

# A Prevention Strategy for Children Receiving Full Mouth Dental Rehabilitation Under General Anesthesia: A Randomized Controlled Trial

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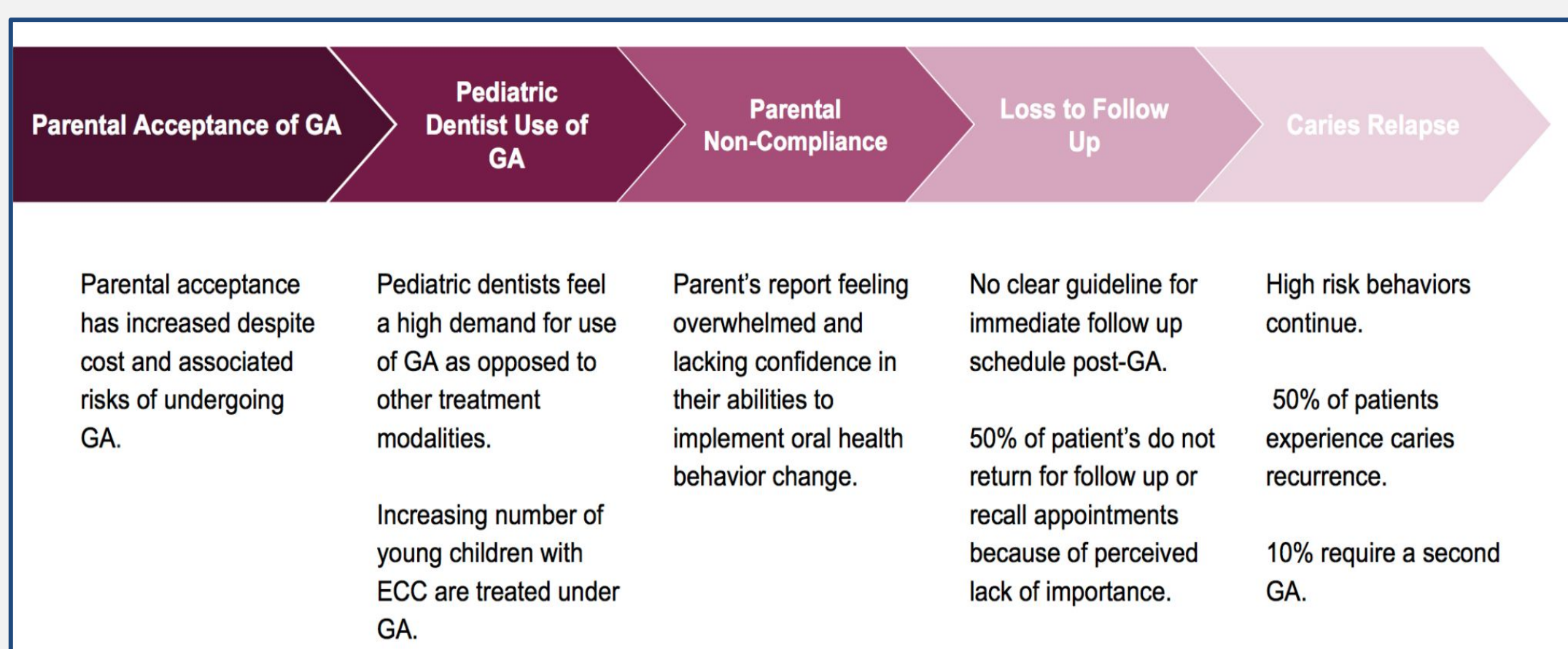
## Purpose

- Examine the effectiveness of a new preventive strategy that included combination of motivational interviewing supplemented by using visual aids and verbal education
- Primary aims were to increase parental compliance to follow up and recall of their children who have received dental treatment with GA.
- Secondary aims were to assess changes in oral health knowledge, readiness to change, and parental self-efficacy (PSE) of the caregiver.
- The hypothesis was that this new preventive strategy will increase perceived importance of oral health therefore increasing parental compliance with preventive recommendations.

