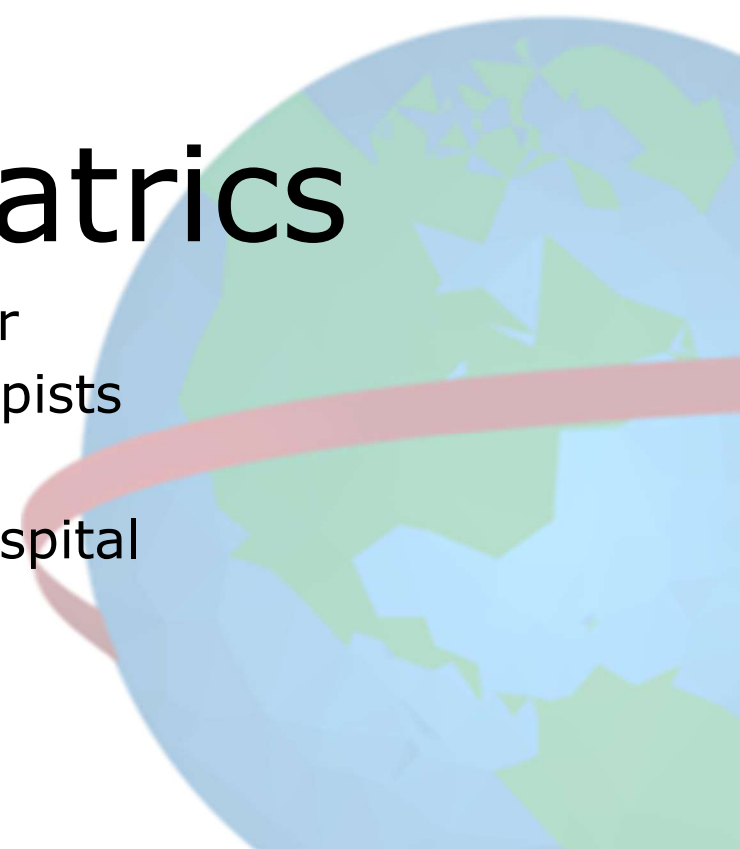




IDDSI in Paediatrics

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Speakers Disclosures

- No disclosures





Demonstration – thickening using Instant Carobel



Recipe to achieve IDDSI level 1:

- Measure 100mls water
- Add 2 scoops Instant Carobel
- Shake for 30 seconds
- Leave to stand for additional 2.5 mins

