Introducing the new International Dysphagia Diet Standardisation Initiative (IDDSI) Framework

IDDSI
International Dysphagia Diet Standardisation Initiative

Julie Cichero, IDDSI Co-Chair
On behalf of IDDSI Committee

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Simply Thick 2015

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SOUTH *AUSTRALIA*

FINDING OF INQUEST

An Inquest taken on behalf of our Sovereign Lady the Queen at Adelaide in the State of South Australia, on the 7thday of April, and 8th day of May, 1997, before W C Chivell, a Coroner for the said State, concerning the death of G M.

Dysphagia affects…

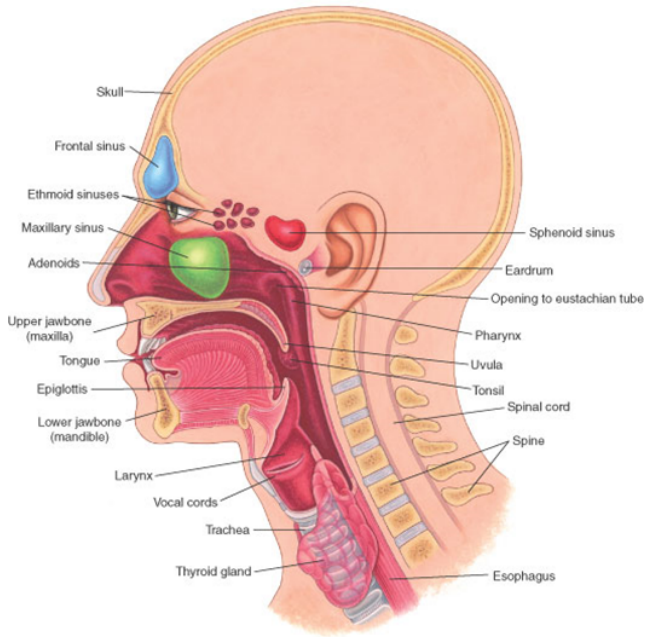
- ~ 8% of the world's population → 560 million
- In US & Canada, 55-68% reported in nursing homes
- In Japan, up to 55% in aged person facility
- Short or long term problem
- Adults and Children

eating … drinking… swallowing…
chewing … sucking… controlling saliva …
taking medication …
protecting the airway…

Dysphagia

Two primary functional concerns:

- Ability to swallow safely, without material entering the airway (penetration-aspiration);
- Ability to swallow efficiently, without leaving residue behind in the throat and taking sufficient by mouth to meet nutritional needs



Reasons for modifying food and liquids :

Safety (Choking- Am J Prev Med, 2005, 28(1): 65-69; Aspiration- Dysphagia, 2011: 26(4): 392-8.)

- Foods = ↓ choking risk
  - Autopsy results: 69% choked at home; 9.5% in hospital
  - Types of food choked on:
    - 35% = Sausage in bun, sandwich, meat, vegetables, noodles
    - 61% = puree, ground meat, mashed fruit

- Liquids = slower flow, increased control

Reasons for modifying foods and liquids: Efficiency

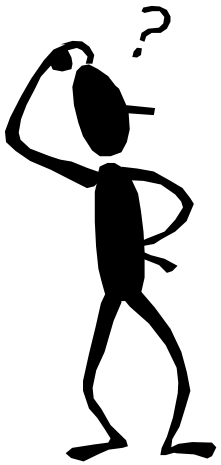
- Fatigue/Weakness
- Poor muscle movement/ coordination
- Sufficient nutrients and adequate hydration to support
  - recovery
  - maintain health

What do we call it?

Runny viscous spoon-thick *sticky*

honey slushy pudding thin

custard mushy chopped smooth



nectar ground puree oily

watery mousse

juicy mealy syrupy thick tarc

minced thin rubbery

Why do we need a standardised system?

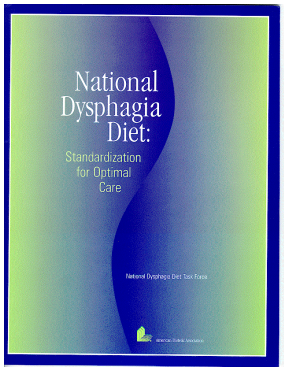
- Safety
  - Multiple labels and definitions cause confusion
  - Within and between institutions
    - Food services
    - Health care professionals
    - Family/Care providers
    - Individuals with swallowing difficulties

Why do we need a standardised system?

- Clinical efficiency
  - Avoids re-assessment to determine safe liquid and diet levels
- Commercial implications
  - 'ready to use/off-the-shelf' items that are consistent from manufacturer/supplier to manufacturer/supplier and similar to those produced in hospitals/care facilities/at home
- Development of clinical evidence and conducting research
  - Lack of consistency

National Standards

USA, UK, Australia, New Zealand, Ireland, Sweden, Denmark, Japan

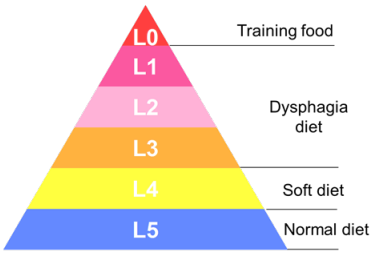


DAA Dietitians Association of Australia

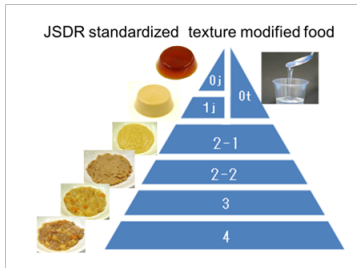
Speech Pathology Australia

Giving people a say in life

IASLT



Irish Nutrition and Dietetic Institute



Global implications
(texture modified food)

Ireland

UK

Texture B =

minced & moist

Texture B =

thin puree

Texture D =

liquidised

Texture D =

pre-mashed

dysphagia diet

Global implications
(clinical recommendations)

- Robbins et al. (2008) Protocol 201
  - Conclusion: "individuals on honey-thick liquids had poorer outcomes than individuals on nectar-thick liquids".
  - Viscosity range of their
    'nectar-thick' was 300cP ✓
    'honey-thick' was 3,000cP ✗

Nectar 51-350 cP
Honey 351-1750 cP
Spoon-thick >1750 cP

- Misleading recommendations due to terminology confusion

'honey'?