## Background

- Approximately 40% of children experience dental caries by kindergarten.
- The consequences of ECC often includes emergency room visits, high treatment costs, loss of school days, diminished oral health-related quality of life, and a higher risk of new caries lesions in both the primary and permanent dentitions.
- Research shows anywhere from 22% to as high as 79% recurrence rates of dental caries in children post-GA.
- 10% of patients require a repeat GA.
- This poses a problem due to the inherent medical risk associated with going to GA multiple times and lack of OR time creating a long waiting list of patients.
- Newer approaches are needed in order to prevent caries relapse, increase return to follow up, and improve parental compliance.

### Overall Trend



## Methods

- This study was designed as a two arm, parallel randomized controlled trial of parents/guardians presenting their children for dental treatment with general anesthesia (GA) at the Children's Hospital of Richmond at VCU.
- Inclusion criteria: (1) parent with child (patient) planned for dental treatment with GA (2) patient age less than six (3) parent with child (patient) of health status of healthy ASA I or II.
- Parents completed a 27-item questionnaire regarding demographic information, a brief 6-item PSE assessment, a 10-item oral health knowledge assessment, and a 3-item readiness to change assessment at baseline (day of surgery) and at follow up post-GA.
- After completion of the survey, the study participants were randomly assigned by computer generation to receive either the intervention group (proposed intervention) or the control group (verbal and written education).
- Both groups were scheduled to return for a 1-2 week follow up immediately following their child's FMDR under GA and a 3-month-recall in addition to their regular 6-month and 12-month recalls.
- Examiners during the follow up and recall appointments were calibrated and blinded to parents who had received the control or treatment interventions.

Control Group	Intervention Group
<ul style="list-style-type: none"> <li>• Post-operative instructions (both written &amp; verbal).</li> <li>• Verbal description of proper brushing technique and healthy eating habits.</li> <li>• Written post-operative instructions were reviewed and then given to the parent to take home.</li> <li>• An appointment reminder card and contact information were provided in the subject packet.</li> </ul>	<ul style="list-style-type: none"> <li>• Post-operative instructions (both written &amp; verbal)</li> <li>• Visual aids donated by Oral B</li> <li>• Motivational interviewing techniques</li> <li>• Individualized goal setting (healthy eating or brushing)</li> <li>• Verbal and visual description of proper brushing technique and healthy eating habits.</li> <li>• Written post-operative instructions were reviewed and then given to the parent to take home.</li> <li>• "Strong Teeth" take home pamphlet was also given to the parent to take home.</li> <li>• An appointment reminder card and contact information were provided in the subject packet.</li> </ul>

## Results

- A total of 74 participants were enrolled with 36 (49%) randomized to receive the intervention and 38 randomized to control group (51%).
- There was no statistically significant difference in attendance at the follow up visit or 3 month recall visit between the control and intervention group (p-value=0.6103) and p=0.5292 respectively).
- Of those who attended the 2-week follow-up appointment, 100% said they found the appointment useful and that they found the information provided to be useful.

Follow-up	Intervention	Control	P-value*
2-Week Follow-up	22 (61%)	21 (55%)	0.6103
3-Month Recall	13 (38%)	16 (46%)	0.5292
Both Visits	13 (38%)	10 (29%)	0.3946

- There was no statistically significant difference between knowledge at the GA visit or the follow up visit between both groups (p value = 0.7393 and P value = 0.5251, respectively).
  - Oral health knowledge was high amongst all subjects.
- Readiness to change was significantly lower among participants in the control group versus the intervention group with controlling drinks and sugary snacks (p=0.0459).
- Among those who completed the PSE at both visits, the average paired difference for the intervention group was an increase of 0.26 points while a decrease of 0.56 points in PSE was observed for the control group (p-value=0.0148).



## Conclusion

The new preventive strategy has shown to be successful. No difference in oral health knowledge was observed between the control and intervention groups at the follow up visits, however, the average PSE and readiness to change for subjects in the intervention was significantly higher than that of the control group after receiving the new preventive strategy.