



IDDSI SPECIAL FEATURE – August 2021

Rice porridge around the world with IDDSI

Introduction

Rice is a staple food in Asian countries. Rice porridge, also known as congee, is a variety of such staple food that is very common in Asia. There are many ways to cook it and they may look different in different cuisines. You can find congee in different Asian cuisines, such as Chinese, Malaysian, Taiwanese, Singaporean, Japanese, Korean, Vietnamese and Indian food. The common ingredients to different types of congee is rice and water. A number of qualities of the congee varies across regions, for example, the water to rice ratio, the softness of the rice, the consistency of the congee and the types of meat, vegetables or seasonings that are added to the congee.

Congee is considered as a comfort food, healthy food and a recommended dish for those who are sick. It is likely because it is believed to be easy to chew, digest and swallow. It warms up the body as it is served hot. However, congee may pose a special threat to those who have swallowing difficulties because of its mixed consistencies. In this article, we will introduce some common types of congee to the readers and highlight the features of each type. Case studies are included to show how congee may affect swallow safety. We will also discuss what precaution we should take when serving this common dish to those who have swallowing difficulties.

Common types of plain congee in Asia

Taiwan

Congee is a versatile dish in Taiwan, it can be prepared either from raw rice or from cooked rice, with rice cookers or pots made of different materials. Congee may be served plain or cooked with other vegetables, legumes, meat, eggs and spices.

Here we are describing plain congee that was bought from a food stall in Taipei, Taiwan. The congee has been tested with spoon tilt, fork test and finger test at three different temperatures: at 60, 50 and 40 degrees Celsius. The results are depicted below. In all three temperatures, there was little residue left on the spoon in the spoon tilt test, minimal liquid dripping and no solid dripping through the prongs of the fork in the fork test, and the grains

were easily smashed with fingers in the finger test (the grains were really slippery!). Although the results were similar in all 3 temperatures, the porridge seemed to be visually thicker as the temperature dropped.

			
<p>Testing at 60°C</p>	<p>Spoon tilt</p>		<p>Fork test</p>
			
	<p>Finger test</p>		
			
<p>Testing at 50°C</p>	<p>Spoon tilt</p>		<p>Fork test</p>
			
	<p>Finger test</p>		
			
<p>Testing at 40°C</p>	<p>Spoon tilt</p>		<p>Fork test</p>
			
	<p>Finger test</p>		

Hong Kong -- The Cantonese-style and the Chiu Chow-style congee

Cantonese-style congee:

The Cantonese-style congee starts with soaking the rice in water for at least one hour. The rice will then be cooked and simmered in a large amount of water for a prolonged period, or until the rice grains have bursted open and the congee is “creamy” and smooth. The rice appears to have “melted” into the liquid and the two are not separable. The Cantonese-style congee usually meets IDDSI Level 5 (Minced & Moist). Note that the Cantonese-style congee is often ‘sticky’ as can be seen from the amount of congee sticking onto the spoon in the spoon tilt test. Video 1 shows the fork drip test of the Cantonese style congee. [See Video 1 here.](#)



Spoon tilt test



Fork drip test



Fork pressure test

Chiu Chow-style congee:

Another popular type of congee in Hong Kong is the Chiu Chow-style congee. As compared to the Cantonese-style type, the Chiu Chow-style congee requires considerably less time to cook. In the end product, the rice grains still appear “intact” and may be separated from the liquid. The Chiu Chow-style congee is considered as mixed consistency, with the rice part at IDDSI Level 7 (Regular) and the watery part at IDDSI Level 0 (Thin). If this type of congee is to be consumed by people with swallowing difficulties, it is suggested that the rice grains should be drained from the liquid. The solid and liquid contents should be prepared to the IDDSI levels recommended by the patient’s speech therapist. Video 2 shows the Chiu Chow-style congee and the related spoon and fork tests. [See Video 2 here.](#)

Singapore -- An example of specially prepared congee at the hospital setting

Following an assessment by a Speech Therapist, patients with swallowing difficulties may be recommended to take a fully pureed diet. For these patients, chewing is extremely difficult and inefficient. Their tongue strength may be weak, which results in poor ability to move food around the mouth to chew and swallow. They may also have missing teeth or poorly fitted dentures.