Four stage plan… 2013-2015

IDDSI
International Dysphagia Diet Standardisation Initiative

Stage 1	Collaboration + consolidation of existing data
Stage 2	Gather the evidence – literature review and stakeholder survey
Stage 3	Interlace technical + research evidence with clinical and cultural needs
Stage 4	**Consolidation, Stakeholder Consultation & Publication**

IDDSI
International Dysphagia Diet Standardisation Initiative

Open Access Publication

Curr Phys Med Rehabil Rep
DOI 10.1007/s40141-013-0024-z

SWALLOWING DISORDERS (RE MARTIN, SECTION EDITOR)

The Need for International Terminology and Definitions for Texture-Modified Foods and Thickened Liquids Used in Dysphagia Management: Foundations of a Global Initiative

Julie A. Y. Cichero · Catriona Steele · Janice Duivestein · Pere Clavé · Jianshe Chen · Jun Kayashita · Roberto Dantas · Caroline Lecko · Renee Speyer · Peter Lam · Joseph Murray

http://tinyurl.com/q54terf

International Stakeholder Consultation #1: n=2049; 33 different countries

Persons with dysphagia + carers; Professional associations that support; Health care professionals + food service; Industry; Researchers

Foods: 54 labels; 4-5 levels texture modification + normal most reported

Africa	Normal, Soft, chopped, puree/mashed, liquid/blender
Australia + New Zealand	Full/normal, soft, minced + moist, puree/smooth puree
Asia	Regular, soft, minced/shredded, congee/puree, liquidised/blenderised
Canada	Regular, soft, minced, puree
Europe	Normal, Soft/tender/cut up, Ground/puree, liquid
Ireland	Regular, Soft, Minced + Moist, Puree/Smooth puree, Liquidised
Middle East	Solid, soft, minced + mashed, other puree
South America	Solid, Soft, mashed, thick puree, liquidised
United Kingdom	Normal, Fork mashable/Soft, pre-mashed/Texture D, puree, thin puree
United States of America	Regular, advanced/stage 3, mechanical soft/chopped/

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Health Professionals & Food Service Survey

Most commonly

4-5 levels food textures

most often reported

1	2	3	4	5

16%

use a colour, number [1,II] or scheme to identify TM foods

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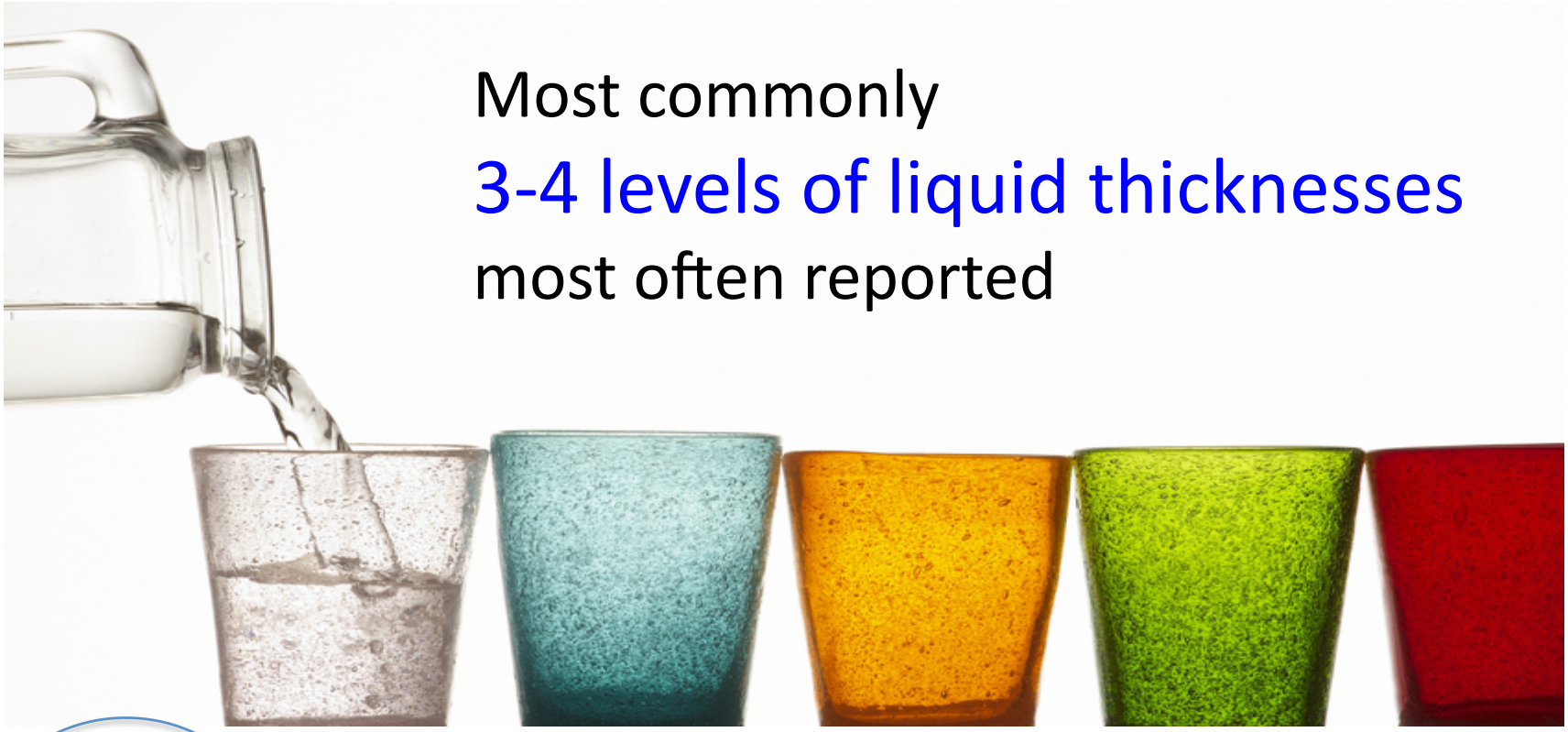
Health Professionals & Food Service Survey



Most commonly

3-4 levels of liquid thicknesses

most often reported

25%

use a colour, number [1,II] or scheme to identify Thickened liquids

Liquids: 27 labels;
3+ levels thickness levels + normal

Region	Names (least to most modified)
Africa	Normal/regular, nectar, syrup, pudding, thick
Australia + New Zealand	Thin, Mildly thick/Level 150, Moderately thick/Level 400, Extremely thick/Level 900
Asia	Thin, slightly thick, mildly thick, medium thick, extra thick
Canada	Thin, nectar, honey, pudding
Europe	Normal, Syrup/Slightly thick, nectar, honey, pudding
Ireland	Regular/normal, Gr 1, Gr 2, Gr 3, Gr 4
Middle East	Thin, mildly thick, moderately thick, other thick
South America	Liquid, slightly thick, nectar, honey, pudding
United Kingdom	Normal, Stage 1, Syrup, custard, pudding/stage 3
United States of America	Thin, nectar, honey, pudding

