

# GENERAL ANESTHESIA-HIGHEST PROCEDURE COUNT DONE IN SAVEETHA DENTAL COLLEGE PEDODONTIC DEPARTMENT

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## **ABSTRACT:**

**AIM:** This study is based on the highest procedures done using general anesthesia In Saveetha dental college pedodontics department.

**OBJECTIVE:** Most child population is able to undergo dental treatment in the conventional setting. This survey aims to discuss the topic further.

**BACKGROUND:** Pedodontists treat most children adequately using behavioral techniques. However, certain children cannot receive treatment via these methods. Dental treatment using general anesthesia (GA) is a rehabilitation treatment for pediatric patients. GA is a controlled state of unconsciousness in which protective reflexes is lost. Pediatric patients with a very young age, or those suffering physical, mental, cognitive or emotional immaturity or disability or those with extreme anxiety who need extensive rehabilitation are treated using GA. In some cases, dental GA is the most practical and cost-effective mode of treatment.

**REASON:** This study is to gain knowledge about the highest procedure done under General anaesthesia.

**Keywords:** General Anaesthesia, Behavioral technique, Pediatric patients, anxiety, cost-effective

## **INTRODUCTION:**

General anesthesia is a restoratively prompted unconsciousness with loss of defensive reflexes, coming about because of the organization of at least one general analgesic specialists. It is done to permit therapeutic methodology that would somehow or another be deplorably excruciating for the patient; or where the idea of the technique itself blocks the patient being conscious. The first general anaesthetics administered were for dental extractions. The first general anaesthetic administered for a dental extraction is credited to Connecticut dentist Horace Wells [1].

General anaesthesia for dentistry is not without risk and should not be undertaken as a first-line means of anxiety control. The concept of general anaesthesia as a means of performing painless dental work was thus born[2]. This development facilitated the expansion of the dental profession, enabling increasing emphasis on restorative and conservative work, where previously there had been little to offer to sufferers but simple extraction.

It was highlighted that general anaesthesia was often used inappropriately as a method of anxiety control, in situations where local anaesthesia with or without sedation might be appropriate.[3] It was recommended that general anaesthesia should only be administered where no alternative existed such as the following: Recommendations were also made that administration of dental anaesthesia should only be carried out by:

- \* situations in which it would be impossible to achieve adequate local anaesthesia and so complete treatment without pain;
- \* patients who, because of problems related to age/maturity or physical/learning disability, are unlikely to allow safe completion of treatment; and
- \* patients in whom long-term dental phobia will be induced or prolonged.
- \* anaesthetists on the specialist register of the General Medical Council;
- \* trainees working under supervision in programmes accredited by the Royal College of Anaesthetists; or
- \* non-consultant career grade doctors working under the responsibility of a named consultant anaesthetist[4,5].

Both the anaesthetist and dentist must work with their own dedicated trained assistant and patients must be recovered with appropriate monitoring and recovery staff. Wider training of both anaesthetists and dentists in alternative techniques of pain and anxiety control must take place.

Patients are frequently children with all the attendant problems of paediatric anaesthesia. Children may have adenotonsillar hypertrophy and also have a tendency to develop frequent respiratory tract infections with an associated increased risk of airway problems under general anaesthesia.

Individuals with learning difficulties may often present for dental work under general anaesthesia owing to poor dental hygiene. These patients may be uncooperative and communication may be challenging. Individuals from institutions are at higher risk of hepatitis B. Other medical conditions and physical abnormalities may co-exist, such as epilepsy, reflux, and cardiac anomalies. Patients are frequently highly anxious and needle phobic. There may be high levels of autonomic activity with increased propensity to arrhythmias and vasovagal responses. Gastric emptying may also potentially be delayed.

Finally, patients are frequently treated as day cases with all the associated problems of ambulatory anaesthesia[6].

General anaesthesia should now only be performed in the hospital setting and requires a trained anaesthetist with a dedicated assistant. It is required for three main groups of patients:

- \* simple dental extractions or exodontia, previously known as 'dental chair anaesthesia'. These are mostly performed in children aged 4–10 yr, or in those with learning difficulties;
- \* day-case anaesthesia for extraction of permanent molars or minor oral surgery work; or
- \* in-patient anaesthesia for more complex or extensive dental work.

