

**By your side**  
and beyond



**Cardinal Health™ Kangaroo OMNI™  
Enteral Feeding Pump**

**Frequently Asked Questions**

## **1 Are there any other commercial enteral feeding pumps available in the United States that can administer thick formula?**

The Kangaroo OMNI™ Enteral Feeding Pump is the first and only attitude-independent feeding pump in the U.S. designed to deliver thick, homogenized, blenderized formulas (categorized as Level 2, 3 or 4 Drinks within the IDDSI framework).<sup>1</sup>

## **2 What kinds of feeds can be administered via the Kangaroo OMNI™ Enteral Feeding Pump?**

The Kangaroo OMNI™ Enteral Feeding Pump is intended for the delivery of enteral fluids, including thick formula and/or water, to the gastrointestinal system via nasogastric, orogastric, nasojejunal, gastrostomy, gastrojejunostomy and jejunostomy feeding tubes. Not for use with neonates.<sup>2(p7)</sup>

## **3 What thick formulas have been tested on the Kangaroo OMNI™ Enteral Feeding Pump?**

Administration of enteral fluids with IDDSI ratings 2-4 have gone through verification testing and demonstrate +/- 10% accuracy of intended delivery.

Prior to feeding any thick formula through the Kangaroo OMNI™ Enteral Feeding Pump, performing an IDDSI fork or flow test is important, even if the formula has previously been successfully fed. Formulas are known to shift IDDSI levels in either direction due to a variety of factors including, but not limited to: manufacturer lot, amount of time between manufacturing and feeding, temperature at which it's being administered, acidity of the formula, effect of additives mixed in formula and other environmental factors.<sup>3</sup>

## **4 What testing methods should be used to evaluate the consistency of thick formula to ensure that the fluid is appropriate for administration through the patient's feeding tube?**

Determining the IDDSI level can give insight into whether the enteral fluid is compatible with the Kangaroo OMNI™ Enteral Feeding Pump. Within the IDDSI framework, there are two different tests to help differentiate between Levels 0-4: the Flow Test, which can only be done with an IDDSI funnel or BD 10 mL syringe, and the Fork Drop Test. <https://iddsi.org/Testing-Methods>

For IDDSI Levels 0-1, standard feeding sets should be used to ensure delivery accuracy.

For IDDSI Levels 2, 3 or 4, thick feeding sets should be used to ensure delivery accuracy.<sup>1,2(p4,5,8,9,16)</sup>

## **5 Is there a hang time limit for administering thick formula via Kangaroo OMNI™ Enteral Feeding Pump?**

The use of the Kangaroo OMNI™ Enteral Feeding Pump doesn't affect the hang time. You should follow the recommended hang time for the feed you're using. Typically, full-strength commercially available thick formulas have a hang time of eight hours,<sup>4</sup> while most prepared thick formulas have a two-hour hang time<sup>5-7</sup> to prevent food-borne illness.

## **6 I have a patient with a gastrojejunostomy. Can I administer thick formula through the gastric port and standard formula through the jejunal port?**

The Kangaroo OMNI™ Enteral Feeding Pump is intended for delivery of enteral fluids, including nutritional fluids and/or water, to the gastrointestinal system via > 8 French nasogastric, orogastric, nasojejunal, gastrostomy, gastrojejunostomy and jejunostomy tubes. The clinician will determine the formula type and route of administration. It is recommended to administer thick formula into the stomach for optimal digestion. Enteral feeding using standard formulas and sets does not have a restriction on the anatomical placement of the access device.<sup>2(p7)</sup>



## 7 What are the different methods currently used to deliver thick formula?

**Administration of thick formula can be done three ways:**<sup>2(p2),8-9</sup>

- **Gravity Bags (Intermittent Feed):** Thicker formulas can lead to longer feeding times and vice versa; often used with IDDSI Levels 1-2
- **Syringe (Bolus Feed):** Thicker formulas may lead to an increased force needed to deliver the feeding; often used with IDDSI Level 3; can go up to IDDSI Level 4
- **Feeding Pump (Continuous or Intermittent Feeds):** In most pumps, thicker formulas may increase administration times. The Kangaroo OMNI™ Enteral Feeding Pump can deliver up to IDDSI Level 4 and has an accuracy of +10%, unlike other pumps that are likely to have a much higher margin of error<sup>10</sup>

## 8 How can thick formula be delivered using the Kangaroo OMNI™ Enteral Feeding Pump?

- Administration of enteral nutrition with IDDSI Levels 2, 3 or 4 requires use of a thick formula administration set (green cassette) to ensure +/- 10% accuracy
- Thick formula can be delivered using continuous or intermittent modes on the Kangaroo OMNI™ Enteral Feeding Pump
- Continuous mode is intended for administrations ordered as volume over time (e.g., rate 80 mL/hr)
- Intermittent mode is intended for administrations ordered as number of feeds, rate and frequency (e.g., 200 mL every six hours at 100 mL/hr x four feeds)

## 9 Can the Kangaroo OMNI™ Enteral Feeding Pump assist in the accurate delivery of the prescribed feeding regimen?

The Kangaroo OMNI™ Enteral Feeding Pump has an accuracy of +5% or 0.5 mL/hr, whichever is larger, when delivering standard formulas (IDDSI Level 0 and 1) and +10% or 1.0 mL/hr, whichever is larger, when delivering thick formula (IDDSI Levels 2-4).<sup>2(p62-63)</sup>

## 10 Throughout a feed, I need to know how much volume I have infused into a patient. Does the pump show me this information? What about viewing information on the patient's history?