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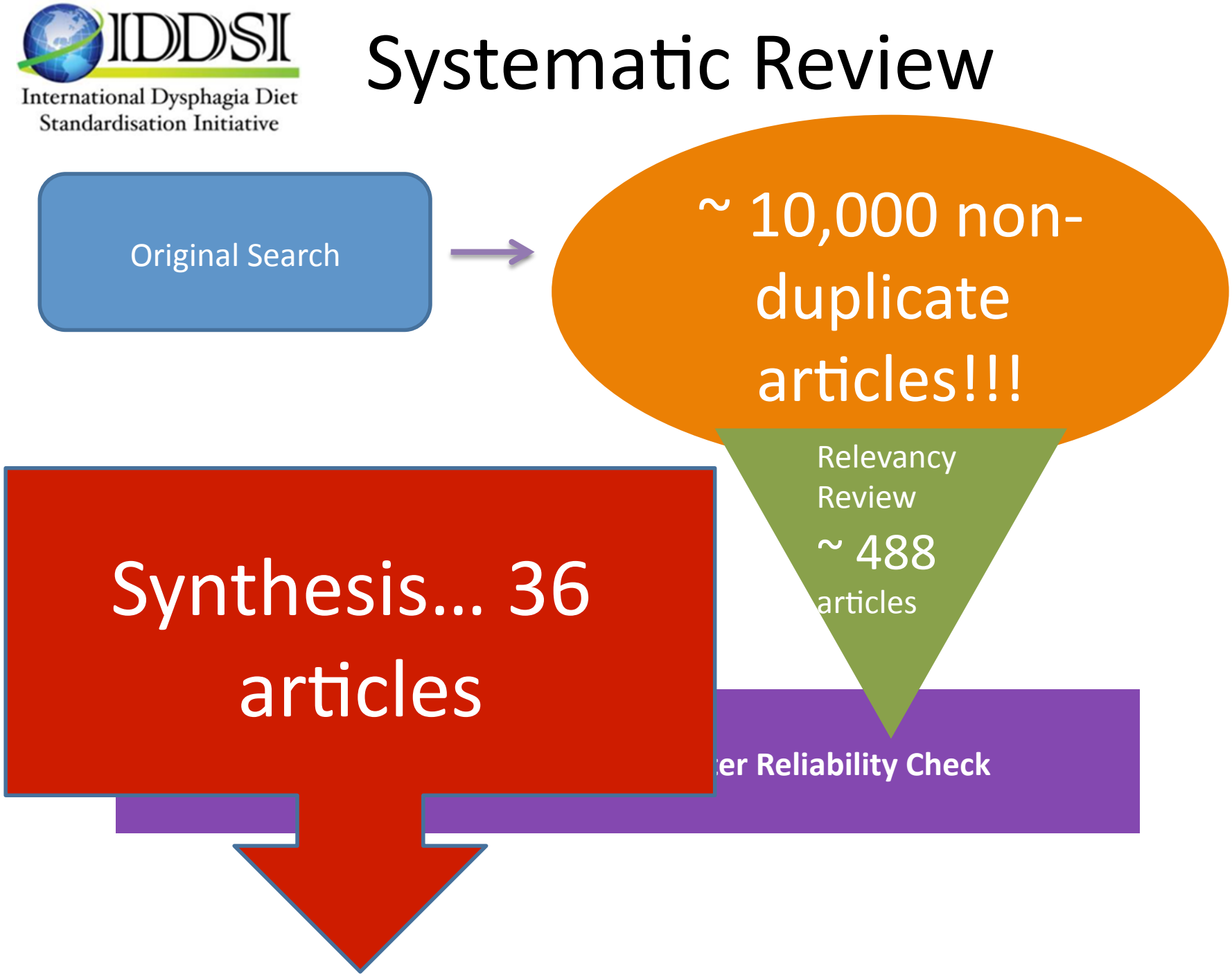
Health Professionals & Food Service Survey

- Only 40% of respondents check that texture modified foods and thickened liquids are of appropriate consistency before serving!?!

Systematic Review



International Dysphagia Diet Standardisation Initiative

IDDSI Systematic Review

Dysphagia
DOI 10.1007/s00455-014-9578-x

ORIGINAL ARTICLE

The Influence of Food Texture and Liquid Consistency Modification on Swallowing Physiology and Function: A Systematic Review

Catriona M. Steele · Woroud Abdulrahman Alsanei · Sona Ayanikalath · Carly E. A. Barbon · Jianshe Chen · Julie A. Y. Cichero · Kim Coutts · Roberto O. Dantas · Janice Duivestein · Lidia Giosa · Ben Hanson · Peter Lam · Caroline Lecko · Chelsea Leigh · Ahmed Nagy · Ashwini M. Namasivayam · Weslania V. Nascimento · Inge Odendaal · Christina H. Smith · Helen Wang

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http://bit.ly/1wvZydp

IDDSI Systematic Review

- There IS evidence that thickening helps those who aspirate thin liquids
- There is ALSO evidence that there is such a thing as "too thick", where residue begins to accumulate
- There is no specific evidence to point to particular rheological values that define the boundaries of effective thickening (either just thick enough or too thick)

IDDSI Systematic Review

- There IS evidence solid food and thicker consistencies require greater effort in oral processing and swallowing
- There is very little literature specifically about texture modified food used for the management of dysphagia

Four stage plan… 2013-2015

Stage 1	Collaboration + consolidation of existing data (Completed August 2013)
Stage 2	Gather the evidence (Systematic Review & Analysis of Stakeholder Surveys – Completed October 2014)
Stage 3	Interlace technical + research evidence with clinical and cultural needs (Completed February 2015)

Expert Panel Meeting Vancouver January 2015

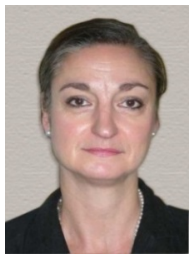
- Bringing together published standards; stakeholder feedback; research from systematic review
- Determine Draft
  - Number of levels
  - Labels for levels
  - Colour/number system
  - Methods of assessment (low tech + high tech)