The perioperative period is as often as possible a greatly horrible time for the children and the guardians. Uneasiness is described to detachment from guardians, loss of control, and vulnerability about the anaesthesia, surgery, and the result of the surgical strategy. [7] Thus, it isn't astounding that countless create negative behavioral changes, for example, partition uneasiness, eating unsettling influences, and bad dreams in the days, weeks, and months after surgery. Critical negative conduct change can happen in children after anaesthesia. It is hard to accurately foresee in which youngsters this will happen, be that as it may, some individual, family and procedural factors are related with noteworthy negative conduct change. On the off chance that utilized, planning ought to be considered by level of surgical multifaceted nature[8]. Several factors should be taken into consideration before endodontically treating single rooted primary molars. Excessive tooth removal and perforation are the common iatrogenic access opening errors. These errors occur during the search for the extra canals in teeth with unusual root morphology[9]. RC Fill, Vitapex and Pulp dent are three root trench sealer were observed to be similarly successful root filling materials for essential molars with necrotic pulps and irreversible pulpitis at 30 months in children. Be that as it may, long haul follow-up until the point that the emission of the perpetual successor teeth is required for more complete appraisals[10]. Many patients in this study who required general anaesthesia had significant medical histories or developmental disabilities. Often these patients are on high caloric diets rich in fermentable carbohydrates that may result in an increased risk for caries development. Limitations in the ability to perform oral hygiene may also contribute to an increased caries risk. The fact that Stainless Steel Crown restorations have been shown to be more durable suggests that these restorations may be a more cost effective treatment choice for young children with gross caries and who require general anaesthesia as an adjunct to treatment.[11,12,13]. As a consequence of this change and the expanded familiarity with the significance of giving absence of pain and anxiolysis, the requirement for sedation for techniques in doctor workplaces, dental workplaces, subspecialty strategy suites, imaging offices, crisis leave ments, and walking surgery focuses has additionally particularly expanded[14,15].The objectives of general anaesthesia can best be accomplished by choosing the least measurement of medication with the most elevated remedial record for the technique, It is beyond the scope of this document to specify which drugs are appropriate for which procedures; however, the selection of the fewest number of drugs and matching drug selection to the type and goal of the procedure are essential for safe practice[16].

## MATERIALS AND METHOD:

Complete records of 50 patients who attended Saveetha dental college in chennai for dental treatment under general anaesthesia were included in the survey.

Data were collected from the records of the 50 children including age, sex, past dental history, past medical history, indications for and treatment carried out under general anaesthesia and follow-up visit. The children's records were reviewed to determine the following: age at the time of dental treatment; gender; requirement for hospitalisation and further admission; number of decayed teeth; type of dental procedure completed.

## RESULT:

Of the 50 patients reviewed in the survey, 28 were males and 22 were females with a mean age of 2-4years at the time of the General anaesthesia. Twenty patients (55%) had a history of nursing caries. Thirty patients (45%) were behavioral management problems or patients requiring extensive treatment.

