



## PREFERENCE OF USE OF RESTRAINTS BY POSTGRADUATE STUDENTS IN PEDIATRIC DENTISTRY IN BENGALURU.

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### Abstract:

**Introduction:** Dental treatment of uncooperative children is a challenge to Paediatric dentists. If psychological behaviour management techniques are inadequate then restraints may be considered.

**Aim:** To assess the preference of use of restraints by post graduate students in Pediatric Dentistry in Bengaluru.

**Method:** A self administered questionnaire was designed, which contained 12 questions that assessed the demographic data and information on the use of physical, mechanical, and positioning devices in clinical practice. Information was also obtained on consent.

**Results:** A total of 80 postgraduate students participated in the survey. Our study revealed that 72.5% postgraduate students treat patients with some form of restraints. Only 26 % received training on the use of restraints. It was also observed that 70% have used HOME technique and 92.3% obtain only verbal consent before the use of restraints.

**Conclusion:** Majority of the postgraduate students used restraints to treat patients even though they have not received any formal training. CDE programs and workshops presented by specialists or faculty may be used to update the postgraduate students on the use of restraints.

**Keywords:** behavior management techniques, restraints, postgraduate students

### Introduction:

Behavior management for the pediatric dental patient is an integral component of the pediatric dental practice. The goal of behavior management techniques practiced by the pediatric dentist is to establish communication and an element of trust with the child patient. A small percentage of children will not cooperate in the dental chair and the behavior of such patients can be a hindrance to the delivery of quality dental care. For the child patient who is unwilling or unable to cooperate, the dentist must rely on other behavior management techniques as alternatives or adjuncts to communicative management to deliver safe and effective dental treatment. If psychological techniques are inadequate, then conscious sedation, restraint (immobilization) or general anesthesia may be considered. Behavior guidance approaches for each patient who is unable to cooperate should be customized to the individual needs of the child and the desires of the parent and may include sedation, general anesthesia, protective stabilization, or referral to Pediatric dentist<sup>1</sup>.

Physical restraint is broadly defined by the Centers for Medi-care and Medicaid Services as "(A) Any manual method physical or mechanical device, material, or equipment that immobilizes or reduces the ability of a patient to move his or her arms, legs, body, or head freely;

or (B) A drug or medication when it is used as a restriction to manage the patient's behavior or restart the patient's freedom of movement and is not a standard treatment or dosage for the patient's condition.' This definition has limitations when applied to dentistry as it does not accurately or comprehensively reflect the indications or utilization of restraint in dentistry.<sup>2</sup> Protective stabilization is the term utilized in dentistry for the physical limitation of a patient's movement by a person or restrictive equipment, materials or devices for a finite period of time in order to safely provide examination, diagnosis, and/or treatment. Other terms such as medical immobilization and medical immobilization/protective stabilization have been used as descriptors for procedures categorized as protective stabilization<sup>3</sup>. Active immobilization involves restraint by another person, such as the parent, dentist, or dental auxiliary. Passive immobilization utilizes a restraining device.

The purpose of this study was to assess the preference of use of restraints by post graduate students in Pediatric Dentistry in Bengaluru.

### METHODS

A self administered pretested questionnaire and a handout regarding the use of restraints was distributed among 80 post graduate students in Pediatric Dentistry in Bengaluru.

The questionnaire (**Figure.1**) comprised of 12 questions which assessed the demographic data and information on the use of physical, mechanical, and positioning devices in clinical practice.

#### Statistical analysis:

Data were analyzed using the IBM SPSS statistics software version 18.5. The participant responses were calculated and depicted in percentages.

#### RESULTS:

A total of 80 post graduate students in Pediatric Dentistry from second and third year participated in the survey. About 88.8% were females and 11% were males. Among the participants, 72.5% treats an average of 1-3 patients with some form of restraints every day (**Table 1**). Among them, 73.8% didn't receive any didactic or practical training

on the use of restraints. It was observed that 72.5% used physical restraints and among them 50% used head holds, 41.4% used hand guarding and 8.6% used therapeutic holds (**Table 2**).

