

# How can we decrease our surgical pediatric patients fasting times?



Laura Walton, RN, FHNS  
Fort Hays State University, Department of Nursing

## Introduction

It is well documented that most pediatric patients are fasting far longer than standard guidelines. This unnecessarily long fasting time can have negative effects physiologically and psychologically such as[8]:

- Increased surgical stress response
- Insulin Resistance
- Hypoglycemia
- Thirst, hunger and Anxiety

Increased knowledge about fasting guidelines , the negative effects from prolonged fasting and the positive effects on patient when fasting is decreased will help providers to become better advocates for this vulnerable population.

## Research Question

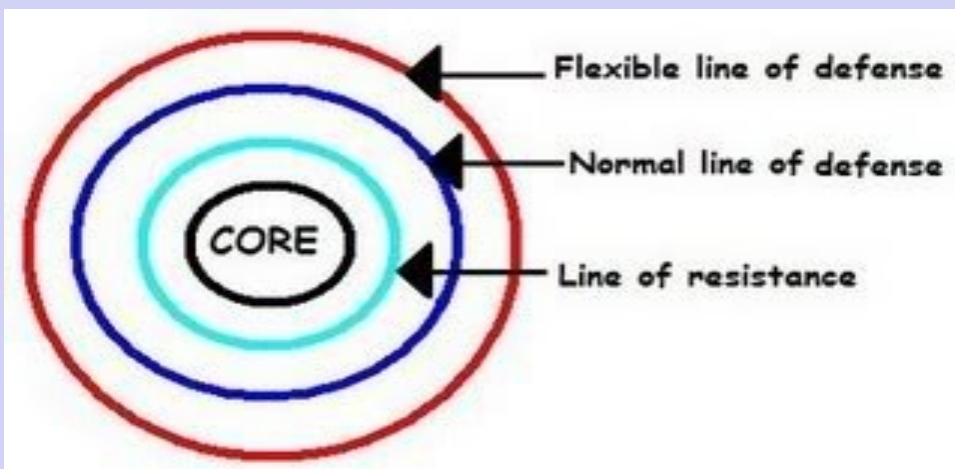
In preoperative pediatric patients, what is the effect of a standardized preoperative fasting education program for patient care staff on total fasting time compared to no standardized preoperative fasting education?

## Purpose

I want to find out if we can safely decrease fasting times by educating perioperative and floor nurses, who can then advocate for the patient.