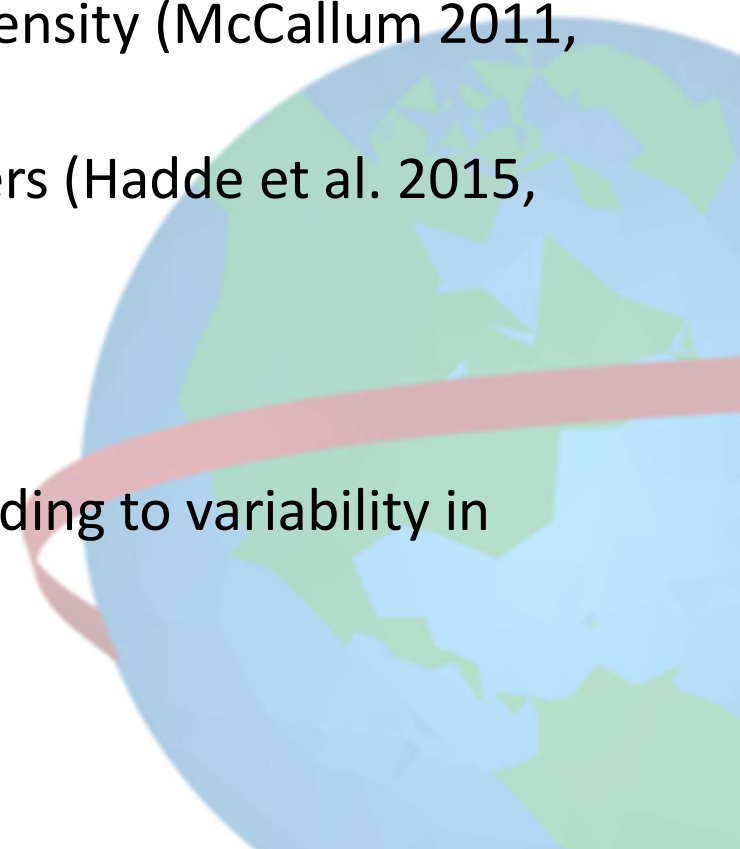




Thickening fluids in infants



- Impact on nutrition – both intake and caloric density (McCallum 2011, Gosa & Dodrill 2017)
- Fat content, proteins, minerals impact thickeners (Hadde et al. 2015, Sopade et al. 2008)
- Temperature of formula (Ng et al. 2022)
- Thickening over time (Ng et al. 2022)
- Expressed breastmilk: variable composition leading to variability in thickening, wastage

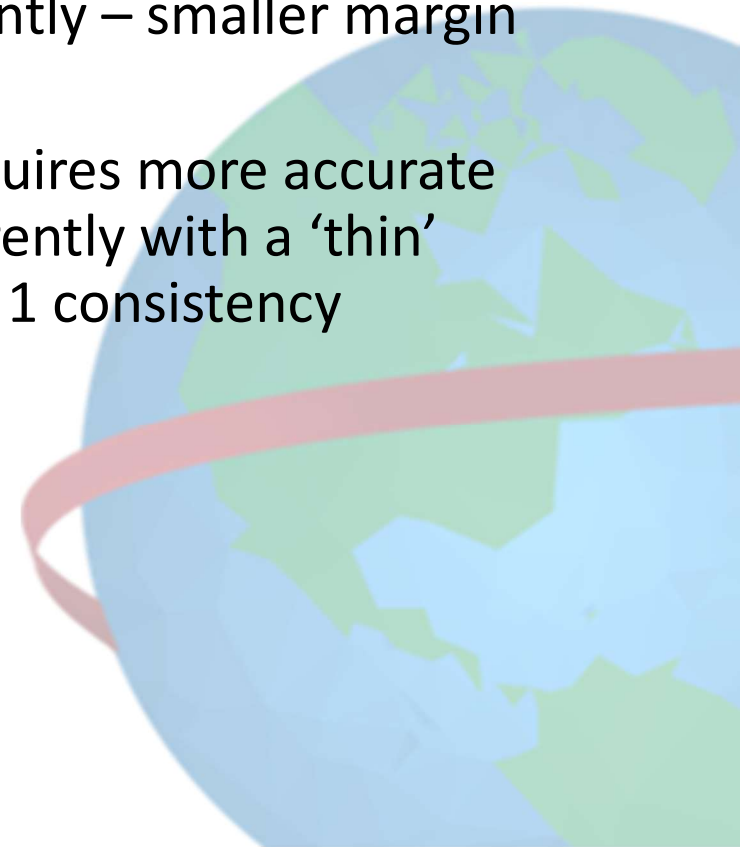




Thickening fluids in infants



- Parental report of difficulty thickening consistently – smaller margin of error
- Frequently recommend IDDSI level 1 which requires more accurate thickening – and an infant may even feed differently with a ‘thin’ IDDSI level 1 as opposed to a ‘thick’ IDDSI level 1 consistency
- Infant Gaviscon + thickening agent -> bezoar





Thickening agents in paediatrics



- Instant Carobel: only licensed thickening agent for under 1 y/o
- Contains maltodextrin and carob bean gum
- 1-3 year olds, additional licensed thickening agents are Thixo-D and Thixo-D Cal free
- All other thickening agents are only licensed for use with over 3 year olds

Main reasons for these restrictions:

- Association with NEC (Bear et al. 2012)
- High sodium content especially of xantham gum based thickeners
- Non-sterile manufacturing conditions





Thickening agents in paediatrics



Natural thickening agents chosen by parents / carers due to compliance or diarrhoea or constipation:

- Linseed and chia seed
- Thinned down yoghurt / smooth puree
- Naturally thicker drinks

In the United States rice and oatmeal cereal are common thickening agents

- Stevens et al. (2022) found these to be stable for 30 minutes
- High variability -> recommendation to test each feed



Thickening agents in paediatrics



Issues with thinned down puree / yoghurt or naturally thicker fluids:

- Nutritional appropriateness
- Variability in consistency depending on temperature
- Confusing product names e.g., Innocent Smoothies Just for Kids

Or - risk assessment to use unlicensed thickener?