The majority of the participants (70%) reported they have used HOME technique and only 18.8% used HOMAR. Almost 66.2% used mechanical restraint and it was observed that, 42.2% indicated the use of other types of mouth props(custom made acrylic bite blocks, collapsible stainless steel finger guards) and interestingly only 2.2% reported the use of papoose board, straps, seat belts, and wrist bracelets (**Table 3**). The majority of respondents reported that they never use positioning devices (85%). Most post graduates reported that they obtain only verbal consent (92.3%) and didn't obtain specific written consent (**Table 4**)

**PREFERENCE OF USE OF RESTRAINTS BY POSTGRADUATE STUDENTS IN PEDIATRIC DENTISTRY IN BENGALURU.**

Name (optional): \_\_\_\_\_ Identification Number:

Year of postgraduate study:

Age:

Gender: Male  Female

Please ✓ suitable choices

1. How many patients do you treat per day (average)?

2. How many patients do you treat with some form of restraints [physical/mechanical/others] everyday (average)?

3. Have you received any training (didactic/practical) on the use of restraints?  
Yes  No

4. Do you use physical restraint in clinical practice?  
Yes  No

5. Which form of physical restraint do you use?  
a) Head holds   
b) Hand guarding   
c) Therapeutic holds

6. Have you ever used HOME?  
Yes  No

7. Have you ever used HOMAR?

Yes

No

8. Do you use mechanical restraint?

Yes

No

9. Which form of mechanical restraint do you use?

a) Molt's mouth prop

b) Other mouth props (custom made acrylic bite blocks, collapsible stainless steel finger guards)

c) McKesson bite blocks

d) Tongue blade

e) Papoose board

f) Pedi wrap

g) Sheets

h) Straps and seat belts

i) Towels

j) Wrist bracelets

k) Vests

10. Do you use positioning devices?

Yes

No

11. Which form of positioning device do you use?

a) Bean bags

b) Other positioning devices (Bed, pillow or sand bags)

12. Do you obtain consent for using restraints?

a) No consent

b) Verbal consent

c) Written consent

Signature:

Date:

Figure 1: Questionnaire

**Table 1:** The percentage of patients treated by some form of restraints [physical/mechanical/others] everyday.

	Frequency(n=80)	Percentage
0	22	27.5
1-3	58	72.5
Total	80	100.0

**Table 2:** Distribution of use physical restraints

	Head Hold(n=80)	Hand Garding(n=80)	Therapeutc Hold(n=80)	Total
2 <sup>nd</sup> yr	35 53.0%	25 37.9%	6 9.1%	66 100.0%
3 <sup>rd</sup> yr	23 46.0%	23 46.0%	4 8.0%	50 100.0%
Total	58 50.0%	48 41.4%	10 8.6%	116 100.0%

**Table 3:** Distribution of use of mechanical restraints

	Molt's prop	Other mouthprops	McKesson bite blocks	Tongue Blade	Pedi Wrap	Sheets	Towels	Wrist bracelets	Total
2 <sup>nd</sup> yr	18 32.1%	23 41.1%	5 8.9%	2 3.6%	2 3.6%	2 3.6%	2 3.6%	2 3.6%	56 100.0%
3 <sup>rd</sup> yr	9 26.5%	15 44.1%	4 11.8%	2 5.9%	0 .0%	2 5.9%	2 5.9%	0 .0%	34 100.0%
Total	27 30.0%	38 42.2%	9 10.0%	4 4.4%	2 2.2%	4 4.4%	4 4.4%	2 2.2%	90 100.0%

**Table 4:** Distribution of type of consent obtained.

	Verbal Consent	Written Consent	Total
2 <sup>nd</sup> yr	43 91.5%	4 8.5%	47 100.0%
3 <sup>rd</sup> yr	29 93.5%	2 6.5%	31 100.0%
Total	72 92.3%	6 7.7%	78 100.0%

## DISCUSSION

The American Academy of Pediatric Dentistry believes that all infants, children, adolescents and individuals with special health care needs are entitled to receive oral health care that meets the treatment and ethical principles of our specialty. AAPD has included use of protective stabilization in its guidelines on behavior guidance since 1990<sup>4</sup>.

