Texture Testing

**IDDSI Fork Test**

The slots/gaps between the tines/prongs of a standard dinner fork typically measure 4 mm.

Pediatrics 2mm; Adults 4mm

Compliance for particle size measurement (4mm)

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IDDSI tests – Level 5 Minced & Moist
demonstration video

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Texture Testing

IDDSI Fork Pressure Test:

- A fork can be applied to the food sample to observe its behavior when pressure is applied.
- Pressure applied to the food sample has been quantified by assessment of the pressure needed to make the thumb nail blanch noticeably to white.
IDDSI tests – Level 5 Minced & Moist demonstration video – particle size
6 SOFT & BITE-SIZED

Sample squashes and does not return to its original shape when pressure is released

Thumb nail blanched to white

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“Transitional Foods”

• Start as one texture (e.g., solid) and change to another when moisture is applied (saliva, water) or temperature (heat) change occurs
• Minimal chewing is required
• Tongue pressure may be sufficient to break food down after alteration of moisture or temperature
• Developmental teaching or rehabilitation of chewing skills
**Example of IDDSI Descriptors**

<table>
<thead>
<tr>
<th>Description/characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Usually eaten with a spoon (a fork is possible)</td>
</tr>
<tr>
<td>• Cannot be drunk from a cup</td>
</tr>
<tr>
<td>• Cannot be sucked through a straw</td>
</tr>
<tr>
<td>• Does not require chewing</td>
</tr>
<tr>
<td>• Can be piped, layered or molded</td>
</tr>
<tr>
<td>• Shows some very slow movement under gravity but cannot be poured</td>
</tr>
<tr>
<td>• Falls off spoon in a single spoonful when tilted and continues to</td>
</tr>
<tr>
<td>hold shape on a plate</td>
</tr>
<tr>
<td>• No lumps</td>
</tr>
<tr>
<td>• Not sticky</td>
</tr>
<tr>
<td>• Liquid must not separate from solid</td>
</tr>
</tbody>
</table>

**Texture restrictions shown in summary table**

**Physiological rationale for this level of thickness**

- If tongue control is significantly reduced, this category may be easiest to manage.
- Requires less propulsion effort than Minced & Minced (Level 5), Soft & Bite-Sized (Level 6) and Regular (Level 7) but more than Liquidised/Moderately thick (Level 3).
- No biting or chewing is required.
- Increased residue is a risk if too sticky.
- Any food that requires chewing, controlled manipulation or bolus formation are not suitable.
- Pain on chewing or swallowing.
- Missing teeth, poorly fitting dentures.
The National Dysphagia Diet

**Food**

- Level 1: Dysphagia Pureed
- Level 2: Dysphagia Mechanically Altered
- Level 3: Dysphagia Advanced

**Drinks**

- Thin
- Nectar-thick
- Honey-thick
- Spoon-thick
<table>
<thead>
<tr>
<th>IDDSI</th>
<th>NDD</th>
<th>IDDSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>VS.</td>
<td>Level 1: Dysphagia Pureed</td>
<td>Level 3: Liquidized</td>
</tr>
<tr>
<td>NDD</td>
<td>Level 2: Dysphagia Mechanically Altered</td>
<td>Level 4: Pureed</td>
</tr>
<tr>
<td></td>
<td>Level 3: Dysphagia Advanced</td>
<td>Level 5: Minced &amp; Moist</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 6: Soft &amp; Bite-Sized</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Level 7: Regular</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Transitional Foods</td>
</tr>
</tbody>
</table>
**IDDSI vs. NDD**

### Liquids

<table>
<thead>
<tr>
<th>NDD</th>
<th>IDDSI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thin</td>
<td>Level 0: Thin</td>
</tr>
<tr>
<td>Nectar-thick</td>
<td>Level 1: Slightly Thick</td>
</tr>
<tr>
<td>Honey-thick</td>
<td>Level 2: Mildly Thick</td>
</tr>
<tr>
<td>Spoon-thick</td>
<td>Level 3: Moderately Thick</td>
</tr>
<tr>
<td></td>
<td>Level 4: Extremely Thick</td>
</tr>
</tbody>
</table>
IDDSI Adoption and Implementation

Implementation Framework

Create a local/regional IDDSI interprofessional champion team

Review current practices, terminology & systems

Map existing systems & terminology to IDDSI framework

Share findings with all stakeholder
Implementation Framework

Develop a plan to introduce IDDSI

Communicate plan & consult all stakeholders

Review, Revise, Monitor

Determine launch date and prepare all stakeholders

Implementing the international dysphagia diet standardization initiative (IDDSI) in dietetic curriculum: A pilot study
Mary Hall, MS; Adrienne Widaman, PhD, RD; Colette LaSalle, PhD, RD
Nutrition, Food Science & Packaging, San José State University, San Jose CA

Background
• Dysphagia (disordered swallowing) affects 4% to 8% of the general population, up to 3% of inpatients > 45 years of age [1,2].
• Thickening liquids using the subjective descriptors of the National Dysphagia Diet (nectar/honey/pudding thick) is difficult to do properly; incorrect thickness can lead to aspiration pneumonia.
• The International Dysphagia Diet Standardization Initiative (IDDSI) Framework uses an objective method to evaluate and classify thickened liquids.
  • Syringe flow test.
  • Fully supported by the Academy of Nutrition and Dietetics (AND) and the American Speech-Language-Hearing Association (ASHA) in January 2017 [3].
  • International in scope, culture-neutral terms, objective testing.

Methods
• Convenience sample: 21 senior dietetic students randomized to lecture (n=10) or lab (n=11) groups.
• After respective instruction sessions, students were asked to identify different consistencies of thickened liquids on a simulated trayline, using the IDDSI flow rate method.

Results

“Research Framework Schematic”

A significant relationship was found between type of thickened liquid and percent of samples correctly identified.

References
Considerations and Risk Management

IDDSI implementation is voluntary

• Some facilities may choose to implement only parts of the initiative
• Industry label changes and terms
  • Simply Thick, LLC. has adopted the IDDSI terminology

Syringes

• Very specific
• Wrong syringe will result in wrong result
• Too many users?
• How to deal with bubbles/chunks? Smoothies?
  • Levels 0-4 should be smooth and homogenous, without particles or lumps
  • If particles clog the syringe, additional blending or passing through a sieve is recommended
  • Extremely Thick fluids will not flow (or pass 1-2 drops) therefore the Spoon Tilt Test and Fork Drip test should be used
• Waste considerations
Considerations and Risk Management

Maintaining texture requirements and nutritional value

- Consider a soup that needs to meet Level 3-Liquidized food texture requirement
  - Blend with water?
    - NO! Dietitians will need to work with food services to ensure nutrient rich alternatives are being used
      - Milk, butter, cream, cheese, gravy, sour cream, etc.

Dental issues? What level?

- Individuals with missing teeth or dentures may benefit from modified food textures even if they do not have dysphagia
- Are they able to cut their own food? Do they need supervision?
  - Consider softer food options within Level 7
Why SLPs are excited about IDDSI

- Easy, reliable testing methods
- Norms for particles/“bite-sized” across ages and cultures
- Incorporation of transitional solids (e.g., Jell-O, wafers, cheese puffs, ice chips, etc.)
- Incorporation of ½-strength nectars (e.g., Health shakes, anyone??)
- IDDSI describes the behavior of foods versus an extensive list

https://iddsi.org/framework/food-testing-methods/
Questions?
References


The International Dysphagia Diet Standardisation Initiative 2016 @https://iddsi.org/framework