swallow disuse atrophy, a compromised immune system, sepsis or delirium, gastro-esophageal disorders and recurrent chest infections ([Ball et al, 2023](#)). A disrupted gut microbiome caused by diet, tube feeding and medications like antibiotics and anti-reflux treatments can also contribute to respiratory infection by altering lung defences ([Collins et al, 2018](#); [McAleer and Kolls, 2018](#); [Fisher and Fisher 2017](#); [O'May et al, 2005](#)).

Determining the impact of fluid aspiration on chest health can be challenging. While SLT clinical and instrumental assessments provide essential information about swallow pathophysiology, on their own they are unable to accurately predict aspiration pneumonia risk, impact on long term lung function, or distinguish dysphagia-related aspiration pneumonia from non-dysphagia-related pneumonias ([Ferguson et al, 2018](#)). It can be difficult to determine whether dysphagia is the cause of a respiratory infection, or whether the infection is causing either acute dysphagia symptoms or an exacerbation of a pre-existing dysphagia ([Coyle and Matthews, 2010](#)). Another challenge is that some of the clinical features of aspiration pneumonia overlap with other types of pneumonia and there is currently no agreed definition or diagnostic criteria for aspiration pneumonia ([Smithard and Yoshimatsu, 2022](#); [Ferguson et al, 2018](#); [Mathew, 2018](#)). Aspiration pneumonia might be misrepresented as a negative dysphagia outcome when its cause may be unrelated to dysphagia or thin fluid aspiration ([DiBardino and Wunderink, 2015](#)). In cases of non-dysphagia-related aspiration pneumonia, like aspiration pneumonitis, thickened fluids are unlikely to be of benefit and may delay access to more appropriate treatments.

Information from the medical records and assessment of the circumstances surrounding the presumed or observed aspiration event(s) can help identify the aspirated substance (e.g. material, saliva, refluxate or vomitus), as well as the possible source (e.g. mouth, stomach) and cause (e.g. dysphagia, vomiting event) of aspiration. Understanding the potential consequences of aspiration relies on knowledge about respiratory physiology and disease. Understanding the various aspiration syndromes that increase pneumonia risk and being able to identify the clinical features

of different types of respiratory infections or radiologic signs of lung injury can help determine whether fluid aspiration may or may not play a role ([Ferguson et al, 2018](#); [Coyle and Matthews, 2010](#)).

## Potential benefits of thickened fluids

Benefits of thickened fluids may include:

- Reduced incidence of penetration and aspiration ([Newman et al, 2016a](#); [2016b](#); [Logemann et al, 2008](#)).
- Improved oral motor control ([Cichero, 2019](#)).
- Improved hydration ([Viñas et al, 2023](#)).
- Opportunity to continue drinking fluids where the alternative is nil by mouth because drinking thin fluids is unmanageable, or to engage in dysphagia rehabilitation in the short term ([Cichero, 2019](#)).
- Reduced hospital admissions for respiratory problems in children ([Duncan et al, 2019](#); [Coon et al, 2016](#)).
- Improved quality of life, fluid intake and resistance to feeding in children ([Smith et al, 2014](#)).
- Reduced symptoms such as coughing, wheezing, and apnoeas ([Krummrich et al, 2017](#); [Smith et al, 2014](#)).

Thickened fluids may increase participation or enable patients to engage in meaningful, ritualistic, spiritual or symbolic drinking-related activities, if they for example lessen the social impact of a dysphagia-related cough, or reduce discomfort or anxiety associated with swallowing thin fluids ([Brown et al, 2021](#); [O'Keeffe, 2018](#)). Thickened fluids may support dignity and quality of life through improvement of oral motor control.

