



Background

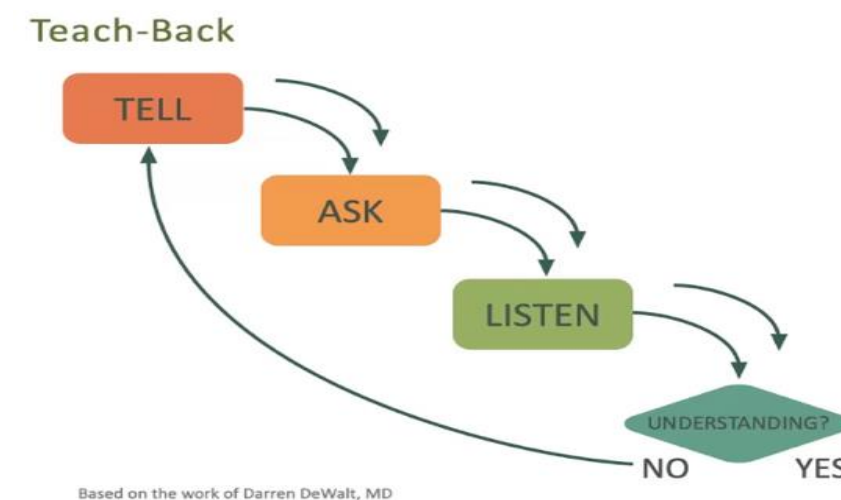
Nil per os (NPO) violations are a leading and preventable cause of pediatric dental surgery cancellations. Although preoperative fasting guidelines are routinely communicated to families through verbal and written instructions, non-compliance remains common. These cancellations not only delay care but also place emotional and financial stress on families and strain healthcare systems. Idle operating rooms increase institutional costs and contribute to growing waitlists for dental surgery access. Barriers to adherence often include limited health literacy, language differences, and misunderstandings about fasting protocols. The **Teach-Back Method**, a patient education strategy that involves asking caregivers to repeat instructions in their own words, has been shown to improve comprehension and retention of medical information, particularly among populations with low health literacy. Incorporating this method into preoperative communication may help reduce preventable NPO violations and improve surgical readiness.

Purpose

The purpose of this study is to evaluate the effectiveness of the Teach-Back Method in improving adherence to NPO guidelines among caregivers of pediatric dental patients. By requiring caregivers to repeat instructions in their own words, the Teach-Back approach is designed to confirm understanding, reduce miscommunication, and ultimately decrease surgery delays caused by NPO violations. If proven effective, this method could be integrated into standard preoperative communication protocols to improve patient safety and reduce preventable surgical cancellations.

Methods

This prospective quality improvement trial with random group assignment included 690 pediatric patients scheduled for dental surgery under anesthesia at Yale New Haven Hospital between January 2024 and March 2025. Of these, 377 patients were randomly assigned to receive a scripted phone call within 72 hours of surgery using the evidence-based Teach-Back Method, which required caregivers to repeat fasting instructions to confirm understanding. The remaining 313 patients received standard NPO instructions without the Teach-Back Method and served as the control group. Certified interpreters were used as needed to support non-English-speaking families. NPO compliance was assessed on the day of surgery. Demographic and clinical variables, including age, sex, primary language, case order, insurance status, and special needs designation, were collected to identify factors potentially influencing adherence.



- Of the 313 patients in the control group, 4 experienced NPO violations, all resulting in surgery cancellations.
- Among the 377 patients who received a Teach-Back Method call, there were 3 NPO violations, 2 of which led to cancellations.
- Statistical analysis showed no significant difference between the groups ($p = 0.327$). Notably, most NPO violations occurred when patients were scheduled as the third case of the day.

Results

Demographic	No Intervention (N=313)	Intervention (N=377)
NPO Violations	4 (1.28%)	3 (0.79%)
Gender		
Female	1	2
Male	3	1
Age (years)		
0-2	0	0
3-5	2	1
6-8	0	1
9-11	0	0
≥12	2	1
Case Order		
1	0	0
2	1	1
3	3	2
Language		
English	3	1
Spanish	0	1
Pashto	1	1
Insurance Type		
Medicaid - Husky	3	3
Other	1	0
Special Needs		
Yes	2	1
No	2	2

Discussion

While this study did not demonstrate a statistically significant reduction in NPO violations with the use of the Teach-Back Method at this time, the overall number of violations was low in both groups. This may reflect the benefit of any timely preoperative communication, regardless of format. The trend toward fewer cancellations in the Teach-Back group suggests that reinforcing understanding through interactive instruction could be beneficial, especially for families with language or literacy barriers. The clustering of violations in patients scheduled as the third case of the day may indicate the need to further tailor fasting instructions based on surgery timing.

Conclusion

The Teach-Back Method is a feasible and patient-centered strategy for improving caregiver understanding of preoperative fasting instructions. Although no significant difference was found in this initial analysis, the method shows promise and could help reduce preventable surgery cancellations when paired with targeted scheduling and education strategies. If future data continue to support these findings, Teach-Back could be incorporated into standard NPO communication protocols to improve surgical readiness and equity in care.

References

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