

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

The following studies, some of which were implemented independently of Viscgo, evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks, the appropriateness of prescribing them and the value for money this will achieve.

Study 1 establishes the need for Viscgo Sticks through customer discovery interviews with Speech and Language Therapists (SLTs).

Study 2 establishes clinical acceptance of the Viscgo Sticks through focus groups with 126 clinicians.

Study 3 shows that 100% of drinks would have been served at an inaccurate level of thickness under current practice where drink thickness is not tested.

Study 4 shows that 100% of drinks tested with the Viscgo Sticks were consequently served at the correct prescribed level of thickness.

Study 5 calculates the wastage of prescribed thickener in current practice. Testing the thickness of every drink with the Viscgo Sticks will reduce this wastage. The cost-saving for the NHS achieved by this reduction in wastage will offset the cost to the NHS of prescribing the Viscgo Sticks.

Study 1. Establishing the need for Viscgo Sticks through customer discovery interviews

Method:

In July 2020, Viscgo conducted semi-structured telephone interviews with 45 key stakeholders (Dysphagia-Specialist Speech and Language Therapists) across the UK who are responsible for the assessment, diagnosis and management of people with dysphagia.

Results:

64% (29/45) interviewees cited lack of adherence to prescribed drink thickness levels as a major problem in their dysphagia practice. One said:

“Mixing drinks is terrible. In 2018 I carried out a service review on the acute wards with 87 patients. 1 in 2 drinks mixed by nursing staff was inaccurate (usually too thick) and 1 in 4 wasn’t thickened at all! Whereas a patient would tolerate the level prescribed, they refused the thicker drinks that were served.”

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

Study 2. Establishing clinical acceptance through focus groups

Method:

Between November 2017 and November 2021, Viscgo conducted 5 Focus Groups with a total of 125 Dysphagia Specialist Speech and Language Therapists and 1 Dietitian. The Viscgo Sticks were demonstrated then given to the attendees to use. The attendees then completed a questionnaire and were invited to leave any other comments.

Results:

Of the 126 participants:

- 96% (122/126) would use the Viscgo Sticks
- 52% (66/126) rated the Viscgo Sticks as excellent
- 46% (58/126) rated them as good
- 75% (15/20) rated ease of use of the Viscgo Sticks as excellent
- 25% (5/20) rated ease of use as good

Table 1. Focus group responses to questions

Date	Nov 2017	June 2018	Nov 2018	June 2019	Nov 2021	Total	
Number of participants	20	30	30	31	15	126	
How would you rate ease of use?	Question not asked						
Poor							
Mediocre							
Average							
Good						5	25% (5/20)
Excellent						15	75% (15/20)
Would you use the Viscgo Sticks?							
Yes	20	28	30	31	13	96% (122/126)	
No					2	2% (2/126)	
Don't know		2				2% (2/126)	
How would you rate the Viscgo Sticks?							
Poor							
Mediocre					1	1% (1/126)	
Average	1					1% (1/126)	
Good	7	12	10	19	10	46% (58/126)	
Excellent	12	18	20	12	4	52% (66/126)	

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

Table 2. Focus group responses to “any other comments?”