Example: a parent's linseed recipe



To make 1litre of IDDSI level 2:

- Boil 1.2litres of water
- Once brought to the boil place 5-6 tablespoons of linseed into the water
- Reduce heat to minimum straight after you put the linseed in to stop it from boiling over
- Start stirring straight away and this will begin thickening process
- Continually stir the mix to thicken. The longer you leave it to boil the thicker it will become - it takes approximately 5 minutes from when adding the linseed to get it to a IDDSI 2 consistency



Example: a parent's linseed recipe



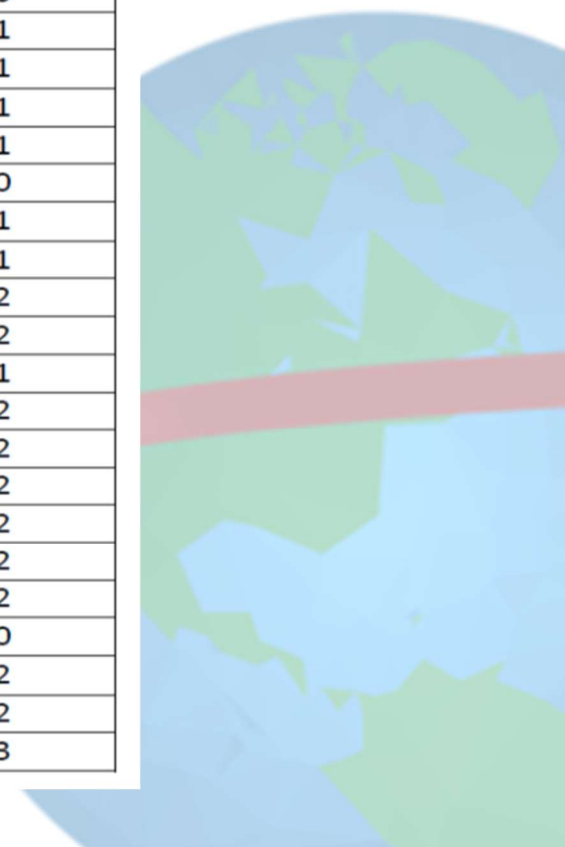
- Once it is to the thickness needed, take it off the stove top then use a sieve to separate the seeds from the fluid - then IDDSI test at this point with the syringe to make sure it is the right consistency.
- Once this is done, it then needs to go straight into the fridge and key is to then keep it cool. It can last in the fridge once made for 2-3 days but once it goes room temperature it goes funny so does not reuse.
- Key- The linseed needed is the softer linseed. It is brown in colour (not the yellow linseed) and it is NOT the one used for exercise (if you read the packaging it will tell you which one is recommended for exercise/ protein intake and which one is not).



Wye Valley Trust Naturally Thick Drinks



Product	Flow mls remaining	Level
Tropicana Orange & Mango pressed fruit juice	0mls	0
Naked Red Machine	0mls	0
Yazoo Chocolate milk	0.6mls	0
Sainsbury's Mango & Passionfruit Smoothie	3.2mls	1
Sainsbury's Chocoholic Milk	3.1mls	1
Shaken Other Dairy Free Chocolate Milk	2mls	1
U Fit Strawberry Milkshake	3mls	1
Morrison's Apple & Raspberry Burst Smoothie	0mls	0
Innocent Energise Smoothie	2.2mls	1
Frijj Milkshake Fudge Brownie	3.8mls	1
Innocent Strawberries & Banana Smoothie	7.9mls	2
Innocent Mangoes, Passionfruit & Apples Smoothie	5.2mls	2
Waitrose Apple, Kiwi & Pear Smoothie	3.2mls	1
Waitrose Strawberries & Banana Smoothie	5.1mls	2
Innocent Blueberries, Peaches & Apples Smoothie	6.4mls	2
Innocent Guavas, Pineapples & Apples Smoothie	6.2mls	2
M&S Mango, Pineapple & Passionfruit Smoothie	5.8mls	2
Morrison's Nourish Strawberry Yoghurt Drink	5mls	2
Asda Pineapple, Coconut & Banana Smoothie	7.9mls	2
Naked Rainbow Machine Smoothie	0.9mls	0
Ensure Compact (from fridge)	7 mls	2
Ensure Compact (room temp)	5.6mls	2
Pro-Cal Shot	8.1mls	3





