

## AYMES oral nutritional supplement suitability for enteral tube feeding

### Background

Administration of enteral feeds can be given via several different routes, including pump feeding, bolus feeding and gravity feeding. The indication for the route of tube feeding depends upon several factors including route of feeding tube (feeding into the stomach or jejunum), underlying medical condition, and type of enteral feeding product being administered.

Bolus feeding entails administration of 200–400 ml of feed down a feeding tube over 15–60 minutes at regular intervals<sup>1</sup>.

In the instance of bolus and gravity feeding, it is common for ready-to-drink oral nutritional supplements to be used as they provide a practical solution for delivering a set amount of product, usually 200mls, in one bolus feed and can be given as a series of smaller volume feeds at regular intervals.

Bolus feeding is usually chosen due to time considerations and ease of administration throughout the day which may help to improve quality of life. It may also reduce the risk of a patient pulling a feeding tube/giving set which may interfere with the feeding regimen.

In response to customer demand, particularly for the AYMES ready-to-drink ONS ranges and AYMES ActaSolve Smoothie, we have taken the opportunity to provide some independent guidance on product suitability for bolus feeding with a variety of tube sizes.

### Objective

To undertake a range of testing with a selection of AYMES oral nutritional supplements, ready-to-drink and powdered, to determine their suitability to be administered via an enteral feeding tube using bolus feeding.

### Materials

- ActaSolve Smoothie
- ActaGain 2.4 Complete Maxi
- AYMES 2.0kcal
- AYMES Complete
- ActaGain Protein Shot
- A range of Enteral UK feeding tubes ranging from 8fr-16fr including nasogastric and gastrostomy tubes as well a button gastrostomy with a 12fr extension set.
- 60ml EN-fit enteral syringes
- Cooled, boiled water

All products were tested at room temperature with the full serving size volume (approx. 200ml). AYMES Smoothie was prepared following mixing instructions as detailed on the packaging (150ml water).

### Method

#### Bolus feeding using an enteral syringe with plunger

The testing protocol was conducted in a domestic setting and undertaken by an independent experienced dietitian.

1. Draw 30mls cooled, boiled water into the enteral syringe.
2. Attach the filled syringe onto the end of the feeding tube or extension set (if clamp present, open clamp) and flush tube with water.
3. Draw the oral nutrition supplement into the enteral syringe.
4. Attach the filled syringe onto the end of the feeding tube or extension set (if clamp present, open clamp).
5. Push the plunger to administer the feed. Allowing approximately 20 seconds for the feed to flow into the tube.
6. Refill the syringe and repeat steps 4 – 6 until the prescribed volume of feed has been administered.
7. Administer 30ml water flush upon completion of the bolus feed.
8. Disconnect syringe and remove the extension set, if present.
9. Ease of administration and time taken to administer full serving size were recorded.

#### Bolus feeding using an enteral syringe using gravity

The testing protocol was conducted in a domestic setting and undertaken by an independent experienced dietitian.

1. Draw 30mls cooled, boiled water into the enteral syringe.
2. Attached the filled syringe onto the end of the feeding tube or extension set (if clamp present, open clamp) and flush tube with water.
3. Take the plunger out of the enteral syringe.
4. Secure the barrel of the enteral syringe to the end of the feeding tube or extension set.
5. Slowly pour the oral nutrition supplement into the enteral syringe.
6. Hold the syringe at a comfortable height above the feeding tube to allow the feed to run through the tube. Allowing approximately 20 seconds for the feed to flow into the tube.
7. Refill the syringe and repeat steps 4 – 7 until the prescribed volume of feed has been administered.
8. Administer 30ml water flush upon completion of the bolus feed.
9. Disconnect syringe and remove the extension set, if present.
10. Ease of administration and time taken to administer full serving size were recorded.

Results and recommendations:

**Key Findings:**

Tube blockages

- No tubes became blocked during the testing method for both plunger bolus feeding and gravity bolus feeding.

Time to administer gravity bolus feeds

- When using smaller bore tubes, some tests with the thicker consistency oral nutritional supplement, took a significant amount of time to administer. In these instances, it was felt appropriate by the tester to abandon this method of feed administration from a practical perspective. This was a particular issue for the finer bore feeding such as 8fr and 10fr nasogastric feeding tubes and 12fr gastrostomy tubes.

Product	Minimum bore of feeding tube recommended when using AYMES ONS as a bolus feed (gravity and plunger method)	Approximate time taken to administer full serving size with ease (approx. 200ml) using the plunger method	Approximate time taken to administer full serving size with ease (approx. 200ml) using gravity method
<b>AYMES Complete</b>	8fr	7 minutes	35 minutes
<b>ActaGain Protein Shot</b>	10fr	Under 1 minute	3 minutes
<b>ActaSolve Smoothie</b>	12fr	3 minutes	19 minutes
<b>AYMES 2.0kcal</b>	12fr	4 minutes	20 minutes
<b>ActaGain 2.4 Complete Maxi</b>	16fr (gastrostomy tube)	3 minutes	43 minutes

*Note:*

*Time above is for the smallest bore feeding tube to be safely administered with ease using a nasogastric tube (unless otherwise specified).*

*Time reduced with larger bore feeding tubes and administration via gastrostomy tubes tended to be slightly quicker i.e. AYMES Complete was able to be administered via a 14fr gastrostomy tube using the gravity method in only 6 minutes.*

References 1. Stroud M, Duncan H, Nightingale J. Guidelines for enteral feeding in adult hospital patients. Gut 2003;52:vii1-vii12