## Potential adverse effects of thickened fluids

Thickened fluids may result in:

- Reduced fluid intake ([Werden-Abrams et al, 2023b](#); [McGrail et al, 2012](#); [Karagiannis et al, 2011](#)), dehydration ([Crary et al, 2016](#)) and urinary tract infections ([Murray et al, 2016](#); [Robbins et al, 2008](#)).
- Feeling of fullness leading to reduced appetite ([Cichero, 2013](#)).
- Unpleasant or altered taste and texture ([Ong et al, 2018](#); [McCurtin et al, 2018](#))
- Increased thirst ([Howard et al, 2018](#); [Zijlstra et al, 2008](#)).
- Altered bowel habits ([Krummrich et al, 2017](#)) and increased risk of necrotising enterocolitis in infants ([Gosa and Corkins 2015](#); [Beal et al, 2012](#)).
- Delayed or reduced absorption of certain medications ([Manrique et al, 2016](#); [Manrique et al, 2014](#); [Cichero, 2013](#)).
- Increased swallowing effort ([Shim et al, 2013](#)).
- Increase in post-swallow residue ([Simon et al, 2020](#); [Newman et al, 2016a, 2016b](#); [Weir et al, 2007](#)).
- Increased risk of adverse pulmonary events from aspirating thickened fluids ([Nativ-Zeltzer et al, 2020](#); [2018](#), [Robbins et al, 2008](#)).
- Worsening emotional well-being, health-related and social-related quality of life ([Werden Abrams et al, 2023a](#); [McCurtin et al, 2018](#); [Seshadri et al, 2018](#); [Swan et al, 2015](#)).

Recommending thickened fluids whilst awaiting SLT assessment or for long periods without ongoing monitoring or planned follow up has the potential for increasing the likelihood of unwarranted adverse effects ([O'Keeffe et al, 2023](#), [O'Keeffe, 2018](#)).

Any change made to the naturally occurring texture of fluids may have potential implications or burdens beyond that of the physiological body, as drinking is more than just hydration. People commonly drink together as a mechanism for social bonding ([Ratcliffe et al, 2019](#)). We may also associate drinking with cultural, spiritual or religious meaning, or make decisions on what, how or how much we drink based on health-orientated or moral factors ([Kokkoris and Stavrova, 2021](#); [Michopoulou and Jauniškis, 2020](#); [Arbit et al, 2017](#)). For everyone, and especially for those at the end of their life or with cognitive impairment, drinking can offer physical comfort and relief ([Srivastava, 2022](#)), fulfil ritual ([Souza, 2021](#); [Ratcliffe et al, 2019](#)), and evoke positive memories ([Ratcliffe et al, 2019](#)). Feeding is also one of the fundamental interactions between a parent and their child. Thickened fluids may conceivably jeopardise these experiences and outcomes by deviating from routine and ritual.

## Thickened fluids and coughing

Thickened fluids may be trialled to address coughing when drinking, with the underlying assumption being that eliminating the cough resolves aspiration ([Miles et al, 2018](#)). Although coughing may be a symptom of potential penetration or aspiration, it is also an essential defence mechanism that is not always a sign of dysphagia. Reflecting within workplaces on how coughing around eating and drinking is considered by SLTs, parents, carers and other professionals may be useful, especially if there is heightened fear or misunderstanding about what coughing indicates.

Helpful aspects to consider, which might enhance clinical triage and/or assessment:

- Does the patient have a baseline cough outside of eating and drinking due to another condition, unrelated to dysphagia?
- Does the coughing cause the patient to drink less?
- Does the patient who coughs while drinking communicate distress?
- What is the evidence supporting the level of the distress? Is the distress that of the patient, or that of the healthcare professional and/or caregiver ([Bogaardt et al, 2015](#))?

- What is the patient's experience of their swallowing-related cough symptoms? A range of complex, individual factors might exist around coughing, including social and cultural impacts related to cough etiquette ([Brown et al, 2021](#)).
- What is the 'acceptable' level of coughing for the person and are they willing to accept some coughing in order to continue with thin or less thick fluids? Is it a primary aim to alleviate this symptom for them?

## Practical challenges of using thickened fluids

Using thickened fluids in real-life settings can pose a number of challenges for clinicians, patients, families and carers, due to:

- Inconsistent mixing methods ([Rush et al, 2021](#)), viscosities and terminologies despite existing standardised texture classification frameworks ([Machado et al, 2019a](#)).
- Variable adherence to thickened fluid recommendations ([Ahn et al, 2022](#); [Painter et al, 2017](#)).
- Variable setting times with different base fluids ([Garcia and Chambers, 2019](#); [Kim and Yoo, 2015](#)), different types of thickening agents ([Vergara et al, 2022](#); [Machado et al, 2019b](#)) and as fluid temperatures change ([Ng et al, 2022](#); [Garcia et al, 2008](#)).
- Environmental variables such as the type of support a patient requires, and the time it takes for them to receive and consume their drink ([Garcia and Chambers, 2019](#)).