IDDSI Committee

Jan Duivestein
Canada

Ben Hanson
UK

Jun Kayashita
Japan



Caroline Lecko
UK

Joe Murray
US

Mershen Pillay
S. Africa

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Roberto Dantas
Brazil

Jianshe Chen
China

Peter Lam
Canada

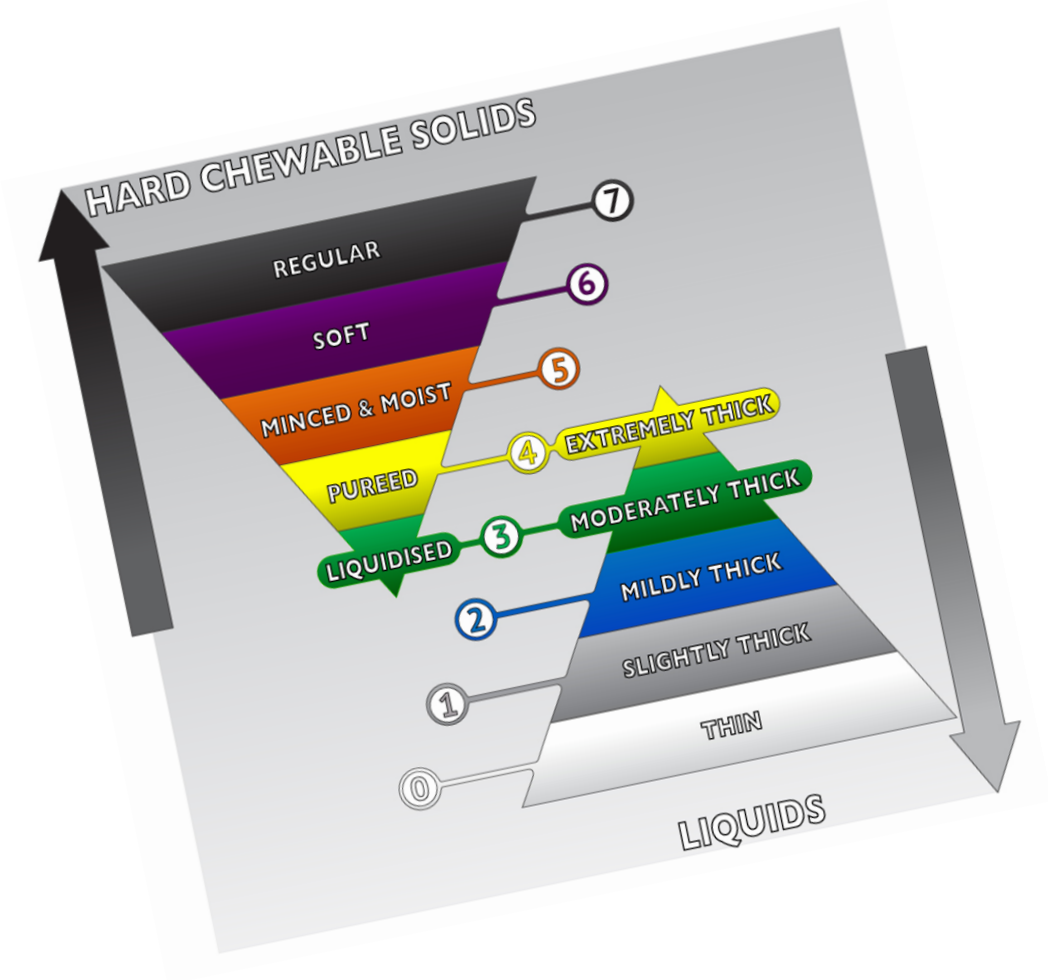
Julie Cichero
Australia

Catriona Steele
Canada

Soenke Stanchus
Germany

International Co-Chairs

Draft Framework–
Stakeholder Consultation #2: May 2015



Support for:

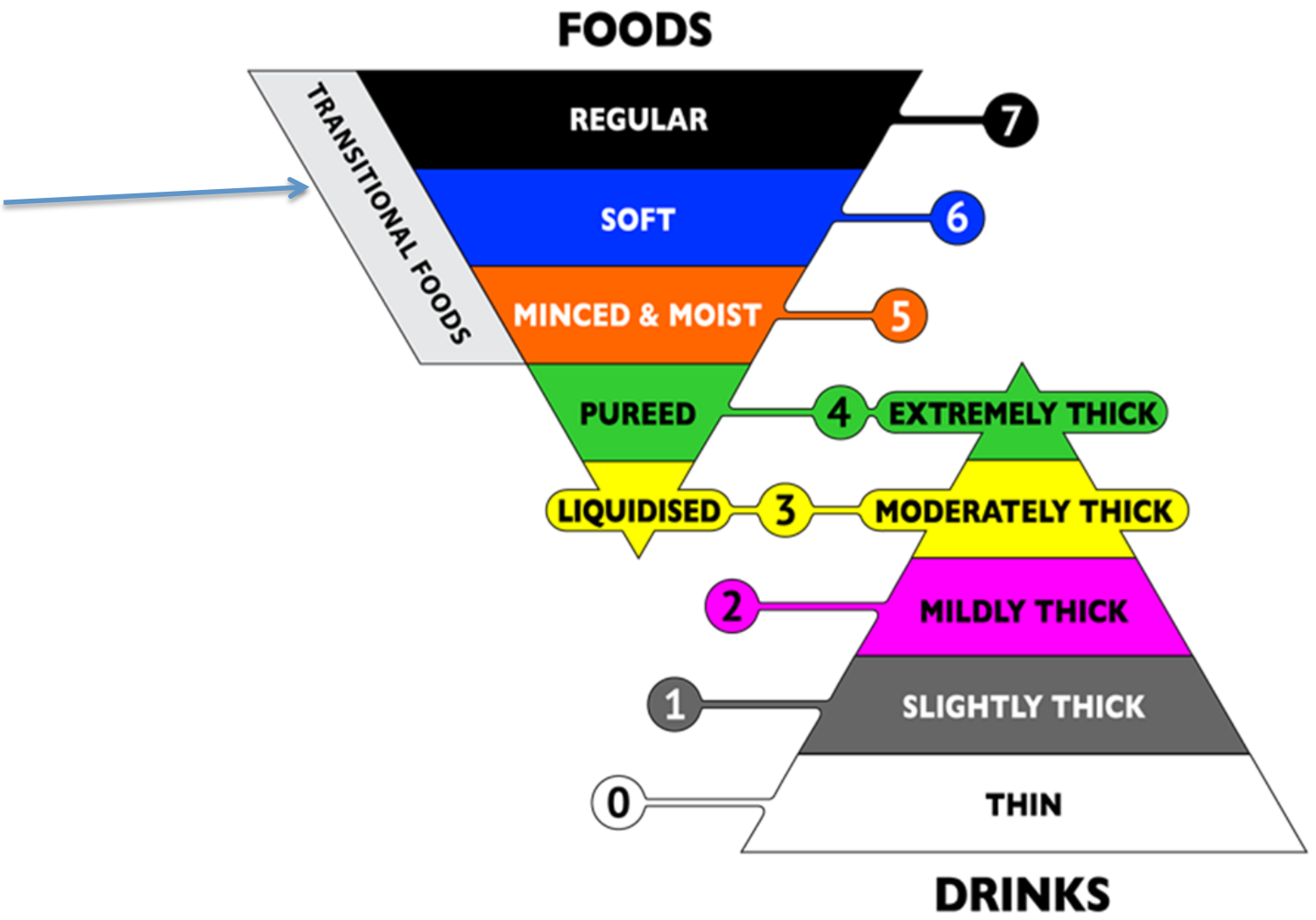
- overall framework
- colours
- schema
- names of levels** (except for slightly thick)
- the syringe test
- name ‘minced and moist’
- the detailed descriptions

International Stakeholder Consultation #2: Draft framework n=3190; 57 different countries

Persons with dysphagia + carers; Professional associations that support; Health care professionals + food service; Industry; Researchers

Refined final Framework

Launched Kyoto, Japan September 2015



Detailed Descriptors & Testing Methods – Drinks (Launched Sept 2015 + ESSD Conference)

IDDSI
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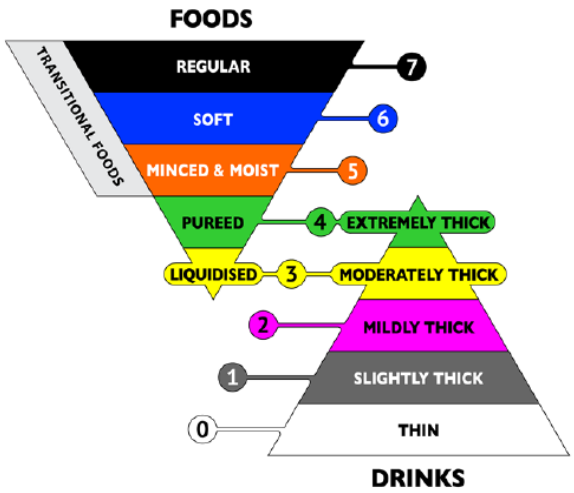
www.iddsi.org