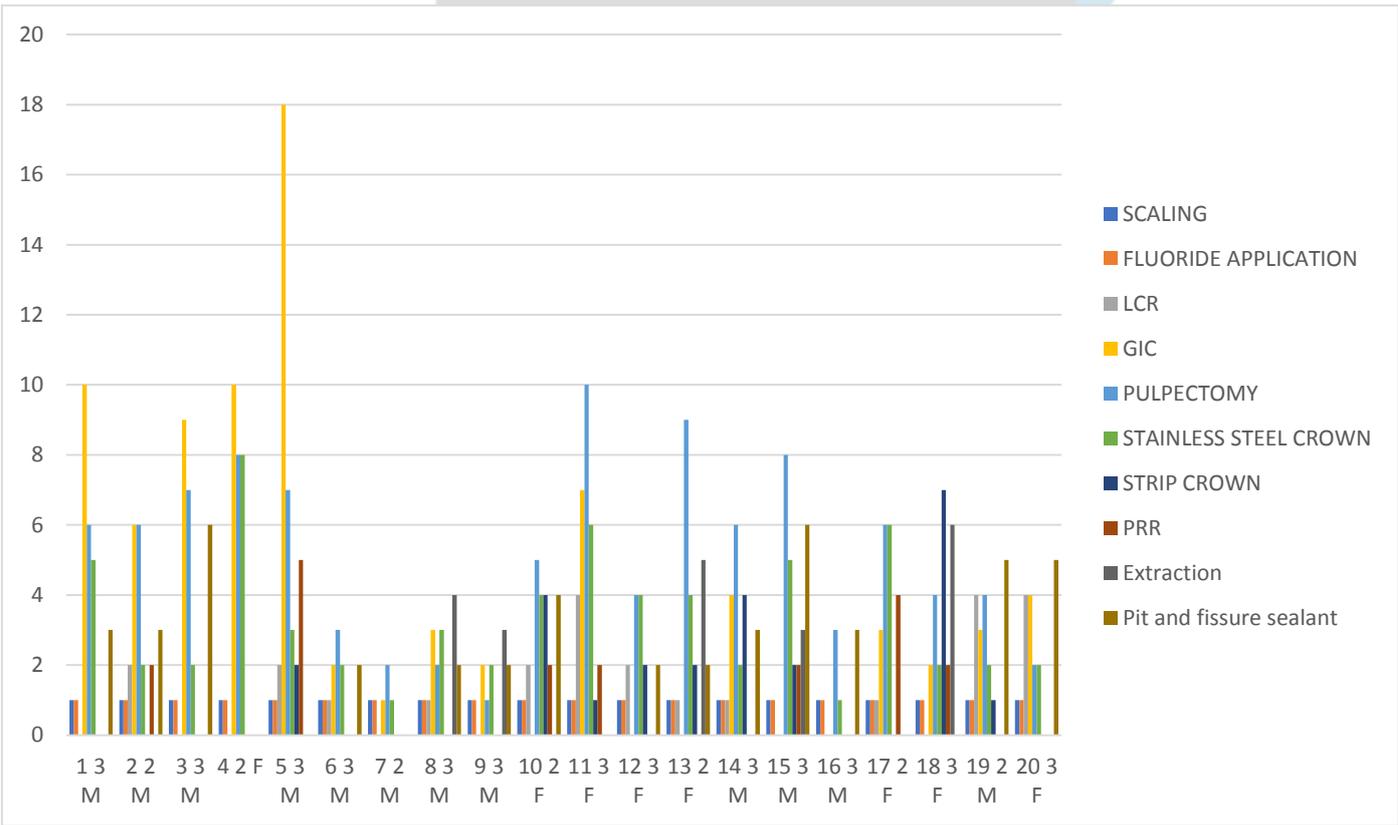
Oral hygiene practices: Results regarding oral hygiene practices for the children are also taken into review. Daily tooth brushing was reported to be carried out by parents for 30(68%)of the children. 20(32%) children brushed daily on their own.Parents reported that their childrens teeth were brushed an average of twice a day.

**GRAPH 1**

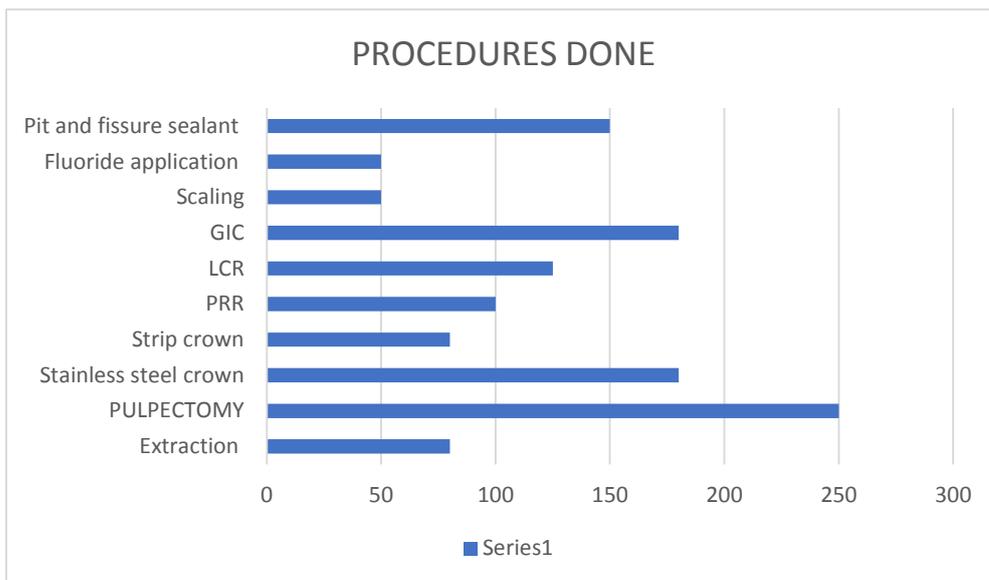


In this study 64% of the children were under general anaesthesia due to lack of co-operation and 36% of them was for full mouth rehabilitation is given in the above graph 1. The whole procedure done for 20 patients done under general anaesthesia is given in graph 2 according to the patient’s need respectively.

