Management of rampant caries in children

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Because research has resulted in a better understanding of the etiology of dental caries as well as the introduction of new techniques and materials in the practice of dentistry, approaches toward the management of rampant caries should be reevaluated. The development of the acid-etching technique and the improvements in the physical properties and clinical performance of composite resins and glass-ionomer cements have completely changed the concepts of prevention, conservative dentistry, and dental esthetics. Several methods for the treatment of rampant caries are described and management of two cases is documented. (Quintessence Int 1992;23:159-168.)

Introduction

Rampant caries has been described by Winter et al1 as a lesion of acute onset involving many or all of the erupted teeth, rapidly destroying coronal tissue, often on surfaces normally immune to decay, and leading to early involvement of the dental pulp. In a recent study, subjects with active, rampant dental caries were defined as those who had five or more new carious surfaces per year.2 It is perhaps one of the most difficult and challenging conditions confronting the dental practitioner from both a preventive and management standpoint.

The purpose of this article is to give an overview of the condition and outline a management program based on current knowledge and techniques.

Clinical appearance

The pattern of rampant caries in the primary dentition is usually related to the order of tooth eruption, with the exception of the mandibular primary incisor. The mandibular incisors are probably more resistant to caries because of their close proximity to the secretions of the submandibular salivary glands as well as the cleansing action of the tongue during the process of suckling the bottle.

The initial lesion usually appears on the labial surface of the maxillary incisors, close to the gingival margins, as a whitish area of decalcification or pitting of the enamel surface shortly after eruption. These lesions soon become pigmented to a light yellow and at the same time extend laterally to the approximal surfaces and downward to the incisal edge. Less commonly, the decalcification may present initially on the palatal surfaces, or even at the incisal edge in some extreme cases.3 At a more advanced stage, the carious process will often extend around the circumference of the tooth, leading to pathologic fracture of the crown on minimal trauma. Other teeth, namely the first primary molars, the second primary molars, and eventually the canines, will gradually become involved.

Nursing bottle caries, also known by a number of other names, such as bottle caries, baby bottle syndrome, and baby bottle tooth decay, is a form of rampant dental caries in the primary dentition of infants and children. In most cases, the problem is found in an infant who frequently falls asleep with a baby bottle filled with milk or sugar-containing substances,1 eg, vitamin C syrup, sweetened fruit juice, or even carbon-
ated drinks. The condition can also be associated with breast-fed infants who have prolonged feeding habits\(^8,9\) or with children whose pacifiers are frequently dipped in honey, sugar, or syrup.\(^4\) The decrease in salivary flow rate during sleep, as well as the pooling of sweet fluids around the teeth, results in a highly cariogenic environment.

Rampant caries may also occur in the permanent dentition of teenagers, because of their frequent intake of cariogenic snacks and sweet drinks between meals. Typical rampant caries in adolescents is characterized by buccal and lingual caries of premolars and molars and proximal and labial caries in the mandibular incisors. Johnsen et al\(^10\) have shown that children with nursing caries who are receiving ongoing comprehensive dental care are more susceptible to lesions in approximal surfaces of primary molars than are children who are initially caries free. As a result, infants with rampant caries are likely to develop the same condition in the permanent teeth unless successful preventive measures have been implemented.

A specific form of rampant caries may occur in children and adolescents who have a greatly reduced salivary flow as a result of radiotherapy for the treatment of cancer of the head and neck region or as a result of the surgical removal of neoplasms in the oral cavity.

**Etiology**

The two major predisposing factors in rampant caries are a specific microorganism and diet.

**Microorganism**

*Streptococcus mutans* is an important pathogen in the development of dental caries.\(^11,12\) Several clinical studies have shown that *S. mutans* cannot be detected in the mouths of normal, predentate infants.\(^13-17\) The microorganisms are usually not detectable in the mouths of infants until the later stage of incisor emergence.\(^18\) The relative absence of *S. mutans* prior to this stage of dental development indicates that the presence of these microorganisms is associated with primary infection, and the main source of *S. mutans* in primary infection is usually the mother.\(^19-21\) Berkowitz et al\(^19\) found a significant relationship between the salivary *S. mutans* level in the mother and the risk of infection in the infant. In addition, the frequency of infant infection is approximately nine times greater when maternal salivary levels of *S. mutans* exceed 10⁵ colony-forming units (CFUs)/mL of saliva, than when maternal salivary levels are less than 10¹ CFUs/mL. Similar studies using bacteriocin testing of *S. mutans* from mother-infant pairs have suggested that *S. mutans* is transferred from mothers to infants.\(^20-21\)