<p>Impact on adherence to prescribed drink thickness</p> <p><i>“This is an amazing innovation, it will be so much easier for care staff to follow, and I really think it will increase compliance once this is put into frequent use.”</i></p> <p><i>“Really good for community. A lot of people will benefit, will make it easier and people will follow recommendations.”</i></p> <p><i>“Will really help SLTs demonstrate correct thickness clearly/objectively to carers/staff. Less conflict.”</i></p> <p><i>“Fantastic and easy device that will hopefully save a lot of confusion.”</i></p> <p><i>“Amazing! All my special schools over-thicken drinks.”</i></p> <p><i>“Extremely helpful to be able to check before each sip to check it is meeting guidelines.”</i></p> <p><i>“Great idea trying to achieve more consistency across people (pun intended!)”</i></p> <p><i>“If it was prescribed with thickener I think carers, homes, etc would have to be more receptive.”</i></p>
<p>Impact on patients and their carers</p> <p><i>“Would give carers/parents more confidence in giving thickened drinks. Could also help teach patients to make own drinks.”</i></p> <p><i>“Great idea! I can see the benefits of the sticks in clinical environments and in the client’s home. I can see clients being able to use the sticks independently.”</i></p> <p><i>“I thought they were great. Easy to use - quite motivating! I could see them being used by children, adults + care home staff, etc.”</i></p> <p><i>“Quicker (less time consuming) clients and families can use them easily, easy to model, easier to clean. People with learning difficulties and older children could be involved in testing.”</i></p> <p><i>“Really like the product. It is something carers might actually use and feel confident.”</i></p> <p><i>“Will give more independence to patients/carers.”</i></p> <p><i>“I think this would be particularly useful for carers/supporting staff.”</i></p>
<p>Ease of use</p> <p><i>“Would recommend to everyone! Really quick and easy to use - simple once read instructions and seen demonstration. Much more likely to be used each time.”</i></p> <p><i>“Sticks can be used even by someone with arthritis in their hands (like me).”</i></p> <p><i>“Very simple to use and excellent. Very quick and easy.”</i></p> <p><i>“Easy to clean. Very quick. Portable to use out and about in community.”</i></p> <p><i>“Good idea. Will be used by a lot of people in a number of settings.”</i></p> <p><i>“These are a great idea - quick, easy + simple.”</i></p>
<p>Comparison with syringe flow test</p> <p><i>“Love it!!! Much better than IDDSI syringe testing!!!”</i></p> <p><i>“Much simpler than syringe test :-)”</i></p> <p><i>“Fantastic, I loved it; much more accessible than existing tests.”</i></p>
<p>Clinical acceptability</p> <p><i>“I would like one of these in my dysphagia assessment toolkit.”</i></p> <p><i>“Brilliant idea - look forward to seeing it out in practice.”</i></p> <p><i>“Can’t wait for these to be on the market!”</i></p> <p><i>“Very practical & reliable. Beneficial.”</i></p> <p><i>“Very good product” / “Very exciting!” / “Brilliant idea!” / “Great idea!” / “Brilliant!”</i></p> <p><i>“I feel there would be a market for this product. I look forward to hearing about this product in the future.”</i></p> <p><i>“A really nice idea. May be tricky supporting residential homes to put these into use but I would absolutely support this.”</i></p>

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

Study 3. Pre-intervention drink audit

Method:

An independent observational study was undertaken by a Dysphagia Specialist Speech and Language Therapist in a local authority nursing home. Over two days, Senior Managers at the site assessed the drink thickness level of every drink prior to serving to three residents who had been prescribed thickened drinks. A total of 38 drinks of different types at different temperatures, thickened with xanthan gum-based thickener prescribed by each resident's GP were audited.

Results:

38 (100%) drinks would not have been at the prescribed IDDSI Level when served under current practice where drink thickness is not tested.

(See Table 3 on next page)

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

Table 3. Pre-intervention drink audit results

Drink	Resident	Drink type	Drink temperature	Prescribed IDDSI level	Would drink have been at prescribed level if served without testing?
1	1	tea	hot	1	no
2	1	hot chocolate	hot	1	no
3	1	squash	room	1	no
4	1	squash	room	1	no
5	1	squash	room	1	no
6	1	tea	hot	1	no
7	1	tea	hot	1	no
8	1	hot chocolate	hot	2	no
9	1	hot chocolate	hot	2	no
10	1	juice	cold	2	no
11	1	hot chocolate	hot	2	no
12	1	tea	hot	2	no
13	1	tea	hot	2	no
14	2	tea	hot	2	no
15	2	tea	hot	2	no
16	2	squash	cold	2	no
17	2	squash	room	2	no
18	2	squash	room	2	no
19	2	tea	hot	2	no
20	2	squash	room	2	no
21	2	tea	hot	2	no
22	2	milk	cold	2	no
23	2	tea	hot	2	no
24	2	milk	cold	2	no
25	2	squash	cold	2	no
26	2	milk	cold	2	no
27	2	juice	cold	2	no
28	3	tea	hot	1	no
29	3	hot chocolate	hot	1	no
30	3	tea	hot	1	no
31	3	squash	room	1	no
32	3	tea	hot	1	no
33	3	tea	hot	1	no
34	3	hot chocolate	hot	1	no
35	3	juice	cold	1	no
36	3	juice	cold	1	no
37	3	juice	cold	1	no
38	3	juice	cold	1	no

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

Study 4. Post-intervention drink audit

Method:

Independent studies were conducted across six sites (four private nursing homes, one local authority nursing home and one charitable residential school for people with learning disabilities). 51 health care staff used Viscgo Sticks to test the thickness of 3,903 drinks prior to serving to 23 residents prescribed thickened drinks over 93 site days.

