

# Stainless Steel Crowns

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Since 1950, stainless steel crowns for primary molar teeth have been used.<sup>1</sup> After some time, modification of the designs have improved the morphology of the crown and simplified the fitting procedure so that it more precisely duplicates the anatomy of primary molar teeth. The morphology of a primary molar tooth varies from the permanent successor, especially by having its most convexity at the cervical third of the crown.<sup>2</sup> Stainless steel crowns (SSCs) are available in different sizes to match primary first and second molar teeth. SSCs are sufficiently flexible to permit trimming, shaping, and crimping to be done as expected to get a solid match, with the crown edge giving retention by springing into and being held by the undercut cervical area.<sup>3</sup>

The challenges to restore multisurface carious primary molars are well documented.<sup>4</sup> Primary molars have short clinical crowns and thin enamel and dentin, but large pulp chambers, making it hard to accomplish sufficient retention and support of proximal intracoronal restorations without exposing the pulp.<sup>5</sup> For restoration of primary molars, various materials have been utilized, going from tooth colored materials, for example, composite, glass ionomer and compomer bonds to amalgam and stainless steel crowns (SSCs). The utilization of SSCs has been used to restore multiple surface carious lesions, generalized or localized developmental enamel or dentine defects, following a pulp treatment, or to restore carious lesions in kids with high caries risk, regardless of the number of surfaces.<sup>6</sup>

Stainless steel crowns are prefabricated crowns formed from metals, which can be customized to the affected primary molars. Routinely, complete caries excavation and tooth preparing was declared to be primary before fitting a SSC, generally needing local anaesthesia.<sup>7</sup> Lately, the Hall Technique (HT) as a less invasive biological approach utilizing SSCs (without caries excavation or tooth trimming) to restore carious teeth that has been advocated.<sup>8</sup> as opposed to the traditional system, the HT is used for the management of asymptomatic dentin carious primary molars without pulp involvement. As the HT, does not require caries removal, teeth with clinical doubt of pulpal involvement ought to be excluded. At the patient level, this procedure can be utilized for treating pediatric patients with constrained capacities to focus or as a potential treatment for improving patient cooperation.<sup>8</sup> All in all, SSCs have had consistently high success rates.<sup>9</sup> Recently, a Cochrane review<sup>7</sup> analyzed the clinical results for primary molars restored with SSCs contrasted with those restored with other filling materials, presuming that the utilization of SSCs for treatment of carious primary teeth, or following pulp treatment, may decrease the long-term disappointment chance contrasted with fillings.

There are numerous proposals for the utilization of stainless steel crowns (SSCs) in the primary dentition as the restoration of decision for treating various surface carious lesions in primary molars, principally for children with high caries risk, or kids who are treated under general anaesthesia.<sup>7</sup> A further revealed limitation to the utilization of SSCs was the absence of aesthetic, with 23% of respondents who guaranteed guardians/kids do not prefer for the crowns appearance. This issue was investigated by secondary care-based questionnaire,<sup>10</sup> which analyzed the parent and child acceptance of SSCs. Just couple of worries to the appearance of the stainless-steel crowns, be that as it may, were reported. This is additionally in accordance with a study,<sup>11</sup> SANTAMARÍA ET AL. <sup>7</sup> which thought about the compared the acceptance of SSCs (utilizing the HT), to other treatment alternatives (conventional fillings). Outcomes of this trial demonstrated a decent dimension of crowns acceptance, with 88% of guardians being "highly satisfied" with the method. Furthermore, kids appear to like the look of SSCs, having a tendency to prefer a crown to other normally utilized restorative materials.<sup>12</sup> It tends to be expected that the presence of stainless steel crowns may be of more worry to tastefully

orientated clinicians as opposed to care givers or kids. Then again, it has been proposed that dental specialists' hesitance to utilize SSCs as a feature of their standard treatment might be connected to components, for example, perceived difficulties in placing SSCs or low financial remuneration.<sup>7</sup> In accordance with these discoveries, 18% of expressed limitations to utilize SSCs were identified with the restricted financial reimbursement by the payment system.

Over multi decade prior, an alternate method for fitting SSCs utilizing the Hall technique (HT) was presented, in which no part of the carious lesion is excavated; rather, the lesion is covered under a SSC utilizing glass ionomer cement, and no tooth preparation is done.<sup>8</sup> This is practiced by arresting the activity of caries under the crown, while protecting tooth tissue and pulp vitality.<sup>8</sup> This less invasive way has demonstrated that carious injuries in primary molars can be effectively treated with this system over the long run.

For primary teeth, a restoration ought to in a perfect world function until the tooth sheds normally. However, distinctive studies have demonstrated failure rates of around 20%-30% for primary molar restorations.<sup>7</sup> Most basic purposes behind retreatment are as per the following: the presence of new caries in an unrestored part of the tooth, carious lesions related with restoration, loss of retention, and bulk fracture. Then again, SSCs are remarkably long-lasting restorations, which offer the advantage of complete coronal coverage limiting the most well-known explanations behind tooth retreatment, with critical lower failure rates in comparison with other therapeutic methods for primary molars.<sup>7</sup> Especially, the HT combines the benefits of this sort of restoration with the lower dangers for endodontic treatment via sealing the carious injury as opposed to removing it and hence diminishing the danger of pulp harm.

When all is said in done, SSCs are remarkably long-lasting restorations with various indications (following a pulp treatment; for teeth with developmental deformities or multisurface caries where another material is probably going to fail; and for infra- occluded and cracked teeth, and so on.) for their decision in various clinical situations.<sup>6</sup> Then again, the fundamental indication of the HT is to manage the asymptomatic primary molars with dentin caries.<sup>8</sup> Its utilization, in any case, is just indicated after conducting a definite clinical and radiographic examinations. As this technique does not require caries removal, if there is proof evidence of pain, or different signs or manifestations of irreversible pulpitis, at that point these teeth are not reasonable to be treated with this strategy and should be dealt with routinely with pulp treatment or ought to be extracted.<sup>8</sup> In conclusion, it is recommended to use stainless steel crowns (SSCs) in the following conditions:

1. Primary molars that have caries lesions with children at high risk.
2. Children with large carious lesions or multiple surface lesions in primary molars.
3. In children who require general anesthesia for restorative dental care.

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