Plaque and saliva from children with nursing caries have been found to contain unusually high levels of *S. mutans*.\(^22,23\) Van Houte et al\(^22\) demonstrated that *S. mutans* constitutes about 60% of the cultivable flora of dental plaque obtained from carious lesions, margins of white-spot lesions, and clinically sound enamel surfaces of preschool children with nursing caries. In children with little or no caries, *S. mutans* constitutes less than 1% of the flora.\(^22\) Milnes and Bowden\(^23\) showed that, besides *S. mutans*, *Veillonella* is also found in significantly higher amounts in plaque samples taken from maxillary incisors than it is in samples from the mandibular incisors. Boue et al\(^23\) found a similar bacterial distribution, consisting of high levels of *S. mutans*, *Lactobacillus*, and *Veillonella* in black-pigmented and unstained lesions in young children who developed rampant caries.

The cariogenicity of *S. mutans* is probably related to its unique combination of properties, which include (1) colonization of the teeth (2) production of large amounts of extracellular polysaccharide that enable voluminous plaque formation, (3) production of large amounts of acids, even at low pH, and (4) breakdown of salivary glycoprotein, which might be of great importance for the initial development of carious lesions.\(^26\) The correlation between *S. mutans* levels and dental caries has been used to identify children who are at "high risk" for caries attack. It is important that such children be identified and given preventive treatment before they develop rampant decay. However, although *S. mutans* and *Lactobacillus* are strongly associated with dental caries, several other factors can interact to determine the risk of dental caries:

<table>
<thead>
<tr>
<th>Protective mechanisms</th>
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<tr>
<td>Number of...</td>
</tr>
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</table>

**Diet**

The carbohydrate component of the diet is associated with the formation of dental caries. The classic Swedish Vipeholm study demonstrated that cariogenic potential is closely related to the texture of the carbohydrate and the frequency of consumption of sticky...
sugars, rather than to the amount of sugar eaten.\textsuperscript{27} The carbohydrate provides the plaque bacteria with the substrate for acid production and for the synthesis of extracellular polysaccharides. Low-molecular-weight carbohydrates (eg, sugar), which readily diffuse into plaque and are metabolized by plaque bacteria, are more cariogenic than are complex carbohydrates (eg, starch).

Sucrose, in particular, has been considered to be the most cariogenic sugar in the human diet, because (1) it is a small, uncharged molecule that easily diffuses into the dental plaques, (2) it is highly soluble and acts as a substrate both for the production of extracellular polysaccharides and for acid production, (3) it favors the establishment of \textit{S} \textit{mutans} on teeth, and a high sucrose intake gives rise to voluminous amount of plaque formation, and (4) it does not contain substances that can inhibit plaque bacteria or form a protective coating on the enamel surface of teeth in children who are introduced to sweet foods early in their infancy.\textsuperscript{28} Several clinical studies have shown that the cause of nursing caries is prolonged bottle feeding with sweet fluids, particularly during nap times.\textsuperscript{5,6}

There is some controversy as to whether bovine and breast milk are cariogenic. Bovine milk contains high concentrations of calcium and phosphorus, which could contribute to the remineralization of enamel. Breast milk contains a higher content of lactose than bovine milk, and therefore possesses a greater cariogenic potential. Hackett et al.\textsuperscript{9} however, concluded that, although it is possible for breast and bovine milk to cause dental caries, the prevalence is low and is associated with frequent and prolonged breast or bottle feeding, during the day and night, until the child is 2 or more years old.

Parents frequently provide their children with freshly squeezed or commercially prepared fruit juices because of the belief that they contain large quantities of vitamin C. The parents are, however, unaware of the high sugar content of fruit juices, their acidic pH, which can range from 3 to 4, and their erosive effect on dental enamel.\textsuperscript{29} Erosion is particularly harmful in the primary dentition, because the layer of dental enamel and dentin is much thinner than in the permanent dentition.