## Challenges of measuring the impact of thickened fluids

Studies in thickened fluids often use measures of severity of penetration-aspiration and post-swallow residue as indicators of swallow safety and efficacy ([Bolivar-Prados et al, 2019](#); [Newman et al, 2016a, 2016b](#)). These measures are examples of surrogate endpoints. A surrogate endpoint is typically an outcome measurement like a laboratory measurement or an instrumental reading,

that is not in itself a measure of clinical benefit. Rather, a surrogate endpoint acts as a substitute or replacement for a true outcome of interest, which is the clinical endpoint ([Prasad and Cifu, 2011](#)).

Clinical endpoints are typically described in terms of how patients feel, function and survive and are the outcomes that matter most to patients like disease progression, well-being, survival and health-related quality of life. Surrogate endpoints are commonly measured in the literature because they are quicker, more economical and less resource-intensive than clinical endpoints, while being considered likely to predict clinical benefit (Prasad and Cifu, 2015). For instance, a surrogate endpoint of a reduction in aspiration with thickened fluids may be considered likely to improve a clinical endpoint of hydration or quality of life.

While there are many thickened fluids studies showing improvement in surrogate endpoints, there is a lack of surrogate studies that predict and show an improvement in clinical endpoints, which might lead to practitioners feeling that there is a contradiction in the evidence. Studies may show that thickened fluids improve a surrogate endpoint i.e. reduce aspiration, but they may lack information about clinical benefit ([Simon et al, 2020](#)), or show no reliable effect ([Bock et al, 2017](#)) or a worsening effect on a clinical endpoint ([Bolivar-Prados et al, 2019](#)). This can be a challenge when translating and applying the literature to real-life experiences of patients with dysphagia. More research into the impact of thickened fluids on how patients feel, function and survive is needed.

## Sharing information about thickened fluids

[HCPC \(2023\)](#) standards of proficiency for SLTs state that SLTs must “respect and uphold the rights, dignity, values, and autonomy of service users, including their role in the assessment, diagnostic, treatment and / or therapeutic process [and] understand the importance of and be able to obtain valid consent, which is voluntary and informed, has due regard to capacity, is proportionate to the circumstances and is appropriately documented” (p.7).

The literature suggests that the process of obtaining informed consent for texture modification can be variable or inadequate due to lack of patient choice or involvement in decisions, or because

patients, parents or carers might receive insufficient information ([McCurtin et al, 2018](#); [Ullrich and Crichton 2015](#); [Smith et al, 2014](#)).

It is the role of the SLT to ensure that their patient or their representatives can understand and weigh sufficient information about what thickened fluids entail, their potential benefits and harms, what alternatives might be available and what might happen in the event thickened fluids are not used. It is as important to consider what information may have been omitted or under-shared, as it is to consider what has been shared ([O'Keeffe et al, 2023](#); [Dobson, 2023](#); [O'Keeffe, 2018](#)).

Documenting how consent is obtained, how understanding was demonstrated, and when patients change their mind is also the responsibility of SLTs and any professionals participating in the informed consent process ([Leslie and Lisiecka 2020](#)). In cases where patients are unable to give informed consent due to incapacity, capacity legislation still requires consideration of the patient's past and present wishes, beliefs and values at the centre of any decisions affecting them ([Adults with Incapacity \(Scotland\) Act, 2000](#); [Mental Capacity Act, 2005](#); [Mental Capacity Act \(Northern Ireland\) 2016](#)).

## Recommendations for future research

Given that the best available evidence provides an uncertain picture about the true effects of thickened fluids, further high-quality studies are needed to explore:

- the short and long-term effects of thickened fluids on clinically meaningful endpoints based on how patients feel, function and survive, such as mortality, morbidity and health-related quality of life.
- how thickened fluids may affect gut health and respiratory health.
- how ceasing thickened fluids intervention in patients with dysphagia affects health and quality of life.
- the effect of other interventions for thin fluid aspiration e.g. free water protocols, sensory modification, flow rate, bolus size, positioning, and cue-based feeding practices in infants.