Detailed Descriptors, Testing Methods and Evidence

Drinks: Levels 0-4

3 MODERATELY THICK LIQUIDISED

IDDSI www.iddsi.org

Description/ Characteristics	• Will not hold shape its shape on a spoon • Sippable, pours slowly off a spoon • Difficu (wide • Canno • Canno
Physiological rationale for this level of thickness	• If tong (Level • Flows • Allows • Needs
Testing method IDDSI Flow Test*	• Test li more t
Fork Test	

4 EXTREMELY THICK PUREED

IDDSI www.iddsi.org

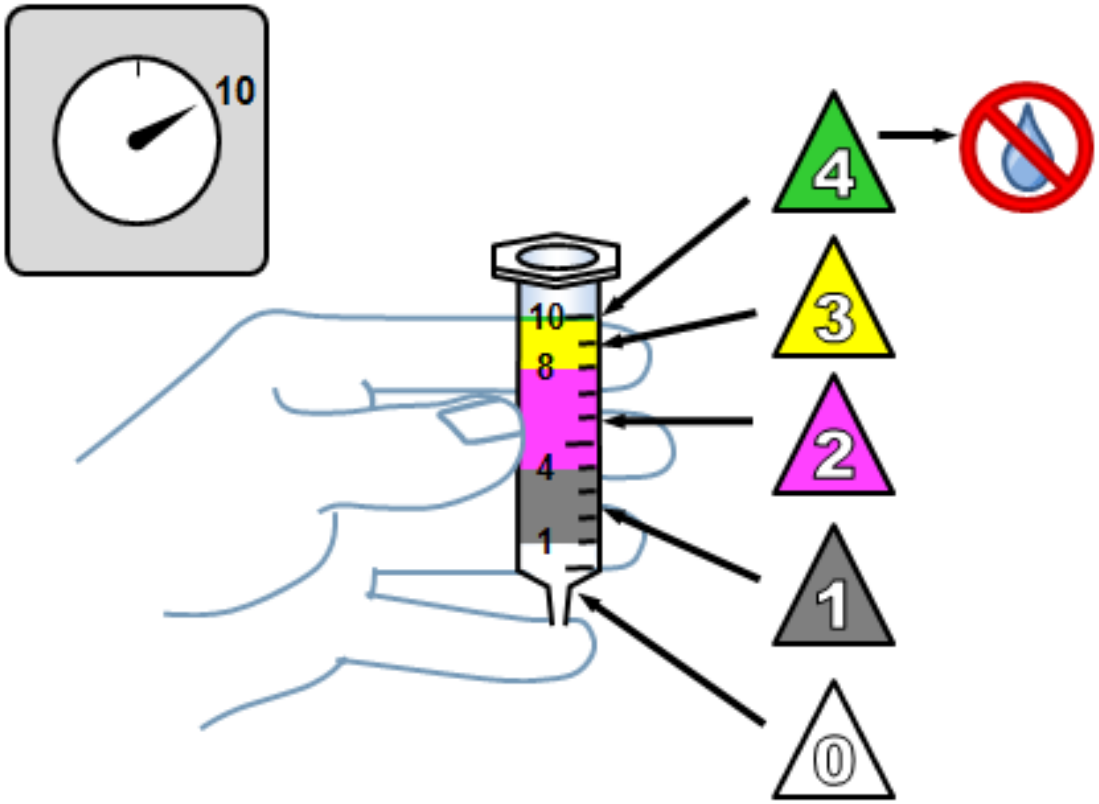
Description/ Characteristics	• Holds shape on spoon • Flows very slowly under gravity • Does not require chewing • Could be piped, layered or moulded • No lumps

2 MILDLY THICK

IDDSI www.iddsi.org

Description/ Characteristics	• **Flows off a spoon** • **Sippable, pours quickly from a spoon, but slower than thin drinks** • **Effort is required to drink this thickness through standard bore straw (standard bore straw = 0.209 inch or 5.3 mm diameter)**
Physiological rationale for this level of thickness	• If thin drinks flow too fast to be controlled safely, these Mildly Thick liquids will flow at a slightly slower rate • May be suitable if tongue control is slightly reduced.
Testing method IDDSI Flow Test*	• Test liquid flows through a 10 mL slip tip syringe leaving 4 to 8 ml in the syringe after 10 seconds (see IDDSI Flow Test instructions*)

IDDSI Flow Test



IDDSI Level classifications based on liquid remaining after 10 seconds:

Level 0: All liquid has flowed through syringe.

Level 1: There is between 1 and 4ml remaining.

Level 2: There is between 4 and 8ml remaining.

Level 3: There is more than 8ml remaining, but some liquid still flows through.

Level 4: If no liquid flows at all, the category is Level 4 or above.

Level 4 can also be easily identified without a syringe test: Material holds its own shape; small peaks remain on the surface. Too thick to be drunk from a cup or a straw, should be taken with a spoon. A full spoonful must drop off a spoon if turned sideways; a very gentle flick may be necessary but the material should not be firm, nor sticky.

© Ben Hanson 31/3/2015

Detailed Descriptors & Testing Methods:

Foods – to be released 23 Oct 2015, China

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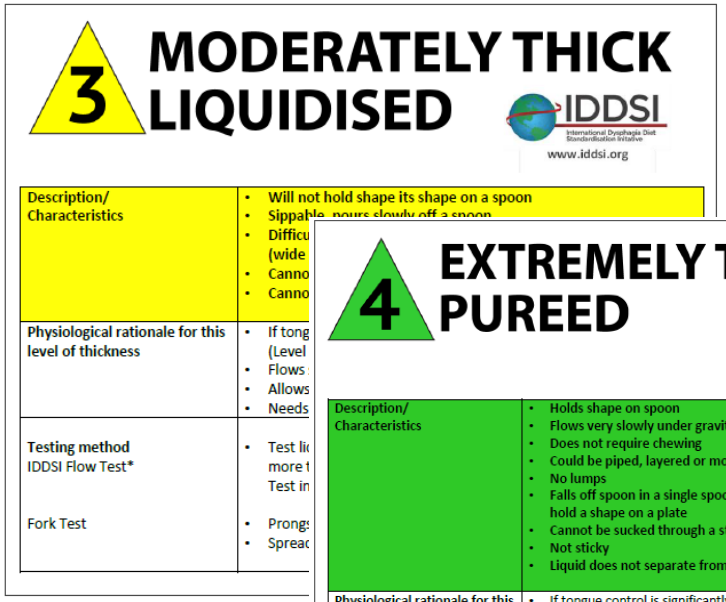
Detailed descriptions
Testing methods and Evidence