### Prevalence

Few studies have been conducted to determine the prevalence of rampant caries in a general population.\textsuperscript{21}

<table>
<thead>
<tr>
<th>Country</th>
<th>Year of publication</th>
<th>Author</th>
<th>Prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>1967</td>
<td>Goose\textsuperscript{31}</td>
<td>6.8%</td>
</tr>
<tr>
<td></td>
<td>1968</td>
<td>Goose and Gittus\textsuperscript{32}</td>
<td>5.9%</td>
</tr>
<tr>
<td></td>
<td>1966</td>
<td>Winter et al\textsuperscript{1}</td>
<td>12.0%</td>
</tr>
<tr>
<td></td>
<td>1971</td>
<td>Winter et al\textsuperscript{4}</td>
<td>8.0%</td>
</tr>
<tr>
<td></td>
<td>1980</td>
<td>Holt et al\textsuperscript{33}</td>
<td>3.1%</td>
</tr>
<tr>
<td></td>
<td>1988</td>
<td>Holt et al\textsuperscript{34}</td>
<td>7.3%</td>
</tr>
<tr>
<td>United States</td>
<td>1976</td>
<td>Powell\textsuperscript{25}</td>
<td>1.0%</td>
</tr>
<tr>
<td></td>
<td>1977</td>
<td>Currier and Glinka\textsuperscript{36}</td>
<td>5.0%</td>
</tr>
<tr>
<td></td>
<td>1984</td>
<td>Johnsen et al\textsuperscript{37}</td>
<td>11.0%</td>
</tr>
<tr>
<td></td>
<td>1987</td>
<td>Kelly and Bruerd\textsuperscript{38}</td>
<td>53.1%</td>
</tr>
<tr>
<td>Canada</td>
<td>1982</td>
<td>Derkson and Ponti\textsuperscript{6}</td>
<td>3.2%</td>
</tr>
<tr>
<td>Australia</td>
<td>1985</td>
<td>Brown et al\textsuperscript{29}</td>
<td>5.4%</td>
</tr>
<tr>
<td>South Africa</td>
<td>1978</td>
<td>Cleaton-Jones et al\textsuperscript{40}</td>
<td>11.4% (rural)</td>
</tr>
<tr>
<td></td>
<td>1978</td>
<td>Cleaton-Jones et al\textsuperscript{41}</td>
<td>8.6% (urban)</td>
</tr>
<tr>
<td></td>
<td>1981</td>
<td>Richardson et al\textsuperscript{42}</td>
<td>11.7% (rural)</td>
</tr>
<tr>
<td></td>
<td>1981</td>
<td>Richardson et al\textsuperscript{42}</td>
<td>4.0% (urban)</td>
</tr>
<tr>
<td>Indonesia</td>
<td>1979</td>
<td>Aldy et al\textsuperscript{42}</td>
<td>48.0%</td>
</tr>
</tbody>
</table>

Holt\textsuperscript{36} recently reviewed findings of studies carried out in Camden, England, over a period of 20 years and showed that rampant caries in preschool children is socioeconomically related; in the industrialized world, higher levels of disease are found in children from poorer, less well-educated, single-parent, or recent-immigrant families.

Several studies have shown the wide variation in the prevalence of nursing caries, from 3.1% to as high as 53.1%, in different countries and populations (Table 1). The prevalence of nursing caries in industrialized countries (eg, United States, Canada, and Australia) is low and no greater than 5.4%, whereas more than 50% of the native American or native Alaskan children...
have nursing caries. A high prevalence of nursing caries is observed in developing countries (eg, South Africa and various parts of Asia) and is probably related to the increase in consumption of sugar-containing foods, drinks, and confectionary.

**Treatment**

The type of treatment instituted for patients with rampant caries depends on the patient's and parents' motivation toward dental treatment, the extent of the decay, and the age and cooperation of the child. These factors should be assessed during the child's first few visits to the dentist. Restorative dentistry is expensive and, by itself, is not a complete cure for rampant caries. Many practitioners have gone to considerable efforts to restore all the teeth in subjects with high-caries activity only to find new lesions within a very short time. Initial treatment, including provisional restorations, diet assessment, oral hygiene instruction, and home and professional fluoride treatments, should be performed before any comprehensive restorative treatment commences. The initial therapy will help the dentist to determine the ultimate success or failure of the case.