- the impact of thickened fluids on clinical populations where there is less evidence, such as people with a learning (intellectual) disability and children.

## Conclusion

Perfect clarity on the use of thickened fluids in the management of dysphagia is not realistic. The goal of this position paper is to support awareness of the evidence base around thickened fluids, but also encourage reflection on the broader aspects within the field of dysphagia practice.

The key messages from this position paper emerged as a result of synthesising the best available evidence, expert opinion, and best possible consensus. It has highlighted the importance of informed consent and patient choice in decision-making and that ultimately, holistic assessment should balance the individual needs of the patient with the best available evidence of risks and benefits of thickened fluids.

Practical, experience-based reasoning is an important part of evidence-based clinical decision-making, especially when good quality research evidence is in short supply. However, the literature suggests that over-relying on common sense reasoning may influence how treatments like thickened fluids are perceived and presented to patients, with the potential for overstating treatment benefits and understating potential risks ([O'Keeffe, 2018](#); [McCurtain and Healy, 2017](#); [McCurtin and Clifford, 2015](#)).

Clinical practice is continually developing as we embrace new information and unlearn outdated knowledge. Considering changes to clinical practice can be understandably challenging, especially if the practice aligns with established service models, professional identity or beliefs, or if there are competing demands on resources ([Gupta et al, 2017](#); [Johnson, 2014](#)).

Thickened fluids remain one of a number of existing tools in the dysphagia practitioner's toolkit. The uncertainty of the evidence surrounding thickened fluids does not preclude their use; however, it is important to communicate this uncertainty to patients and their representatives. More research is needed to determine whether thickened fluids can consistently provide clinical benefit for people with dysphagia.

## Appendix 1

### Process for the production of position papers by RCSLT

#### The role of RCSLT position papers within evidence-based practice

RCSLT produces position papers that represent expert consensus on a given subject area. Information provided within position papers represent the majority consensus of experts within this field. Majority consensus is defined here as agreement reached by over 50% of the working group. All position papers should be viewed within an evidence-based practice framework where the clinician has reviewed the evidence base relevant to their area of practice. Due to the broad clinical topics covered it is not possible or appropriate to complete a systematic review as part of RCSLT position paper production however the steps detailed below have been adhered to in order to increase the rigour of position paper production. Specific clinical areas have not been separated within this paper, instead it gives a broad overview of the evidence and professional consensus. It is the responsibility of the individual member to be aware of the evidence base within their specific clinical area.

#### Identification of member need

The decision to produce a position statement and paper on the use of thickened fluids in the management of dysphagia was primarily made due to increased member enquiries on this topic. A proposal to produce a statement and paper was completed and prioritised through an internal RCSLT protocol. The proposal scored highly, and the executive team made the decision to fund the project.

#### Formation of the working group

Applications to the working group and for lead authors were advertised through the RCSLT website, on social media, through the research newsletter, via national newsletters and through RCSLT clinical advisors. Three lead authors were appointed to ensure the information produced was as inclusive as possible.

Representation on the working group included the following:

- Researchers
- NHS Trusts
- Independent practice (sole trader)
- Independent practice (more than one SLT)
- Schools / college
- Not for profit/third sector
- University / Higher Education
- Social enterprise / public sector mutual
- Director of a limited company
- Neonates
- Children – preschool (up to 5 years)
- Children – primary school (5-11)
- Children – secondary school (11-18)
- Young adults (18-25)
- Adults (25+)
- Older adults (65+)
- Acute setting
- Community health setting
- Other hospital settings
- School – mainstream
- Children’s centre/early years setting
- Patient/client’s own home
- Private practice setting
- Secure setting
- School – special
- Day centre
- Dementia
- Head and neck cancer
- Mental health

- Critical care
- Dysphagia
- Learning disabilities
- Multi-sensory impairment
- Progressive neurological conditions
- Stroke
- Voice
- Palliative/end of life care
- Neuro-rehab units
- England
- Wales
- Scotland
- Northern Ireland

### **Scoping meeting**

Scoping meetings were held with the working group to determine the scope of the project, set the limits of the project, and agree the intended outputs.