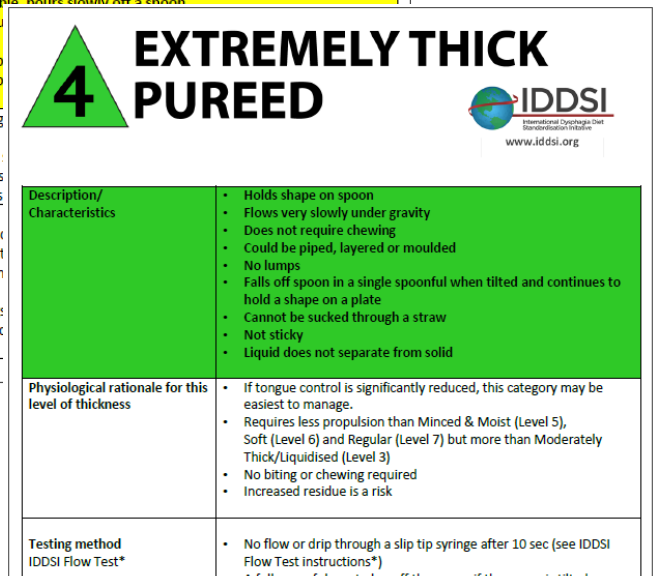
Food: Levels 4-7



3 MODERATELY THICK LIQUIDISED

IDDSI
www.iddsi.org

Description/ Characteristics	• Will not hold shape its shape on a spoon • Sippable, pours slowly off a spoon • Difficu (wide • Canno • Canno
Physiological rationale for this level of thickness	• If tong (Level • Flows • Allows • Needs
Testing method IDDSI Flow Test*	• Test li more t Test in
Fork Test	• Prong • Spread



4 EXTREMELY THICK PUREED

IDDSI
www.iddsi.org

Description/ Characteristics	• Holds shape on spoon • Flows very slowly under gravity • Does not require chewing • Could be piped, layered or moulded • No lumps • Falls off spoon in a single spoonful when tilted and continues to hold a shape on a plate • Cannot be sucked through a straw • Not sticky • Liquid does not separate from solid
Physiological rationale for this level of thickness	• If tongue control is significantly reduced, this category may be easiest to manage. • Requires less propulsion than Minced & Moist (Level 5), Soft (Level 6) and Regular (Level 7) but more than Moderately Thick/Liquidised (Level 3) • No biting or chewing required • Increased residue is a risk
Testing method IDDSI Flow Test*	• No flow or drip through a slip tip syringe after 10 sec (see IDDSI Flow Test instructions*)

FAQ

- Our facility only uses to levels of thick fluids and 2 levels of thickened liquids…
  - That's fine – please just use the IDDSI labels – it doesn't matter if there are gaps
  - There is no need for facilities to offer every level, only those that they use
- Aged care facility vs. paediatric setting vs. acute hospital vs. rehab hospital vs. home

For Australia …where to now…

Australian Standards for Texture Modified Foods and Fluids

The provision of thickened fluids and texture modified foods is a routine part of the assessment and management of feeding and swallowing difficulties (dysphagia).

If you need assistance with the level of fluid and food texture modification required, contact your Speech Pathologist.

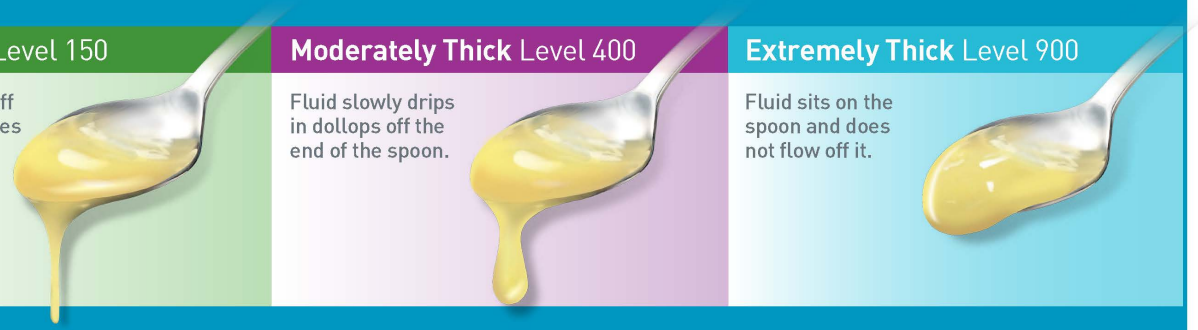
To find a Speech Pathologist, go to **www.speechpathologyaustralia.org.au**

If you require support to determine whether a textured modified diet is meeting nutrition and hydration needs, contact your dietitian.

To find an Accredited Practising Dietitian (APD), go to **www.daa.asn.au**

FLUID

Mildly Thick Level 150	**Moderately Thick** Level 400	**Extremely Thick** Level 900
Fluid runs freely off the spoon but leaves a mild coating on the spoon.	Fluid slowly drips in dollops off the end of the spoon.	Fluid sits on the spoon and does not flow off it.



FOOD

Texture A - Soft	**Texture B** - Minced and Moist	**Texture C** - Smooth Pureed
Food may be naturally soft or may be cooked or cut to alter its texture.	Food is soft, moist and easily mashed with a fork; lumps are smooth and rounded.	Food is smooth, moist and lump free: may have a grainy quality.

NestléHealthScience
Where Nutrition Becomes Therapy

For more information call **1800 671 628** or visit **www.nestlehealthscience.com.au**

Nestlé Healthcare Nutrition, a division of Nestlé Australia Ltd, 20-24 Hawleys Road, Notting Hill VIC 3168, Australia.
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Speech Pathology Australia

DAA Dietitians Association of Australia

Biggest changes for Australia

- Number of levels
  - One additional level for drinks
  - Two additional levels for foods
- Colours
  - New colours for drinks
  - Introduction of colours for foods
- Numbers
  - Numbers for foods and drinks

Currency Converter - Drinks

Australian Standards

Unmodified regular

Level 150
Mildly thick ✔

Level 400
Moderately Thick ✔

Level 900
Extremely Thick ✔

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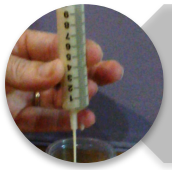
0 Thin