To prepare pureed congee, regular congee is blended up to a smooth and lump-free consistency. Additional soup stock or water can be added to facilitate the blending process if it is too cohesive and sticks to the blender blades. However, this should be added in small increments to avoid making the final product too watery.

Pureed congee can be prepared to meet either IDDSI Level 3 (Liquidised) or IDDSI Level 4 (Pureed). It is often easier to achieve IDDSI Level 3 (Liquidised) for the final congee product due to the nature of this carbohydrate. It may also be more natural and palatable to consume pureed congee at a IDDSI Level 3 (Liquidised) consistency. To achieve a thicker consistency at IDDSI Level 4 (Pureed), additional soft rice, potato starch, or thickener powder may need to be added during the preparation process. A thin film often forms on the top layer of the congee after leaving it to sit. This film should be removed or mixed in again before feeding.

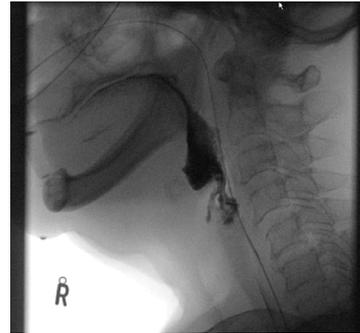
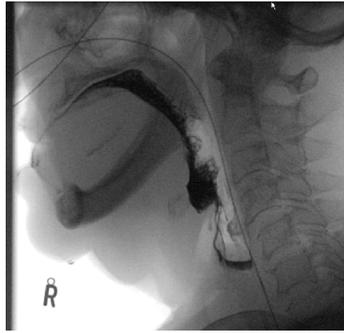


Please check in with your Speech Therapist on whether IDDSI Level 3 (Liquidised) or IDDSI Level 4 (Pureed) is more suitable for your loved one to consume.

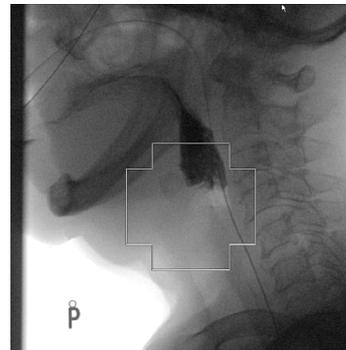
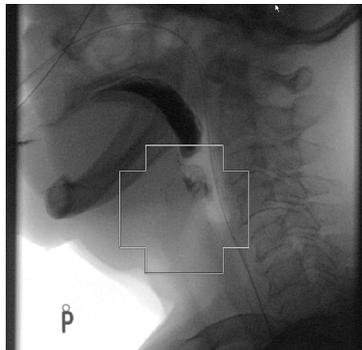
Case study 1: Aspiration risk with rice with excess gravy, as compared to thick porridge at Level 5 Minced and Moist

Here we illustrate the case of a 73-year-old lady who had a recent pontine stroke on a background of previous multiple strokes and deconditioning. She was at this point still on nasogastric feeding and was looking to increase the repertoire of diet textures that she could safely take. Apart from weakness in her oral muscles such as jaw and tongue, she was also edentulous. Videofluoroscopic Study of Swallowing (VFSS) revealed that she had reduced ability to masticate and manipulate food but was able to take softer textures. She had poor control of fluids, delayed swallow triggers, incomplete airway closure and reduced base of tongue strength.

This lady's family were keen to explore the ability to take rice with some water or gravy, instead of just having plain porridge, so that they could add more variety to her meals. The following VFSS images and videos show increased risk of aspiration for rice with small amounts of gravy. Even though the gravy was thickened to Level 1 Slightly thick, it flowed posteriorly at a different pace while the patient was still masticating on the rice itself. The gravy entered the airway and was later aspirated with more trials. In comparison, aspiration risk for thick porridge without excess fluids was significantly reduced as the bolus travelled more cohesively throughout the swallowing process.