### **Finding and reviewing the evidence**

It is not within the capacity or scope of this project to produce a systematic review; therefore, a systematic review methodology was not adhered to. The following steps were taken to make the process as rigorous as possible:

- Lead authors identified databases, time frame, and search terms.
- Searches carried out by 3 independent librarians.
- Results of searches were combined, and titles and abstracts were reviewed.
- Studies were included if they covered the clinical impact of thickened fluids on aspiration, pneumonia, survival, respiratory health, and quality of life in individuals with dysphagia across the lifespan.
- Studies were excluded if they examined the flow properties of thickened fluids without consideration of clinical impact.

- All study types were included.
- At each consultation stage, reviewers were encouraged to highlight any studies relevant to the document which were considered by the lead authors.

The lead authors conducted a review of the current evidence base to ensure relevant research papers were included. Literature searches were undertaken in PubMed, Science Direct, Wiley Online, Embase, CINAHL, Ovid, Google Scholar and the Cochrane Database of Systematic Reviews. Titles, abstracts and full text publications and their reference lists in English language publications from 2010 onwards were screened and included. The lead authors also incorporated additional studies from their own knowledge of the literature and from studies highlighted by others in the consultation process. Search terms were broadly specified with the aim of finding as much relevant literature as possible. Search terms used in this review were “thickened fluid” OR “thickened liquid” AND “aspiration” OR “aspiration pneumonia” OR “dysphagia” OR “swallowing” OR “eating, drinking and swallowing disorder” OR “deglutition disorder”. Papers were selected for their information about the clinical impact of thickened fluids on aspiration, pneumonia, survival, respiratory health and quality of life in individuals with dysphagia across the lifespan. Studies that examined the flow properties of thickened fluids without consideration of clinical impact were excluded.

### **Consultation with stakeholders**

Members of the RCSLT, service user representative organisations, professional organisations and pharmaceutical companies who manufacture thickening products, were given the opportunity to consult on drafts of the position paper. All comments were reviewed, and a decision was made to accept, or decline given the scope of the paper and the suggestions made. Although a wide range of stakeholders were given the opportunity to comment, the paper remains an independent overview of the research around thickened fluids. The following people and organisations were amongst several given the opportunity to comment:

- Alex Ruck Keen KC (Hon), 39 Essex chambers and King’s College London
- Alison Ferris, Public Health Agency Northern Ireland
- Ben Hanson, International Dysphagia Diet Standardisation Initiative (IDDSI)
- British Association for Parenteral and Enteral Nutrition (BAPEN)
- British Dietetics Association

- British Thoracic society
- Care UK
- Chest, Heart and Stroke Scotland
- David Smithard, Consultant in Acute Frailty
- Don Urquhart, Consultant Respiratory Paediatrician
- Fresenius Kabi
- Meredith Roberts, Paediatric Respiratory Consultant
- Motor Neurone Disease Association
- National Nurses Nutrition Group
- Nestlé Health Science UK
- Nualtra
- Nutricia
- Parkinson's Excellence Network
- Post stroke dysphagia researchers
- Public Health Agency, Northern Ireland
- Shaun O'Keeffe, Swallow Perspectives, Advocacy and Research Collective (SPARC)
- Slodrinks

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### Lead authors

- **Lizzie King**, Allied Health Professional (AHP) Clinical Lead and Professional Lead for Adult Speech and Language Therapy
- **Maya Asir**, Neonatal Clinical Specialist Speech and Language Therapist and Acute Paediatric Speech and Language Therapy Lead
- **Tracy Lazenby-Paterson**, Speech and Language Therapist, Team Coordinator, Community Learning Disability Service, RCSLT Clinical Adviser - ALD Dysphagia

### Working group

- **Alex Stewart**, Specialist SLT paediatrics
- **Dorothy Clarke**, Lecturer in Speech and Language Therapy
- **Elizabeth Barnett**, Care Home Lead, Adult Community Team
- **Hazel Warren**, Senior Speech and Language Therapist and Highly Specialist Speech and Language Therapist
- **Dr Jacqueline Benfield**, NIHR Clinical Lecturer (post stroke dysphagia) & Clinical Lead Speech and Language Therapist for Stroke
- **Judith Hibberd**, Consultant SLT
- **Mary Halson**, Specialist Speech and Language Therapist, Community Learning Disability Team
- **Nicholas de Mora-Mieszkowski**, Senior Lecturer and Speech and Language Therapist
- **Dr Paula Leslie**, Pre-Registrant Clinical Scientist, Non-clinical Problem Based Learning Tutor, and Specialist SLT
- **Sandra Robinson**, Director of Speech Therapy Works Ltd.
- **Sonja Jacobs**, Lead SLT for paediatric complex needs / dysphagia
- **Victoria Lacey**, Specialist Speech and Language Therapist