1 Slightly Thick

2 Mildly Thick

3 Moderately Thick

4 Extremely Thick

Currency Converter - Foods

Australian Standards

Regular

Texture A

Soft ✔

Texture B

Minced and Moist ✔

Texture C

Smooth puree ✔

IDDSI

International Dysphagia Diet Standardisation Initiative

7 Regular

6 Soft

5 Minced & Moist

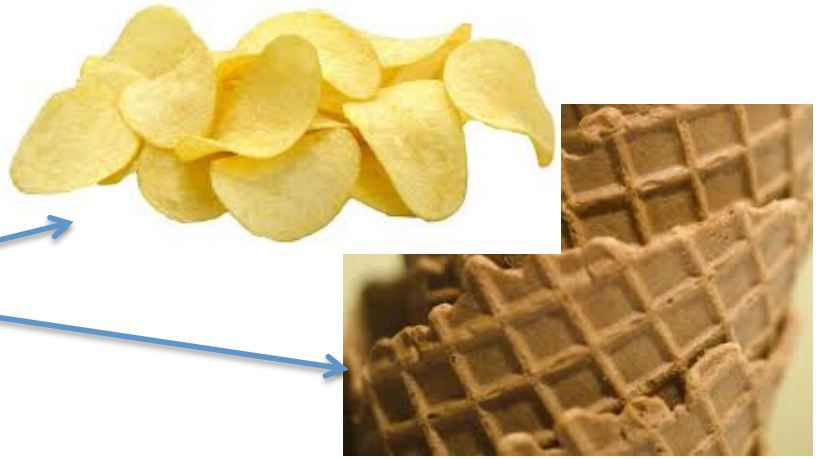
4 Pureed

5 Liquidised

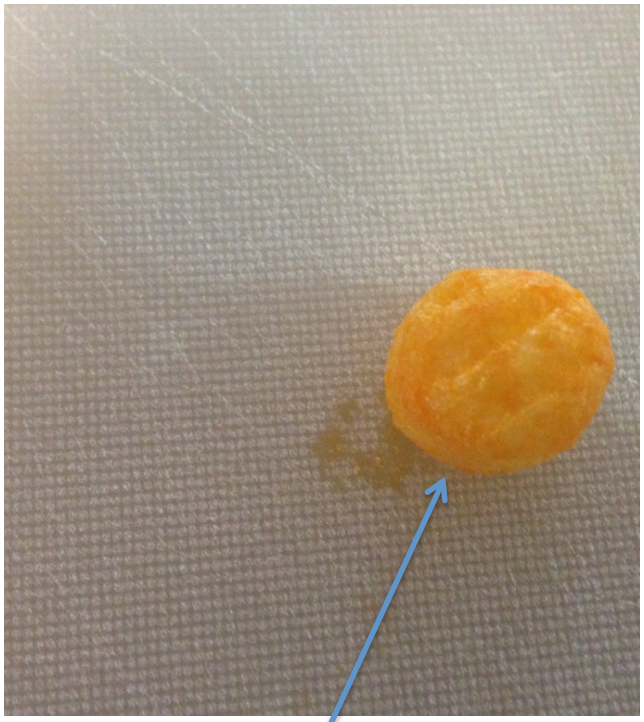
Transitional Foods

What are *"Transitional foods"*?

- Foods that start as one texture and change into another with moisture or temperature
- Minimal chewing required
- Tongue pressure may be sufficient to break food down after alteration in moisture or temperature

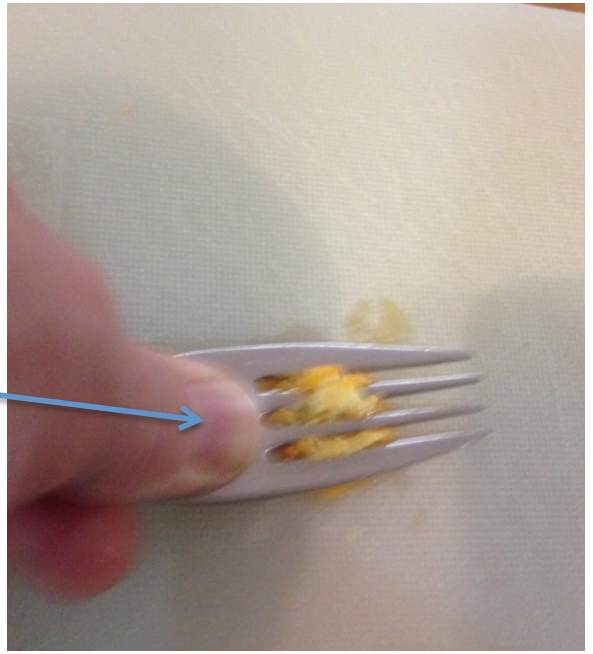


“Melt-in-the mouth”



Result after fork pressure dry

Deformation after 1ml water for 1 min



Consultations and Progress to date

In principle support for uptake using the collaborative Aware-Prepare-Adopt Model

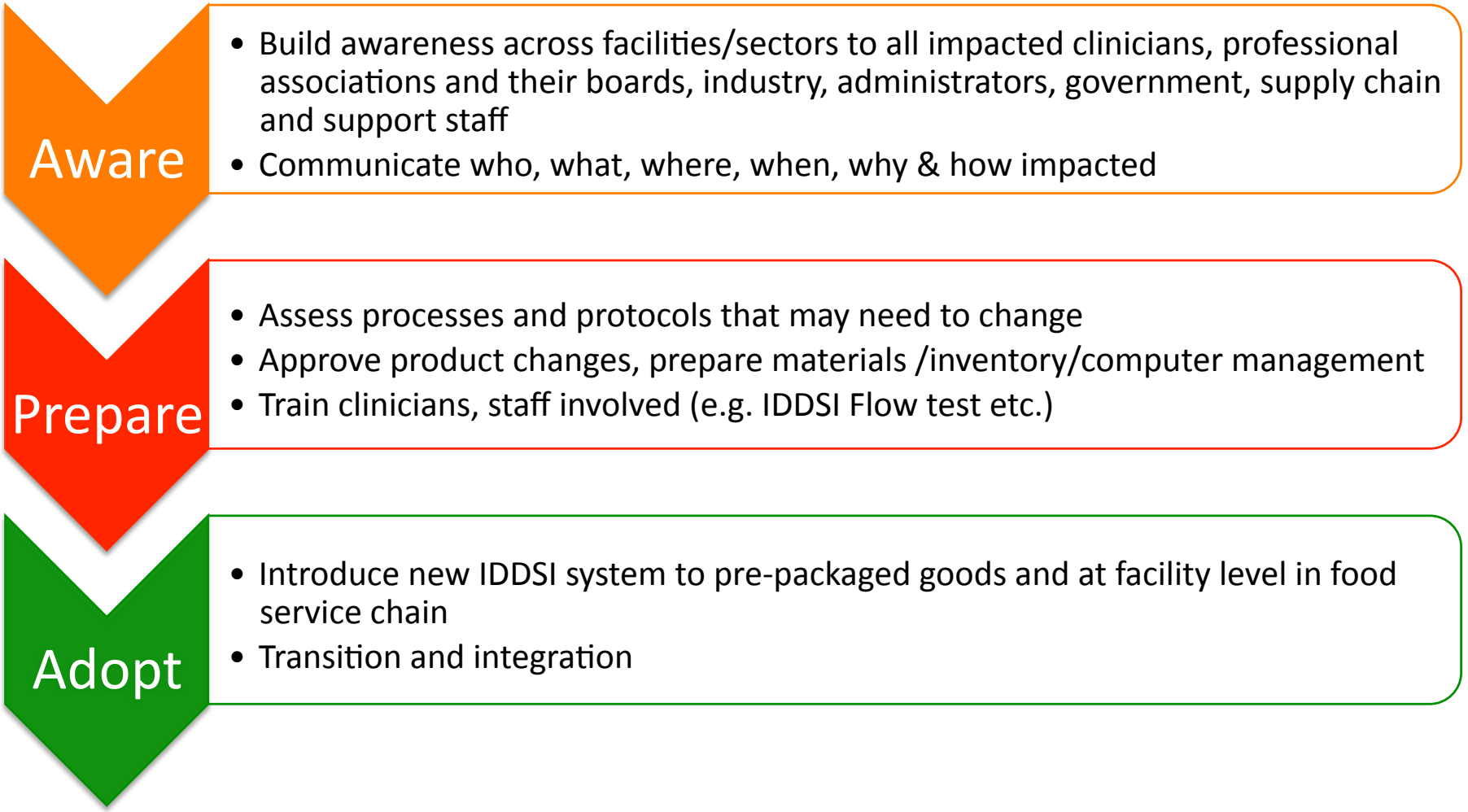
AUSTRALIA
Dietitians' Association of Australia (DAA) +
Speech Pathology Australia

