Use of Passive Immobilization During Oral Conscious Sedation: Parental Perceptions and Utilization by Pediatric Dentists in the United States

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Introduction

- Protective stabilization is defined as “any manual method, physical or mechanical device, material, or equipment that immobilizes or reduces the ability of a patient to move his or her legs, body or head freely”[1]
- Benefits of Protective stabilization with oral conscious sedation include: maintaining adequate airway, reduce movement of patient, protect both patient and staff from injury and facilitate delivery of quality dental treatment [1]
- Potential risks without protective stabilization with oral conscious sedation include: possible obstructive airway, patient can move and injure themselves and providers, and due to sedation, patient is likely to move and be “floppy” in the chair [1]
- Protective stabilization, both active and passive, is usually the least positively perceived behavior guidance technique by parents.[2]
- Parents tend to believe that oral sedation is safe, and when asked about protective stabilization, they felt that it would not be necessary during sedation.[3]
- Parental acceptance of the Papoose board, especially when coupled with conscious sedation, depended on the way it was presented by the clinician, and a positive explanation leads to more acceptance.[4]

Purpose

To assess change in parental attitudes of passive immobilization after viewing an informational video and evaluate how pediatric dentists are currently using passive immobilization during oral conscious sedations (OCS).

Methods

Parent/Guardian Survey

- Completed at patients’ oral conscious sedation consult appointments
- After consent obtained, parents given a survey and answer questions before and after an informative video was shown

AAPD National Provider Survey

- E-mail with REDCap survey sent to AAPD members
- Likert scales were scored on a 5-point scale from -2 (Strongly Disagree) to 2 (Strongly Agree) with 1-point increments.
- Responses of “Unsure” were marked as missing for statistical analysis
- Factors associated with use of passive stabilization (Providers)- Chi-squared tests
- Change in parent perceptions before/after video- Wilcoxon signed-rank
- Differences between Providers and Parents- Wilcoxon rank sum

Results

AAPD Member survey

- N=757 (9.6% response rate)
- 64% Perform oral sedations (N=482)
- 70% use passive stabilization board during oral sedation
- Current residents had the highest rate of use of passive stabilization boards at 95% compared to 64% of practicing pediatric dentists (p-value<0.0001)
- Reasons for Using Protective Stabilization with OCS: 96% Patient Safety, 80% Provider Safety, 76% Patient Behavior Management
- Ways Providers Presented to Parents: 94% Verbal explaination, 62% Written Explanation, 2% Video

Parent survey:

- N=85
- Parents had significant improvement in the responses: “I understand the purpose of the Papoose board”, “The Papoose board makes the oral sedation safer for my child”, “The Papoose board will allow my child to have the best dental care possible”, and “I feel comfortable having the Papoose Board used on my child”

Comparison of Providers and Parents:

- In all instances, the median response was higher among the guardians indicating a greater level of agreement with the statements. This was true when comparing to both the guardian responses before and after viewing the video.

	AAPD Member	Guardian Baseline	P-value*	Guardian Post-Video	P-value*
The passive stabilization board makes the oral sedation safer for my patient/child	1 (0, 2)	1 (1, 2)	0.0122	2 (1, 2)	<0.0001
The passive stabilization board will allow my patient/child to have the best dental care possible	1 (0, 2)	1 (1, 2)	<0.0001	2 (1, 2)	<0.0001
The passive stabilization board has no impact on my patient's/child's oral sedation	-1 (-1, 0)	1 (0, 2)	<0.0001	1 (0, 2)	<0.0001
The passive stabilization board increases my patient's/child's anxiety	0 (-1, 1)	0 (-1, 1)	0.0501	0 (-1, 1)	0.4117

Discussion

Oral sedation is currently widely used by pediatric dentist (64%). The use of protective stabilization during oral conscious sedation has changed little over the past 10 years. 70% of providers in this study reported using passive stabilization, whereas in a 2010 study, it was found that 72% of providers used some form of restraint (active and passive) during passive sedation. The majority of providers perceive that protective stabilization increases safety during oral conscious sedation. Current residents in pediatric dentistry demonstrated the highest rate for the utilization of protective stabilization during OCS. Providers in private practice had the lowest reported use of protective stabilization during OCS compared to providers in academia, public health, military, hospital based or other practice settings. Generally providers from this study had a positive perception towards protective stabilization. In all instances, the average degrees of acceptance was higher for the parents versus the providers. 85% of parents agreed that the Papoose board makes oral sedation safer for my child prior to the video while 94% agreed after watching the video. Whereas 69% of providers agreed to this statement. Limitations to this study included a survey bias and that this study was conducted in an academic setting. Further research should be conducted on a larger parental population and also analyze the reasons why private practice providers used passive stabilization the least. Further research should so analyze the current residents future use of passive stabilization with sedation in their independent clinical practice.

Conclusions

- The majority of pediatric dental providers use passive stabilization during oral conscious sedations.
- At baseline, the majority of parents accept the use of passive stabilization during oral conscious sedations.
- The use of an audio-visual aid increased the positive parental perceptions of the use of passive stabilization during oral conscious sedation.
- At baseline, parents had a more positive perception of passive stabilization when used during oral conscious sedation than providers.

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