## Wider project reference group

- **Alice Walton**, Senior Rotational Speech and Language Therapist
- **Alison Parsons**, Speech and Language Therapist
- **Anna Davies**, Clinical Lead Speech and Language Therapist Learning Disability Health Team
- **Anna Rydelewski**, Specialist Speech and Language Therapist
- **Carly Olczak**, Clinical Lead SLT for Stroke
- **Catie-Anne Jessica Visser**, Highly Specialist Speech and Language Therapist (Dysphagia)
- **Chloe Richards**, Speech and Language Therapist
- **Claire Dunn**, Highly Specialist Speech and Language Therapist
- **Clair Waterman**, Speech and Language Therapist
- **Clare Russell**, Highly Specialist Speech and Language Therapist
- **Clodagh McBride**, Speech and Language Therapist
- **Deborah Owens**, Speech and Language Therapist, Dysphagia Lead
- **Diana Mountain**, Speech and Language Therapist
- **Eve Ferguson**, Highly Specialist Speech and Language Therapist - critical care and spinal cord injury outreach teams
- **Gemma Borkowski**, Highly Specialist Speech and Language Therapist
- **Hannah Tracey**, Speech and Language Therapist
- **Helen Smith**, Dysphagia Clinical Lead (Children)
- **Helen Vernon**, Clinical Lead for Stroke Rehabilitation & Clinical Workforce Development Lead for Stroke
- **James Russell Walker**, Speech and Language Therapist
- **Jane MacGregor**, Adult SALT Team Leader
- **Janne Schack**, Adult Community Speech and Language Therapist and Dysphagia Lead
- **Jenna Adams**, Professional Lead SLT for acute/secondary care
- **Jennifer Worsfold**, SLT Professional Lead
- **Julie Wright**, Specialist Speech and Language Therapist
- **Katherine Latham**, Speech and Language Therapist



- **Leo Morgan**, Developing Specialist Speech and Language Therapist
- **Lindsey Collins**, Senior Dementia Care Consultant and Trainer
- **Dr Lisa Everton**, Clinical Speech and Language Therapist, AHP Clinical Academic Lead and Honorary Assistant Professor
- **Luiza Deaconescu**, Highly Specialist Speech and Language Therapist (stroke)
- **Lydia Morgan**, Speech and Language Therapist
- **Maggie Drury**, Speech and Language Therapist
- **Marianna Cameron**, Speech and Language Therapist, Community Learning Disability Team
- **Marianne Collins**, Advanced Specialist Speech and Language Therapist
- **Megan Williams**, Specialist Speech and Language Therapist
- **Dr Michelle Lawton**, Advanced Clinical Specialist Speech and Language Therapist and Clinical research fellow
- **Natalie Griffin**, Principal Speech and Language Therapist, acute & stroke
- **Nicola Harding**, Head of Speech and Language Therapy
- **Olivia Compston**, Specialist Speech and Language Therapist adult learning disability
- **Rebecca Davidson**, Clinical Lead Developmental Dysphagia
- **Sabrina Eltringham**, Highly Specialist Speech and Language Therapist, Fellow, Associate and Postdoctoral Fellow
- **Sarah Aghahowa**, Highly specialist Speech and Language Therapist
- **Sarah Welton**, Principal Speech and Language Therapist
- **Síofra Mulkerrin**, Senior Specialist Speech and Language Therapist
- **Sophie Ball**, Highly Specialist Speech and Language Therapist
- **Stacie Littlejohn**, Adult Inpatient Speech and Language Therapist and team lead

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[rcslt.org](http://rcslt.org) | [info@rcslt.org](mailto:info@rcslt.org) | [@RCSLT](https://www.instagram.com/RCSLT)