Results:

100% (3,903) drinks were served at the correct prescribed IDDSI Level when tested with the Viscgo Sticks prior to serving.

Table 4. Post intervention drink audit results

Venue	Participating sites	Participating staff	Participating residents	Days	Drinks tested with Viscgo Sticks prior to serving	Drinks tested with Viscgo Sticks served at correct prescribed IDDSI Level	
Private nursing homes	3	27	9	14	234	234	100%
Private nursing home	1	10	8	63	3,565	3,565	
Local authority nursing home	1	7	3	9	38	38	
Charitable residential learning disabilities school	1	7	3	7	66	66	
Total	6	51	23	93	3,903	3,903	

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

User Feedback from Studies 3 and 4

Method:

During Studies 3 and 4, semi-structured interviews and questionnaires were used to capture the user perspective.

Results:

- 96% (25/26) of respondents rated Viscgo Sticks as good or excellent
- 81% (21/26) of respondents reported Viscgo Sticks as easy to use
- 100% (24/24) of respondents reported that using the Viscgo Sticks reassured them that drinks were at the correct level
- 100% (26/26) of respondents reported they would use Viscgo Sticks to test drinks going forward

Table 5. Comments by Study 3 and 4 participants

Pros
<i>“Viscgo Sticks worked like magic to show the correct consistency. We can fully trust and offer drinks to people.”</i>
<i>“It is time saving.”</i>
<i>“Less risk to everyone and drinks are prepared to the correct level.”</i>
<i>“The team wish to use Viscgo Sticks going forward especially in the induction of new staff.”</i>
<i>“I am confident that my resident is having the correct consistency.”</i>
<i>“Within 10 seconds you can decide.”</i>
<i>“The resident is getting the correct level of thickness.”</i>
<i>“Viscgo Sticks are a great guide.”</i>
Cons
<i>“A bit fiddly.”</i>

Summary of studies that evidence the efficacy and cost-effectiveness of the Viscgo Drink Thickness Test Sticks

Study 5. Calculation of wastage of prescribed thickener under current practice where drink thickness is not tested

Method:

An independent study was undertaken by Senior Nursing Staff across three nursing homes for nine residents for three days. Different manufacturers' xanthan gum-based thickeners were used to thicken a variety of drinks at various temperatures (e.g. hot coffee/tea, cold milk, water/oral nutritional supplement at room temperature). To avoid the Hawthorne effect (where behaviour is altered due to knowledge of being observed), and to quantify the amount of under/over-use, each resident's prescribed thickener tin was weighed daily to determine the amount used. These measurements were coordinated with the corresponding fluid charts which detailed drinks served and consumed. This data was collected from 235 drinks.

Results:

None of the residents received the amount of thickener prescribed. The amount of thickener received ranged from 3% less to 261% more than prescribed with a mean of 41% more. Resident 5 skews this result. If resident 5 is removed from the study, the mean is 13.6% more.

Table 6. Amount of under/over-use of thickener under current practice where thickened drinks are not tested

Resident	Prescribed IDDSI level	Brand of thickener*	Weight of thickener required per 200ml drink	Total weight required for all drinks served	Weight actually used	Under/over-use	
						grams	%
1	2	RTUC	2.4g	52.8g	51g	-1.8	-3
2	1	RTUC	1.2g	33g	44g	11	33
3	1	NC	1.25g	24g	25g	1	4
4	3	NC	3.75g	58g	66g	8	14
5	1	NC	1.25g	18g	65g	47	261
6	2	T&EC	2.8g	57g	82g	25	44
7	3	NC	3.75g	98g	128g	30	31
8	3	NC	3.75g	82.5g	80g	-2.5	-3
9	1	RTUC	1.2g	18g	20g	2	-11

* RTUC = Nestle Health Science Resource ThickenUp Clear, NC = Nutricia Nutilis Clear, T&EC Fresenius Kabi Thick & Easy Clear