Instant Carobel



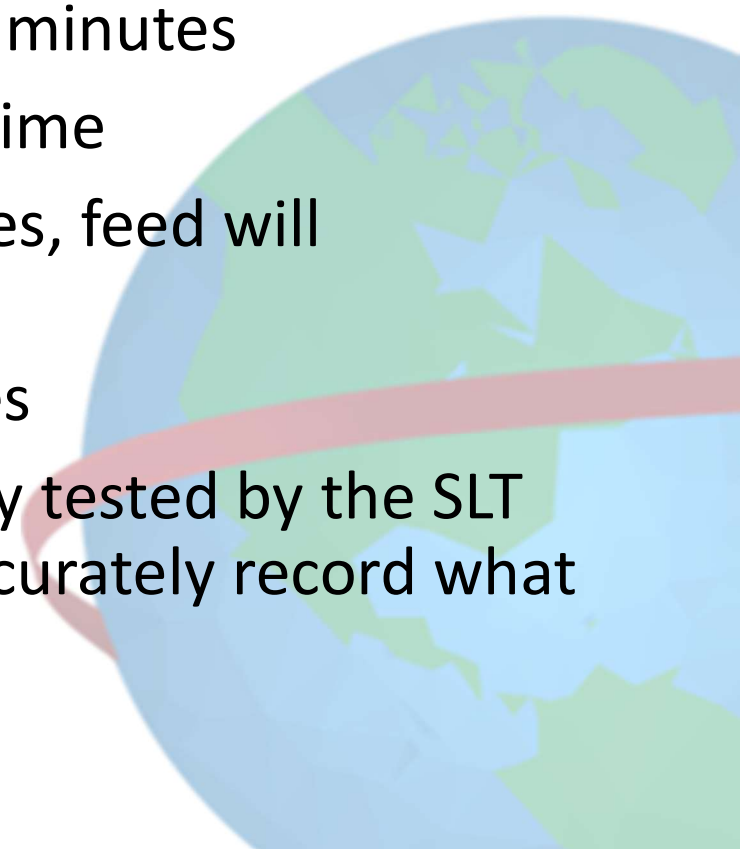
- Not IDDSI compliant as it is for management of reflux and vomiting in infants, not a dysphagia product
- BNF: “for thickening of liquids or foods in the treatment of vomiting”
- There can be a big difference in recipes according to fluid, temperature, standing time
- Compounded by reduced access to IDDSI testing syringes in different services / in the community



Instant Carobel



- Not stable, continues to thicken up to 30 minutes
- Not always possible to thicken ahead of time
- Infant feeds can last for e.g. 20-30 minutes, feed will continue to thicken
- We sometimes 'split' feeds into 2 batches
- In videofluoroscopy clinic fluid is regularly tested by the SLT assistant while the infant is feeding to accurately record what is being tested





Evelina cross-centre Carobel IDDSI project



- Purpose: to establish Carobel recipes for IDDSI levels 1-3 for a range of fluids, in particular infant formulas, that are consistent across centres
- Started with group of 30 different SLT teams across the UK and Ireland
- Agreed on method and fluids to test





Evelina cross-centre Carobel IDDSI project



- Produce recipes after 3 mins standing time and more stable recipes with longer standing time
- Clear and precise methodology
- Different centres came together to test in pairs and for the results to be cross-checked by a different team





Evelina cross-centre Carobel IDDSI project



Methodology:

1. Measure fluid using a 60mls purple enteral syringe
2. Level 1 scoop of Carobel using the back of a knife and add to fluid
3. Start timer as soon as Carobel added
4. Shake for 30 seconds – (we hadn't agreed on anything more, maybe try to not shake too vigorously but pour and watch that there aren't any undissolved Carobel lumps)
5. Leave to stand for 3 minutes from start of timer
6. Using a syringe, fill the testing syringe from the top ready to start testing at 3 minutes. Be careful not to overfill

If syringe overfilled empty from the top (do not let fluid run through the bottom)