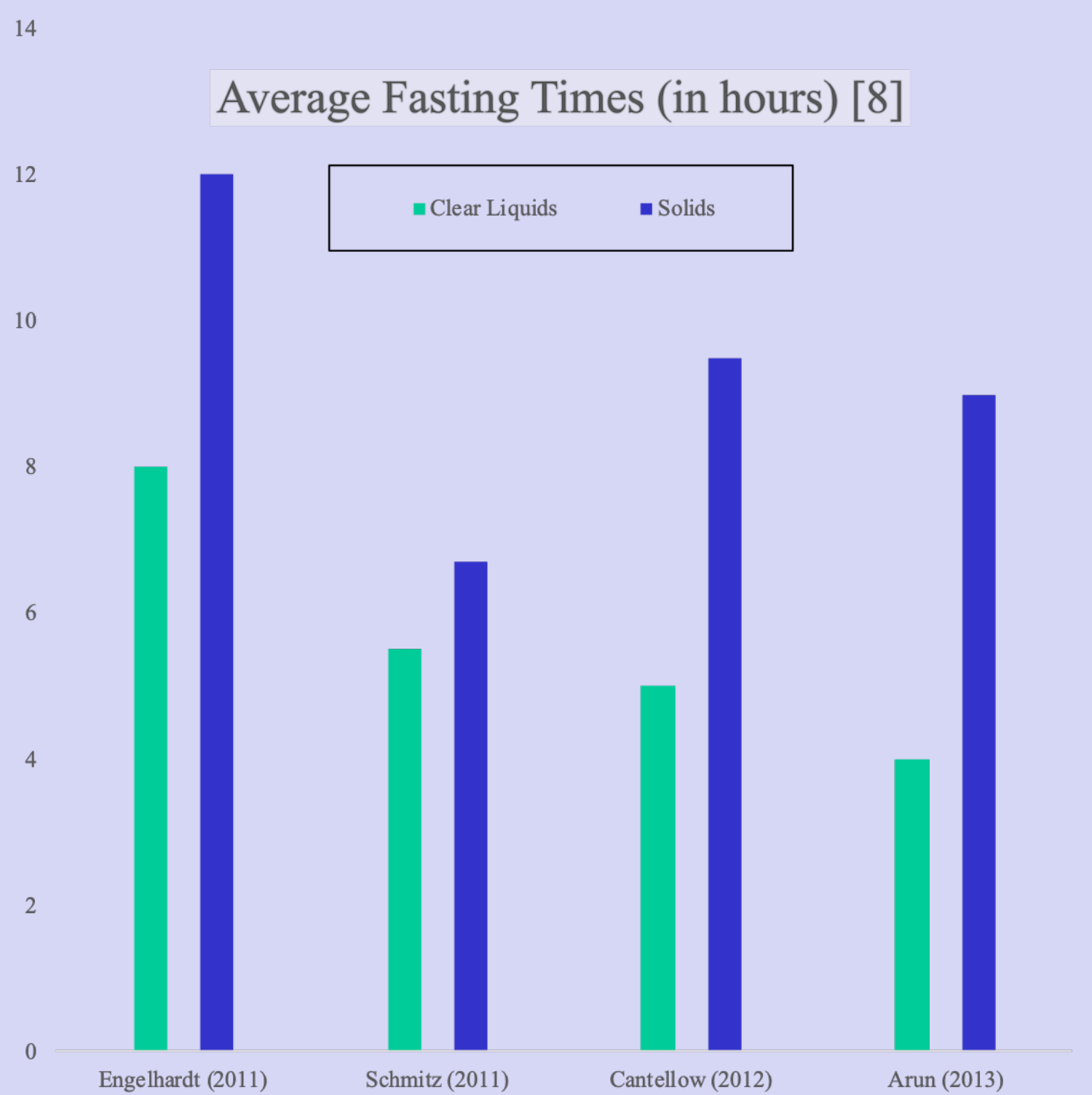
## Conceptual Framework

Betty Neuman’s Systems Model uses prevention as an intervention. The goal is to protect the core or the basic systems that are the person; using primary, secondary and tertiary measures. Decreasing fasting times would help protect the patients core using secondary prevention, by removing a stressor that can have a negative impact on the patient going into surgery.



## Methods

A systematic review of the literature from 2015 to present was completed through Forsyth library. The search criteria was for “pediatric perioperative fasting guidelines”, in English with full text. The first 50 articles that came up in the search were looked at and of these only 8 met the inclusion criteria of pediatric patients and perioperative fasting guidelines. Only one study was found on nurse’s knowledge of the topic and there were no studies found that specifically looked at the results of education of nurses on fasting times. All 8 articles were read with the research question in mind.



## Results

The literature clearly shows that there is an advantage to reduced fasting times and that the current ASA standards of 6-4-2 are rarely followed as prescribed [1,5]. The average NPO time was 9 hours [8], due to lack of education of staff and parents as well as surgical schedule changes. While all studies showed that patients have an improved perioperative experience with shorter fasting times, the problem comes with implementation. Two studies showed the greatest decrease in fasting times. One used the hour fasting time, giving clear liquids on arrival. The other allowing clear liquids until going to OR [8] was able to decrease fasting time significantly due to the flexibility it allows. There was no notable increase in aspiration risk [8].



## Implications for Nursing

Decreasing fasting times would greatly increase patient perioperative comfort and decrease the physiological impact of dehydration and hypoglycemia. Pain and vomiting [5] are also found to be decreased in patients that have not been NPO for excessive amounts of time. In my experience the ever - changing surgery schedule accounts for a large portion of patients who fast too long. This is a difficult obstacle to get around, however, the allowance of clear liquids until patient goes to OR would make great strides to getting past this hurdle.

## Conclusion

While it is clear, that actual fasting times for pediatric perioperative patients needs to be decreased, there is no consensus on how this can be done. While education for perioperative staff would be helpful, there was very little research found on the original research question. After researching this topic it appears that change in perioperative practices need to happen. The use of gastric ultrasound is promising, however the cost and training needed would have to be evaluated [8,2]. The flexibility of the 6-4-0 method appears to be the most feasible in terms of allowing for schedule changes and patient needs.

## References

- 1) Mohan, S., Chakravarthy, M., Antony, G., Devanahalli, A., & Kumar, J. (2018). Knowledge of nurses about preoperative fasting in a corporate hospital. *The Journal of Continuing Education in Nursing*, 49(3), 127-131. doi:https://dx.doi.org.ezproxy.fhsu.edu:2048/10.3928/00220124-20180219-07
- 2) Kafrouni, H., & Ojaimi, R. (2018). Preoperative Fasting Guidelines in Children: Should They Be Revised? *Case Reports in Anesthesiology*, 2018, 8278603.
- 3) Alvi, N. (2016). A prospective, cross-sectional survey of preoperative fasting of pediatric surgical patients in a university hospital. *Anaesthesia, Pain & Intensive Care*, 20(2), 171-175.
- 4) Toms, A., & Rai, E. (2019). Operative fasting guidelines and postoperative feeding in paediatric anaesthesia-current concepts. *Indian Journal of Anaesthesia*, 63(9), 707-712.
- 5) Jayasinghe, Vidura, Mahesh, P., Sooriaarachchi, C., Jayalath, Jimutha, Karunaratne, Weranga, & Liyanage, S. (2018). Evaluation of the effect of pre-operative over-fasting on post-operative vomiting in children undergoing bone marrow aspiration at a tertiary care setting in Sri Lanka: A prospective cohort study. *Indian Journal of Anaesthesia*, 62(5), 366-370.
- 6) Andersson, H. (2019). *Reduced Preoperative Fasting in Children*.
- 7) Sumpelmann, Anne E., Sumpelmann, Robert, Lorenz, Michael, Eberwien, Ilona, Denhardt, Nils, Boethig, Dietmar, . . . Anderson, Brian. (2017). Ultrasound assessment of gastric emptying after breakfast in healthy preschool children. *Pediatric Anesthesia*, 27(8), 816-820.
- 8) Andersson, H., Zaren, B., Frykholm, P., & Ungern-Sternberg, B. (2015). Low incidence of pulmonary aspiration in children allowed intake of clear fluids until called to the operating suite. *Pedi*