**GRAPH 2**

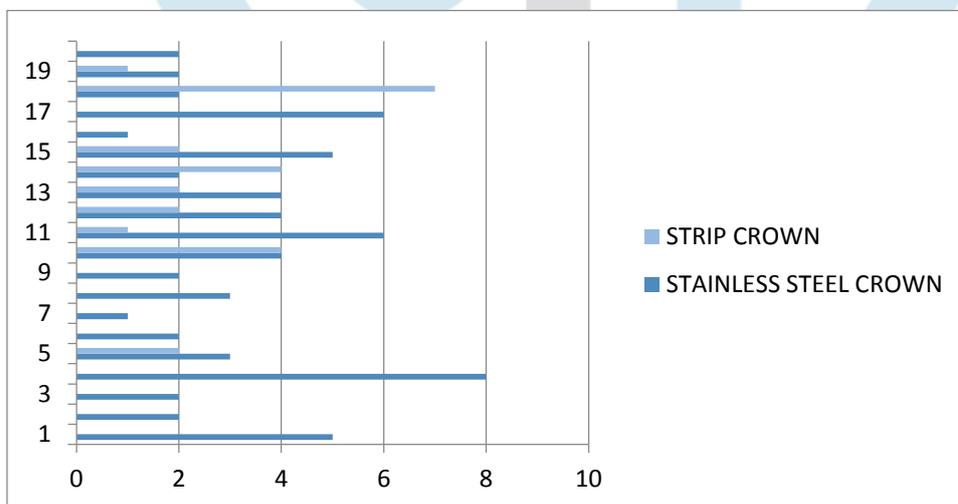


**GRAPH 3**



The above given graph 3 is the number of procedures done for 50 patients using general anaesthesia. 80 extraction procedures were done as the tooth could not be saved. 250 pulpectomy procedures were done. Pulpectomy is the mostly done procedure in children in consideration of saving the tooth. 180 stainless steel crowns are inserted and 80 strip crowns are given. 100 conservative resin restoration PRR is done in 50 patients. 125 LCR and 180 GIC were done in total. 150 pit and fissure sealant is given as a initial stage to save the tooth. Respective to 50 patients scaling and fluoride application is done to everyone.

**GRAPH 4**



The above graph 4 is the strip crown and stainless steel crown used for 20 children. This study denotes that stainless steel crown is used more than the strip crowns mainly after pulpectomy procedures.

**DISCUSSION:**

This study was done among both General as well as specialist dental practitioner. This study appears to confirm the world-wide trend that increasing numbers of children are receiving treatment under general anaesthesia [17-21]. In this study, we demonstrated that there was a trend towards conducting dental procedures under general anaesthesia where 95% of the children were between the ages of 2 years 3 years 6 months and 4 years 1 month. Dental caries was the most common reason for referral for general anaesthesia, with the proportion of children referred with caries rising from 76% in 1983 to 83% in 1996. This is disappointing given that caries has declined over the past few decades in Australia [22,23]. Patient factors found to be associated with the need for a second session of dental treatment under general anaesthesia were: 100% involvement of maxillary central incisors at time of initial GA was resulted by Barbara Sheller et al in his study of Reasons for Repeat Dental Treatment Under General

Anesthesia for the Healthy Child. GA was essential to treat all of these patients. Ten patients (23%) required further restorative treatment or extractions at follow-up visits an average of 14 months after treatment under GA. This confirms findings of Legault [24] and O'Sullivan [25]. However, unlike these studies, none of the patients in this study was retreated under GA.

In a prospective study by Fung et al. [26] post-operative pain was reported by 57.5% of the children immediately after the treatment, justifying the administration of medication for post-operative analgesia. The same report showed that the need for analgesia was highest immediately after extraction of teeth. In the present survey the difference in reported pain could be explained by the administration of analgesic medication to all children at the end of the procedure. Tsai et al. [27] found that a greater number of extractions were carried out for chronically sick children, than healthy children, in this study extraction was done less than other procedures in consideration to save the tooth.