The excess gravy at Level 1 Slightly thick was transferred posteriorly at a different speed from rice, and poses an additional penetration / aspiration risk. [See Video 3 here.](#)



Porridge that did not have excess fluids posed less risk as the bolus travels cohesively. [See Video 4 here.](#)

Malaysia

The commonly found congee in Malaysia mostly looks watery and granulated. Whether it is home cooked or from restaurants, the Malaysian congee mostly ranges from IDDSI Level 3 (Liquidised) to IDDSI Level 5 (Minced & Moist). This type of congee can be easily prepared by cooking rice mixed with water (ratio 1:10) using a pot and on a low heat for at least 30 minutes (see video 1).



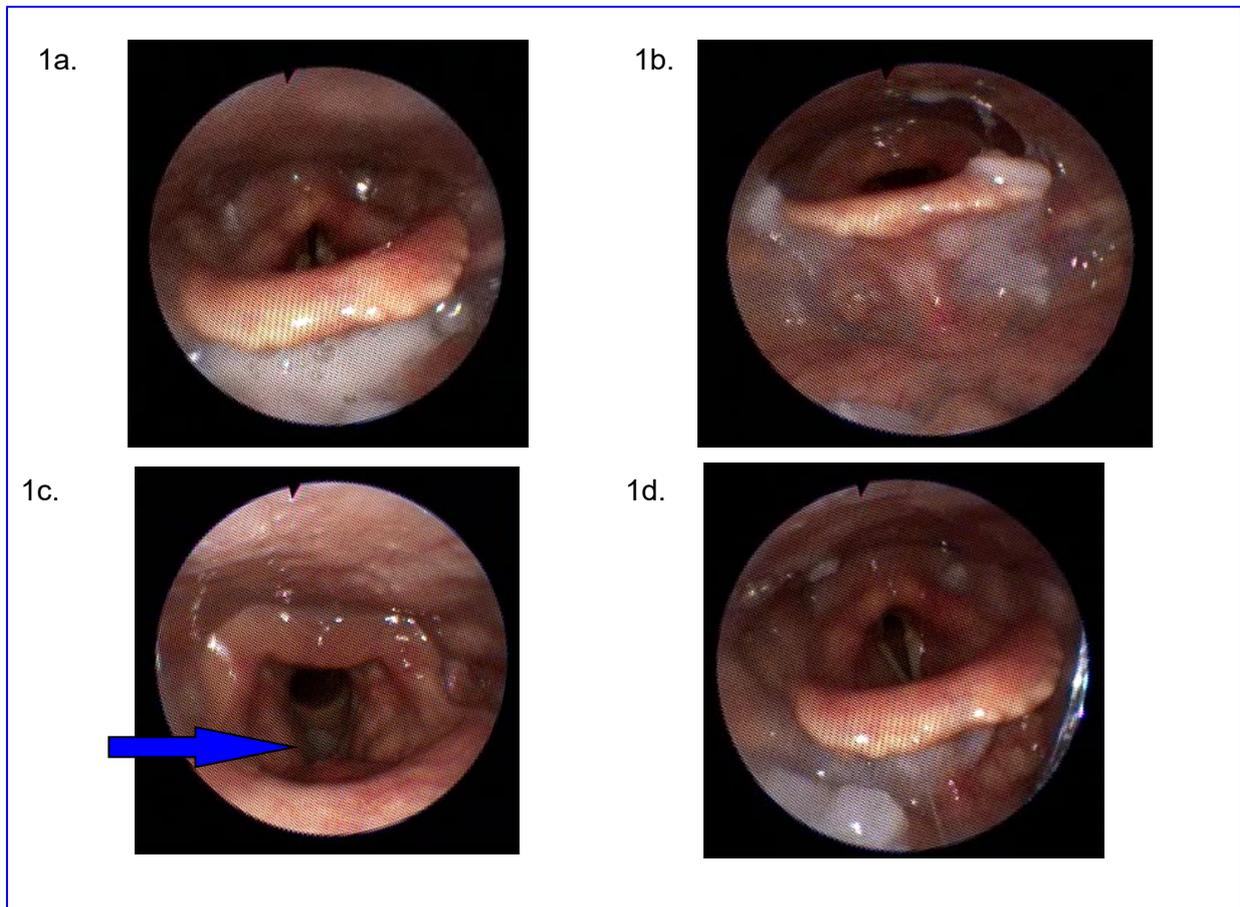
[See Video 5 here.](#)

