

# Measuring the Effect of Oral Nutrition in Low-Risk Parturients

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## Objectives

- Describe the current literature gap regarding appropriate diet order in parturients
- Measure the effect that oral nutrition had on common obstetric outcomes
- Draw conclusions about the safety and potential benefits of advancing oral dietary intake during labor

## Background & Significance

- Current labor guidelines suggest an outdated approach to parturient management - clear liquid diet for parturients considered low-risk for an operative delivery and NPO status for parturients considered high-risk of cesarean section delivery (Funai & Norwitz, 2023)
- Poor intrapartum nutrition linked to painful and strenuous labor (Singata et al., 2013), and the parturient feeling hungry and weak (O’Sullivan et al., 2009)
- Intrapartum nutrition has not been proven to cause increased risk to parturient or neonate (Singata et al., 2013)

## Methods

- QI approval obtained from target hospital.
- Subject data for deliveries in January and July 2023 and January, May, June, and July 2024 was obtained from the Labor & Delivery department at Northwestern Medicine Kishwaukee Hospital
- Patients grouped into NPO and PO intake groups.
- Data collected from the EMR related to aspiration events, blood loss (EBL), duration of labor stages, method of delivery, need for labor augmentation, and antiemetic use.
- SPSS used for data analysis.

## Results

Race	Frequency	Percent
White	87	77%
Black or African-American	18	15.9%
Asian/Indian	3	2.6%
American Indian or Alaskan Native	2	1.8%
None of the Above	3	2.7%

Martial Status		
Married	49	43.75%
Unmarried	52	46%
Unknown/Missing Data	11	9.82%

Outcome Measure	NPO (57)	PO (55)	p value
Aspiration	0	0	-
Duration of labor (min)	58 +/- 84	39 +/- 36 53 +/- 69	0.842
Method of Delivery			
Vaginal	56.1%	83.6%	0.002*
Operative	43.9%	16.4%	
Augmentation of Labor (oxytocin, AROM, or both) (n)	18	26	0.103
EBL (mL)	515 +/- 446	298 +/- 183	0.001*
Labor complications (n)	14	8	0.136

- There was no significant difference between groups related to labor complications or other demographic factors (GHTN, GDM, maternal obesity, AMA, poor prenatal care, substance use, multi-gestation)
- No episodes of pulmonary aspiration occurred in the NPO or PO intake group
- PO intake group had a significantly greater incidence of vaginal deliveries** than the NPO group
- Operative deliveries utilized antiemetics more frequently** than vaginal deliveries (p<0.001)

## Discussion

- A higher EBL among the NPO group may have been attributed to the inclusion of more scheduled cesarean sections among this group
- Vaginal deliveries being associated with PO intake is likely related to operative deliveries maintaining NPO status
- Study subjects did not possess many comorbidities and outcomes may differ in a population with a higher comorbid burden
- Though more liberal diets may be ordered, parturients may limit their intake as labor progresses

## Conclusions & Recommendations

- No relationship found between a more liberal diet for parturients and incidence of aspiration
- Type of diet is not associated with added risks to the neonate or parturient in this population
- Judicious increases in oral dietary intake is recommended based on the findings of this study**