UNITED KINGDOM
Royal College Speech + Language Therapists
British Dietetic Association
Royal College of Nursing
Hospital Caterer's Assn
National Ass Care Catering

CANADA
Canadian Dietetic Association
Canadian Association of Speech-Language Pathologists + Audiologists
Canadian Association of Occupational Therapists

Meeting with American Speech + Hearing Association and Academy of Dietetics Nov 2015

Aware-Prepare-Adopt
Model for uptake



Barriers to uptake..

International Journal of Speech-Language Pathology, 2012; Early Online: 1–12

informa
healthcare

Evaluation of the uptake of the Australian standardized terminology and definitions for texture modified foods and fluids

SARAH JUKES[1], JULIE A.Y. CICHERO[2], TERRENCE HAINES[1], CHRISTINA WILSON[3], KATE PAUL[4] & MICHELLE O'ROURKE[1]

[1]*Southern Health, Victoria, Australia,* [2]*The University of Queensland, Queensland, Australia,* [3]*Speech Pathology Australia, Victoria, Australia, and* [4]*Dietitians Association of Australia, ACT, Australia*

Change management

Language and cultural barriers

Training

IDDSI #2!

Enablers for uptake..

International Journal of Speech-Language Pathology, 2012; Early Online: 1–12

informa
healthcare

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[1]*Southern Health, Victoria, Australia,* [2]*The University of Queensland, Queensland, Australia,* [3]*Speech Pathology Australia, Victoria, Australia, and* [4]*Dietitians Association of Australia, ACT, Australia*

Inter-disciplinary collaboration

Support from industry

Photos… videos…

Low tech testing methods

Educational material and sessions

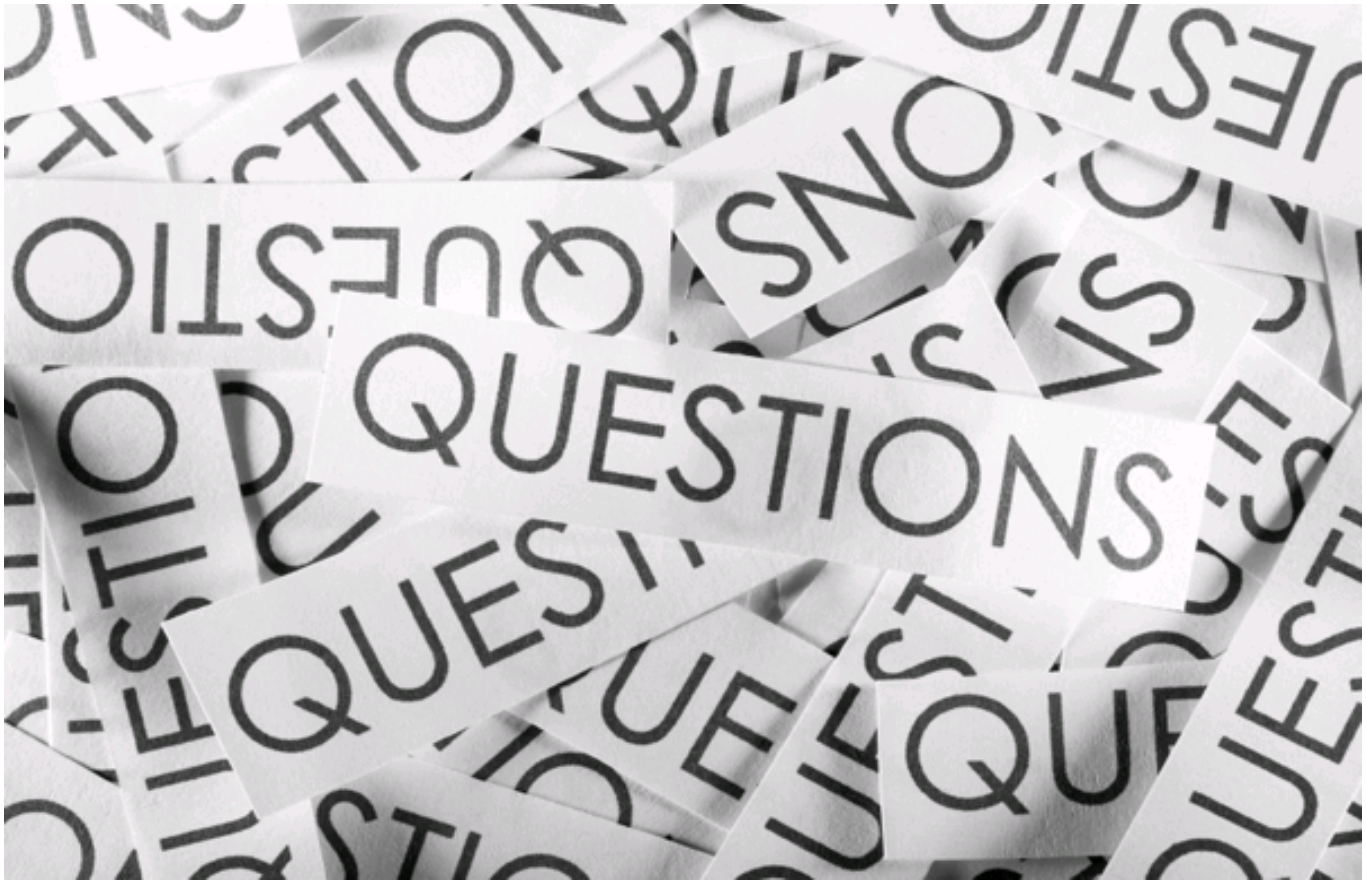
IDDSI #2!

Four stage plan… 2013-2015

IDDSI
International Dysphagia Diet Standardisation Initiative

Stage 1	Collaboration + consolidation of existing data
Stage 2	Gather the evidence – literature review and stakeholder survey
Stage 3	Interlace technical + research evidence with clinical and cultural needs
Stage 4	**Consolidation, Stakeholder Consultation & Publication**

www.IDDSI.org



IDDSI
International Dysphagia Diet Standardisation Initiative

Email: julie.cichero@iddsi.org

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