In this study, 90% of patients were treated under general anaesthesia just because of dentistry-related fear or lack of cooperation at a younger age. This prevalence was higher than analogous rates determined by Wang et al. (40%), [28] Vermeulen et al. (42%), [29] and Tarjan et al. (49%). [30] However, O'Sullivan [25] reported that general anesthesia was used for 76% of their cases due to behavioral problems alone. Harrison et al. found that a greater number of extractions were carried out for chronically sick children, than healthy children with similar findings observed by Tsai et al. [27], and in the present study. Before the age of 6 years old, there was no difference in the total number of teeth treated in either group. However, the number of extracted teeth was greater in the disabled group. Underlying medical conditions may affect the treatment modality provided. The dentist may prefer a less complex dental procedure for a disabled child to avoid complications or the necessity for re-treatment. For example, a tooth extraction is preferable to pulp therapy for periapical pathological teeth. When young children are in need of extensive dental treatment and do not tolerate routine restorative treatment and extractions with the use of local anaesthesia and behaviour management, other treatment modalities are needed. Sedation does not allow treatment in very young patients or for prolonged periods. Previous reports have shown that comprehensive dental care under general anaesthesia can be carried out safely in a day-care facility with a high level of acceptability [32,33].

Successful outcome of full-mouth rehabilitation for the pediatric dental patient under GA depends on the expertise of the medical and dental team and the ability of parents or caretakers to comply with preventive dental care for their children following GA.

Legault et al. [24] reported in a follow-up analysis of 217 children treated under GA that 84 (38.6%) required further dental treatment within 15.6 months of initial treatment. Nine (10.7%) needed pretreatment under because of severe management problems or failure.

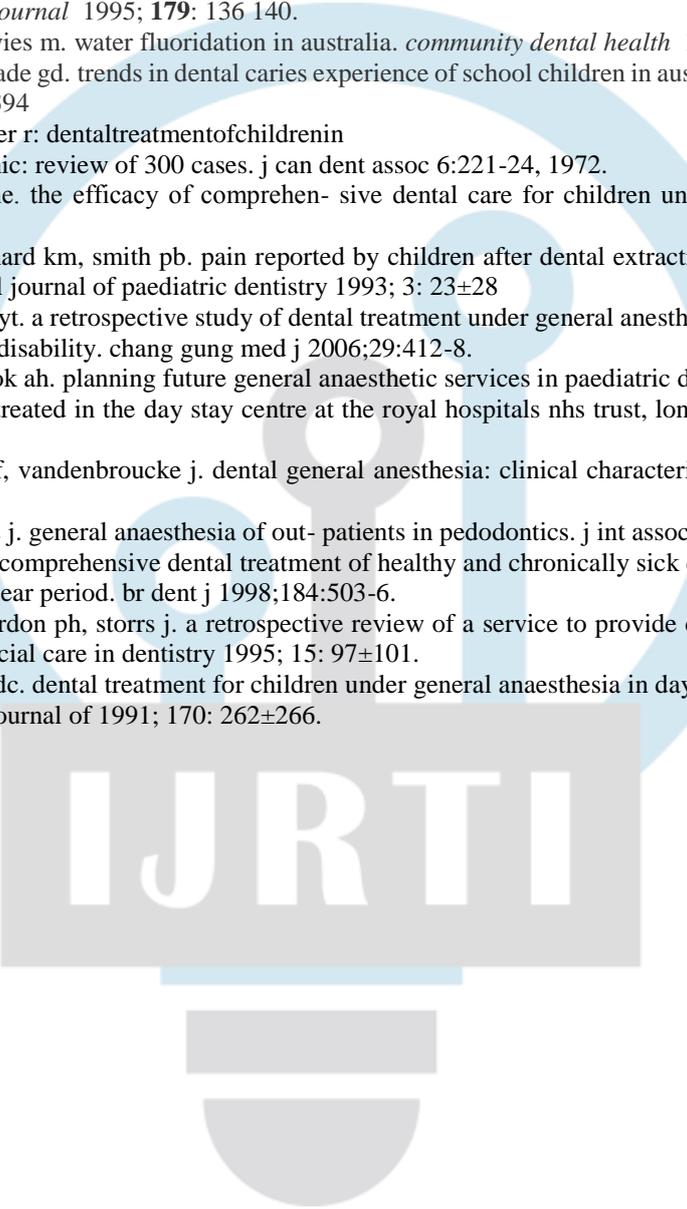
#### CONCLUSION:

Dental treatment performed under general anaesthesia is necessary for very young children or those with special health care needs. The underlying medical or mental condition may influence the dental condition and treatment modality provided. Hence the use of general anaesthesia should be well known for the procedure done.

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