A continuum of non pharmacological and pharmacological behavior guidance techniques, including protective stabilization, may be employed in providing oral health care for infants, children, adolescents and individuals with special health care needs<sup>1</sup> The terms medical immobilization, protective stabilization, and physical intervention have been proposed as substitutes for the

term restraint, in order to avoid the negative connotations of the word restraint.<sup>5</sup> In our study 72.5% of respondents treat patients with some form of restraints. The 1981 survey found that 86% of respondents used physical restraints<sup>6</sup>. Adair S M et al [2004] surveyed members of AAPD on their use of behavior management techniques. It was observed that 73% of respondents used active immobilization for non sedated child and passive immobilization for non sedated child was used by 68% of the respondents<sup>7</sup>. Choate et al (1990) found 85% of their respondents used active restraint and 75% used passive restraint device<sup>10</sup>.

In the present study 50% used head hold, 41% used hand guarding & 8.6% used therapeutic holds. Carr et al (1999) found that 82% of respondents used some type of passive body wrap, 73% used restraint by dentist, 88% restraint by dental personnel and 86% restraint by the parent<sup>9</sup>. In our study, 70% of participants have used HOME and only 18.8% of the respondents used HOMAR. Allen and Stanley(1990) demonstrated that traditional behavior management technique like TSD, restraints, HOME and sedation were better than the newer ones like modeling and contingency management<sup>10</sup>. HOME has been an accepted behavior management technique in pediatric dentistry for many years. 80% of a 1972 survey respondents used the technique for children aged 2 to 9, primarily when restraint or hysterical behaviors were demonstrated<sup>11</sup>. Choate et al in 1990 found that 87% of their respondents used HOME technique<sup>8</sup>. Carr and Wilson (1999) showed that the Southeastern US dentists used less aversive technique and there was marked reduction in the use of HOME<sup>9</sup>. With a rise in malpractice law suits and the advancement in patient education and patient rights, the use of methods such as HOME has been fervently disputed, ultimately leading to removal of HOME from AAPD guidelines on Pediatric Behavior Management in may 2006<sup>12</sup>.

In the present study almost 66.2% used mechanical restraint and it was observed that, 42.2% used of other types of mouth props(custom made acrylic bite blocks, collapsible stainless steel finger guards) and interestingly only 2.2% reported the use of papoose board, straps, seat belts, and wrist bracelets. The EAPD guidelines on sedation in Paediatric Dentistry point out that restraint in dentistry including such restraining devices as the papoose board is practiced to varying extent in Europe, but in some places (such as the Nordic countries) it is forbidden by law. A mouth prop may be used to help a child support the lower jaw and assist in keeping the mouth open, but may not be used to forcibly get a child to open the mouth. They note that use of a mouth prop may also make it difficult to address the sedation level of the patient<sup>13</sup>.

In our study 15% used positioning devices, with 37.5% using bean bags and 62.5% used other forms of positioning devices. In the present study 92.3% obtain verbal consent and only 7.7% obtained written consent. Choate et al (1990) found majority of respondents obtained parental consent. Oral consent was obtained by 79% for passive immobilization, 67% for active restraint and 61% for HOME<sup>8</sup>.

## CONCLUSION

The following conclusions were made from the present study;

- Most of the postgraduate students are not formally trained with use of physical restraints.
- Most of the participants are using head hold as in physical restraint and mouth props in mechanical restraint.
- Most postgraduate students surveyed did not use HOMAR
- Majority of postgraduate students surveyed do not obtain specific written consent for use of restraints.
- CDE programs and workshops presented by specialists or faculty may be used to update the postgraduate students on the use of restraints.

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