Evelina cross-centre Carobel IDDSI project



If bubbles appear, tap the side of the syringe to get rid of them. If they are not gone empty the syringe and refill

7. Test at 3 mins and record how many mls left to 0.25 estimated accuracy
8. Keep timer going

If result is not in range desired (the middle point of the IDDSI level range), make a new batch and adjust amount of fluid by 5mls and test again

9. Test again when timer is at 5 minutes, 10 minutes, 20, and 30 minutes
10. Once a desired result is achieved (found the middle point for the level tested after 3 mins), repeat the same thickening method and retest, aiming to achieve the same result (in the middle point range) in 3/4 trials.



Evelina cross-centre Carobel IDDSI project



*When reusing syringe clean it first: half-fill with water and shake to clean. Let water run through. Ensure there isn't a drop of water in the tip. Test it with water and make sure it runs through quickly (should take ~6.5 seconds)

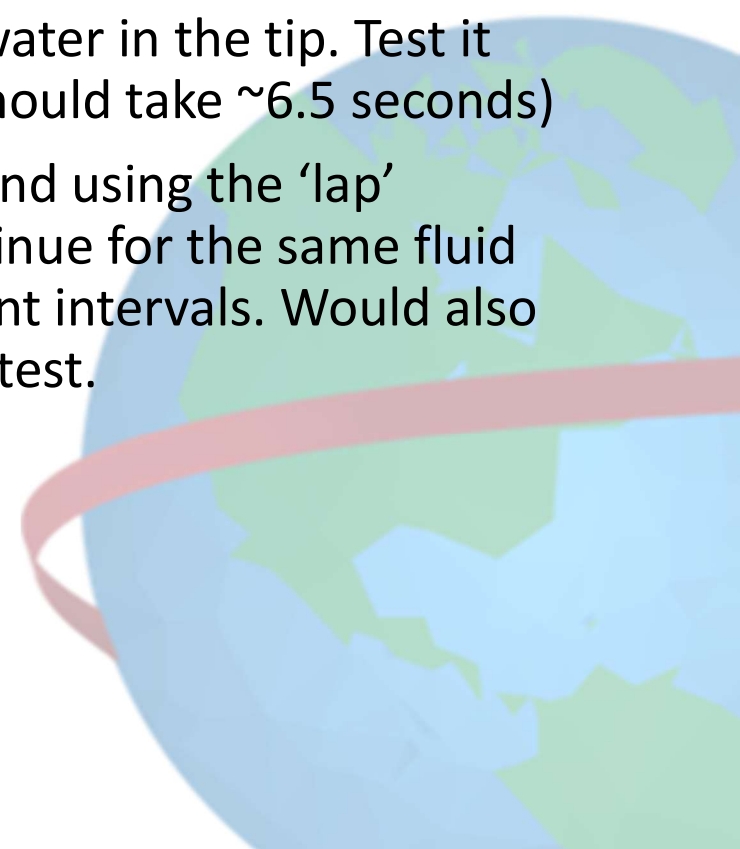
*We would recommend having more than 1 timer, and using the 'lap' functionality on the timer to allow the timer to continue for the same fluid as it continues to thicken if you are testing at different intervals. Would also recommend labelling the containers as you mix and test.

Middle points we are aiming for:

Level 1: 2-3mls left

Level 2: 5.5-6.5mls left

Level 3: 8.5-9.5mls left





Evelina cross-centre Carobel IDDSI project



- Recorded results consistent 3/5 trials
- Cross checked by different team

Outcome:

- Recipes for 3 minutes and stable at 25 minutes for ready and powdered first formula, high calorie formula, and extensively hydrolysed formula





Dysphagia meals



- IDDSI levels 5 and 6 are different for children and adults:
 - IDDSI 5 (paediatric): lumps no larger than 2mm (adults 4mm)
 - IDDSI 6 (paediatric): lumps no larger than 8mm (adults 1.5cm)
- Commercially produced dysphagia meals are far more commonly adult meals only
- Many hospital catering departments only supply adult IDDSI meals
- Wider issues also in community





Retest our IDDSI level 1 fluid





Summary and conclusions

- Fewer resources and less research available
- More individualized assessments and plans required in paediatrics





Questions?