The pump provides real-time information and up to 30 days of administration history, including the total volume infused over a specific time period.<sup>2(p9)</sup>

## 11 Does flushing a tube for hydration have to be done as a separate procedure, or can it be automated with the Kangaroo OMNI™ Enteral Feeding Pump?

The Kangaroo OMNI™ Enteral Feeding Pump sets come with a feed and flush configuration that can provide automated delivery of hydration with water to help keep the feeding tube patent to prevent tube clogs. Nurses also reported decreased workload when flushes were automatically delivered via the pump.<sup>11</sup>

## 12 Can I deliver human milk through the Kangaroo OMNI™ Enteral Feeding Pump?

The Kangaroo OMNI™ Feeding Set is intended to be used with the Kangaroo OMNI™ Enteral Feeding Pump for the delivery of enteral fluids, including nutritional fluids and/or water to the gastrointestinal system of a patient who may require enteral feeding and/or enteral hydration. The Kangaroo OMNI™ System has demonstrated enteral feeding performance for standards and thick formulas based on IDDSI Levels 0, 1, 2, 3, or 4, which convey fluid thickness and food texture.

Several biocompatibility studies, chemical characterization and toxicological risk assessments were performed and indicated that the use of Kangaroo OMNI™ Enteral Feeding Set for delivery of nutritional fluids, including standard/thick formula (drinks/foods), human milk or water, would not pose a safety risk from standard use.

## What is the smallest French feeding tube size that will accommodate thick formula?

The Kangaroo OMNI™ Enteral Feeding Pump can administer standard and thick formulas through access devices  $\geq 8$  Fr.<sup>2(p7,8,11)</sup>

For questions beyond this document, contact your Cardinal Health sales representative or visit **mykangaroolearning.com**

**References:** 1. Complete IDDSI framework detailed definitions. International Dysphagia Diet Standardization Initiative(IDDSI). [https://iddsi.org/IDDSI/media/images/Complete\\_IDDSI\\_Framework\\_Final\\_31July2019.pdf](https://iddsi.org/IDDSI/media/images/Complete_IDDSI_Framework_Final_31July2019.pdf) Published July 2019. Accessed October 3, 2023. 2. Kangaroo OMNI™ Enteral Feeding Pump Instructions for Use. Cardinal Health. <https://55933-bcmed.s3.amazonaws.com/bcp/branded/css/car/IFU/KangarooOMNI-IFU-Day%201-Launch-in-US-and-Canada-Approved-6.8.23.pdf> 3. Cardinal Health Data on File – T-4429-154, Kangaroo OMNI Thick Formula Types Verification Test Report, April 13, 2022 4. Boullata JJ, Carrera AL, Harvey L, Escuro AA, Hudson L, Mays A, McGinnis C, et al. ASPEN safe practices for enteral nutrition therapy task force, American Society for Parenteral and Enteral Nutrition. JPEN J Parenter Enteral Nutr. 2017 Jan;41(1):15-103. 5. Lakananurak N, Nalinthassanai N, Suansawang W, Panarat P. Optimal hang time of enteral formula at standard room temperature and high temperature. World J Clin Cases. 2020 Oct 6;8(19):4410-4415. 6. Sinha S, Lath G, Rao S. Safety of enteral nutrition practices: Overcoming the contamination challenges. Indian J Crit Care Med. 2020 Aug;24(8):709-712. 7. Epp L, Blackmer A, Church A, Ford I, Grenda B, Larimer C, et al. Blenderized tube feedings: Practice recommendations from the American Society for Parenteral and Enteral Nutrition. Nutrition Support Safety. 2023 Oct. DOI: 10.1002/ncp.11055 8. Guha S, Bouhrira N, Antonino MJ, Silverstein JS, Cooper J, Myers MR. Impact of design changes in gastrostomy tube (G-tube) devices for patients who rely on home-based blenderized diets for enteral nutrition. J Am Coll Nutr. 2019 May 19;38(4):311-7. 9. Mundi MS, Duellman W, Epp L, Davidson J, Hurt RT. Comparison of syringe compression force Between ENFit and legacy feeding tubes. JPEN J Parenter Enteral Nutr. 2019 Jan;43(1):107-117. 10. Murayi J, Evenson E, Verkin-Siebert D, Fisher M, Bartosiewicz S, Baade M, et al. Thickness of commercial blenderized formulas adversely affects successful delivery via enteral feeding pumps. Nutr Clin Pract. 2023 June;38(6):1345-1359 11. Buoite Stella A, Manganotti P. Enteral nutrition and hydration in patients with acute stroke: Efficacy of an automatic pump system for water administration and flushes-a pilot study. Sensors. 2022 Oct 20;22(20):8029. 12. Cardinal Health Data on File – Human Milk Safety Claim Memo, June 16, 2023 13. Preparation of food contact notifications for food contact substances in contact with infant formula and/or human milk; guidance for industry (2019). U.S. Food and Drug Administration/Center for Food Safety and Applied Nutrition. <https://www.fda.gov/regulatory-information/search-fda-guidance-documents/guidance-industry-preparation-food-contact-notifications-food-contact-substances-contact-in> Accessed on 17 Oct 2023.

Prior to use, refer to the instructions for use supplied with this device for indications, suggested procedure, warnings and cautions.

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