IDDSI SPECIAL FEATURE – Sept 2020

Focus on Puree

Ensuring Shaped, Gelled or Moulded Purees meets the requirements for IDDSI Level 4 Puree

We eat with our eyes. One of the ways of making pureed food look more appetising is to shape it so that it looks like food we recognise. For example, pureed carrot can be shaped or moulded so that it looks like a carrot. In order for a pureed food to have enough structure to hold its moulded shape, a thickening or setting agent is often used.

The challenge to making shaped, gelled or moulded purees safe for people with dysphagia is three-fold:

1. Remembering why pureed foods have been recommended
2. Making sure the shaped, gelled or moulded puree is not too firm
3. Making sure the shaped, gelled or moulded puree is not too sticky

Why are pureed foods recommended?

When there are significant problems with oral processing/control as a result of difficulty with lip, tongue or jaw movement, pureed foods may be recommended following assessment by a health professional.

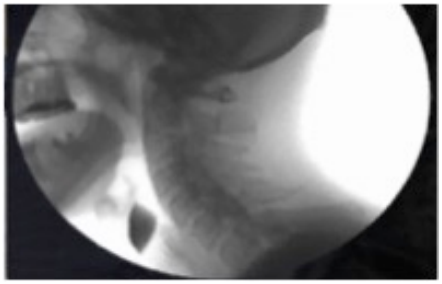
An inability to take food into the mouth, chew it to small particle sizes and then use the tongue to shape it back together into a bolus, and transport it to the back of the mouth for swallowing can result in unsafe swallowing and/or insufficient food consumed.

A puree should have a smooth consistency with very fine particles so that chewing is not required. The pureed food is held together with just enough structure and is slippery enough so that it can be moved from the front of the mouth to the back and swallowed with minimal effort. These factors promote a safe way to consume food when oral coordination or strength is impaired.

Make sure the shaped, gelled or moulded puree is not too firm (and fractures…)

By trying to create a puree that looks like a solid food, like a sandwich, it can be tempting to focus on the look of the food and not realise the textural changes that have occurred to achieve the 'solid looking' food.

Pureed food that is squeezed, packed, set or compressed back together literally become solid again. Sensory receptors within the oral cavity detect that firmness and instinctively we start to chew. Chewing leads to the bolus fracturing within the oral cavity and a need for the tongue to collect the pieces again into a bolus for swallowing. **This defeats the purpose of the puree and increases risk.**



If there is a motor problem, oral processing deficits such that the overly firm pureed food cannot be broken down or loosened, there may be attempts to swallow the solidified pieces whole, resulting in a choking risk. If the pureed food needs to be chewed, it is too firm and does not meet the requirements of a puree.

If it can be 'cut' into pieces and when the pieces are picked up with our fingers, they remain solid, it is not a pureed food. It is Level 7 Easy to Chew.

Press a fork into the moulded puree. Little pressure should be needed to make the puree collapse and lose its shape (i.e. the thumb nail should NOT blanche to white). If after pressing the fork onto the moulded puree there are ridges of food left after the fork has been removed, the food is firm, has structure and therefore is **not** a puree.

Indent; not ridge.
Sample easily *collapses* when fork pressure test applied

Make sure the shaped, gelled or moulded puree is not too sticky

Thickening and gelling agents provide a bond or ‘glue’ between particles to give the puree some shape. Getting just the right amount of thickener or gelling agent is critical to make sure the pureed food doesn’t end up too sticky. Sticky food can stick to the inside of the mouth, on the roof of the mouth, on the back of the teeth or once swallowed, in the throat and cause a choking risk when the person takes a breath.

People with a dry mouth or poor saliva flow may be at increased risk of having food stick to surfaces inside the mouth or throat. Ensuring the food is slippery or that a sauce is mixed in to make the food ‘moist’ is important. Testing: Use the spoon tilt test, using just wrist action to see if the puree can be easily dislodged from the spoon when tilted with minimal amounts of pureed food left on the spoon. Tip: Hold you elbow to ensure you are only using wrist action.

Focus on Purees: The culinary perspective.

The IDDSI Framework and IDDSI Testing Methods as set out on the Audit Sheets have brought further objectivity in food and drink preparation for dysphagia. It has, in fact, made it easier to understand the textural characteristics of food and drinks recommended by clinicians.

Using the IDDSI Testing Methods to assess suitability has meant that the recipes and techniques relied upon “pre-IDDSI” have required careful modifications and it has brought into focus the challenges that are posed in the ability to produce, deliver and serve foods that maintain these requirements for IDDSI.

IDDSI Level 4 – Pureed foods are less thick and more fluid than had been previously produced (at comparable recommendations) and the relative stickiness of different foods has been revealed. The ‘Texturisation’ (e.g. reducing thickness and/or stickiness) of finely processed food can combat these issues; however the resultant, suitable textures are more sensitive to temperature changes than had been the case previously.

For this very reason the benefits that moulds had brought to the presentation of dysphagia foods have been reduced considerably. As these shaped, frozen foods are reheated they can easily lose their defined characteristics and can be difficult to heat through evenly. For moulded foods to remain identifiable at reheat temperatures we have found that food textures may need to be thicker than the IDDSI Testing Methods identify for IDDSI Level 4 - Pureed.

Starchy foods pose greater challenges, especially in the context of food moulds. As they cool, starchy purees (such as potatoes and rice) will become thicker, as the starches bind, to the point where they are a soft solid structure that requires significant oral processing. This poses greater risk of choking if a piece remains large enough to plug the airway. Foods that are smooth but designed to be "set" for visual appeal, pose the same risk as the thicker foods that become solid as they cool.

The suitability of any foods for dysphagia diets should be confirmed by applying all the appropriate IDDSI Testing Methods as set out on the IDDSI Audit Sheets.

Our sincere appreciation to James Ball and Preston Walker of Oak House Kitchen for sharing their culinary expertise.

See the updated IDDSI Level 4 Audit Tool which notes: "*If the sample is gelled or compressed so that it is firm enough to pick it up with your fingers and bite a piece of it at serving temperature, the sample is not a puree and poses a choking risk.*"

So, what happens if the pureed food does not meet the IDDSI tests and fails the Level 4 Audit?

1) Determine what caused the product to fail the IDDSI tests?
    - Is it too runny?
    - Is it too sticky?
    - Is it too firm?
    - Does it fracture? etc.

2) Review the results of the audit with the foodservice/culinary team/manufacturer to discuss what can be done to help the product pass the IDDSI tests
    - Is there a way to fix or refresh the product at the time of service? (e.g. addition of moisture, stirring, re-heating, etc.)
    - Do the ingredients or ratio of ingredients or recipe need to be adjusted?
    - Do the preparation, cooking/chilling, or holding methods/times have to be modified? etc.

3) Re-test the reformulated products/methods

4) Once the optimal product, preparation, cooking/chilling and holding methods/times are achieved, document these, along with recommendations for fixing/refreshing the product at the time of service and communicate to all stakeholders