The followings are two case studies that highlight how different types of congee may affect swallow safety.

Case Study 2: Thick and granulated congee -- IDDSI Level 5 (Minced & Moist)

The pictures below were taken from the recording of a flexible endoscopic examination of swallowing (FEES) on a 65 years old gentleman while he was eating congee. The patient

was diagnosed with left basal ganglia bleed with right hemiparesis. He has lost most of his molar teeth; poor orolingual control resulted in inadequate bolus formations. During FEES, the patient demonstrated delayed initiation of swallow (1a); penetration and aspiration on granulated rice (figures 1b and 1c); post-swallow residue was found mostly on valleculae, some on the laryngeal vestibule and pyriform sinus (figure 1d).



Case Study 3: Congee -- IDDSI Level 3 (Liquidised) to Level 5 (Minced & Moist)

The next case study is an 81-year-old gentleman with underlying hypertension and cerebral infarct 2 years ago prior to the recent admission of dengue encephalitis plus pulmonary tuberculosis (PTB) treatments. He was reported to be tolerating a regular diet very well prior to admission. He was on nasogastric tube feeding since admission but the caregiver had started to feed him orally with congee and was reported to only cough occasionally during mealtimes. However, he was reported to have persistent coughing when drinking water.

Clinically, he had lost the majority of his teeth with a few incisors left with absence of dentures. Cognitively, the patient had difficulty retaining new information and he was dependent when carrying out activities of daily living. FEES revealed that he had severely delayed pharyngeal swallows, aspiration on liquids and congee that was at IDDSI Levels 3 to 5. The patient did not aspirate but only showed penetration when the congee was at IDDSI

Level 4 (Pureed). However, he had valleculae residue and was unable to clear with compensatory strategies. He also aspirated on liquids that were given in an attempt to clear the residue. Video 6 shows the FEES examination of case study 3 that shows penetration and aspiration. [See Video 6 here.](#)

Why does this matter?

Most patients with swallowing problems will have difficulty tolerating congee with varied consistencies. Patients with poor tongue control and poor coordination of swallow movements are at risk of aspirating on the liquidised part of the mixed consistency congee. Patients with difficulty in chewing and inadequate bolus preparation are at risk of penetration or aspiration on the granulated part of the congee. Instrumental swallowing assessments may be necessary to confirm the patient's tolerance to different types of congee, especially in terms of silent aspiration and residue. Education is important to ensure patients and carers are aware of how congee may increase the patient's risk of aspiration and aspiration pneumonia.

Acknowledgement:

This article was jointly prepared by the following reference group members:

Karen Chan, Hong Kong IDDSI Reference Group, Speech Therapist

Elaine Kwong, Hong Kong IDDSI Reference Group, Speech Therapist

Esther Tuin, Malaysia IDDSI Reference Group, Speech Therapist

Faith Ng, Malaysia IDDSI Reference Group, Speech Therapist

Wai Yun Xin, Malaysia IDDSI Reference Group, Speech Therapist

Yan Shan Lee, Singapore IDDSI Reference Group, Speech Therapist

Chriselle Koh, Singapore IDDSI Reference Group, Speech Therapist

Cristiane Hsu, Taiwan IDDSI Reference Group, Speech Therapist