

# Flush Now: The Use of Technology to Prevent Occlusions in Jejunal Feeding Tubes — A Pilot Evaluation

Bill Nadeau, MS, RD, CNSC‡; Rachel Weissbrod\*; and Birgit Trierweiler-Hauke, BBA†

‡Cardinal, Mansfield, MA, USA

\*Medtronic, Mansfield, MA, USA, and Jerusalem, Israel

†University Hospital of Heidelberg, Heidelberg, Germany

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## Introduction

The provision of water flushes and hydration via the enteral route requires a patient-specific intervention, delivery mechanism, and prescription compliance. Inadequate water delivery may lead to feeding tube occlusion, fluid imbalance, and nutritional insufficiency<sup>1</sup>. This evaluation aimed to assess the ability of the Kangaroo™ ePump system (Cardinal Health, Mansfield, MA, USA) to deliver water flushes, with the ultimate goal of helping to avoid occlusions in jejunal feeding tubes and improving nursing workload.

## Methods

The current facility enteral flushing protocol via jejunal feeding tubes includes up to 10 flushes per day after feeding, residual check, or medication. Flushes were delivered manually via a syringe or automatically using the Kangaroo™ ePump system for a sample of patients.

## Results

Utilizing manual flushing, 57% of jejunal tubes became occluded, of which only 42% could be reopened (Table 1). Conversely, using automatic pump flushing, none of the jejunal tubes were occluded (Table 1).

**Table 1. Comparison of flush method on occlusions and reopenings**

Flush method	Jejunal tubes	Occlusions (%)	Reopening time	Failed reopenings (%)
Manual	21	12 (57%)	15 - 90 min	7 (58%)
Automatic pump	9	0 (0%)	N/A	N/A

Over the course of 1 year (10 patients per nurse per day, each receiving 4 flushes per day), manual syringe flushing (2 minutes per flush) versus automatic pump flushing (1 minute per flush) consumes more staffing hours (486.6 versus 243.3) and nursing time cost (€16,398 versus €8,199) than an automatic pump, respectively.

## Conclusion

In this limited analysis, automatic pump delivery of enteral water flushes and hydration eliminated jejunal feeding tube occlusions on a hospital ward. The use of technology to deliver water flush orders may reduce nursing time and improve nursing efficiency.

## References

1. Pearce CB, Duncan HD. Enteral feeding. Nasogastric, nasojejunal, percutaneous endoscopic gastrostomy, or jejunostomy: its indications and limitations. Postgrad Med J. Apr 2002;78(918):198-204.

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