Caries stabilization and provisional restorations should be placed in symptom-free teeth with established dentinal caries to minimize the risk of pulpal exposure in the future and to improve function. However, in patients presenting with acute and severe signs and symptoms of gross caries, pain, abscess, sinus, or facial swelling, immediate treatment is indicated. Esmarch pulpotomy may be performed if the pulp is still vital, but pulpectomy followed by obturation with formalized zinc oxide–eugenol cement is indicated if the pulp is nonvital.

Because diet is one of the major factors in the initiation and development of caries, a dietary assessment should form a fundamental part of the examination. Parents should be educated to reduce the frequency of sucrose consumption by their child, especially between meals. Consumption of sugar-containing foods and beverages should be restricted to meal times. Parents can be instructed to record the amount and quantities of food and beverages consumed during and between meals for 3 consecutive days. Dietary vitamin supplements as well as oral medications must also be included. Most pediatric medicines are prescribed in a liquid form that includes syrup in the formulation, and their long-term use can be detrimental to the teeth. These hidden sugars should be brought to the attention of the parents. Once the history is received, recommendations can be offered. Food intake and dietary habits are very difficult to modify. Successful management of rampant caries necessitates severe dietary modifications. A series of small changes over a period of time is usually more acceptable to the child and parents and longer lasting than are drastic changes and will eventually lead to a better diet for oral health.

If bottle feeding is still being practiced, particularly at night, it should be stopped by gradually diluting the bottle contents with water as well as decreasing the amount of added sugar over a 2- or 3-week period and finally substituting the bottle with a feeding cup.

If the nursing mother has a severe caries problem, it is most likely that she carries a high number of *S. mutans*; this will increase the risk of an early infection of her infant and thereby the caries risk. The dentist should consider testing the mother for levels of *S. mutans*. Kohler et al. have shown that the reduction of high salivary count of *S. mutans* through dietary counseling, professional tooth-cleaning, oral hygiene instruction, fluoride treatment, and excavation of large cavities in mothers has prevented or delayed the establishment of *S. mutans* in their infants. Similar findings were observed in another study by Kohler et al. involving mothers and their first-born baby.

Many 3- to 5-year-old children cannot brush their teeth adequately when untutored and unsupervised. Most 5-year-olds spend less than 60 seconds brushing their teeth, and more than 80% of the time the brush is placed on the least-caries-susceptible mandibular anterior teeth. Young adults usually brush their teeth for less than 40 seconds and spend only 30% of the time on the caries-susceptible surfaces. Therefore it is important to teach children the proper techniques of toothbrushing at different age groups. Generally speaking, children under the age of 8 years can best manage the circular scrub technique under parental

### Table 2: Recommended supplemental dosage schedule (mg F/day)\(^{16}\)

<table>
<thead>
<tr>
<th>Age (yr)</th>
<th>≤0.3</th>
<th>0.3 - 0.7</th>
<th>&gt;0.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2</td>
<td>0.25</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>2-3</td>
<td>0.50</td>
<td>0.25</td>
<td>0.00</td>
</tr>
<tr>
<td>3-16</td>
<td>1.00</td>
<td>0.50</td>
<td>0.00</td>
</tr>
</tbody>
</table>
supervision, whereas, after the age of 11 to 12 years, a sulcular brushing technique, eg, the Bass technique, can be taught. The use of disclosing tablets is a useful aid to demonstrate to children the presence and distribution of dental plaque on the teeth. Interdental cleaning should be introduced to adolescents with a young permanent dentition to remove interdental plaque that is inaccessible with normal toothbrushing.

Both systemic and topical fluoride treatments are useful for preventing dental caries; the choice depends on the level of fluoride in the drinking water and the stage of development of the dentition. The Council on Dental Therapeutics of the American Dental Association has recommended a dosage schedule for fluoride supplementation of children at various ages according to the level of fluoride in the drinking water (Table 2). Children with a primary dentition will benefit from both fluoride tablets and the use of a small amount of fluoride toothpaste. The child should be encouraged to chew or suck the tablet, preferably at bedtime. This provides a topical effect on dental enamel of the erupted teeth followed by a systemic effect on developing enamel after swallowing. Dietary fluoride supplements should be given, first, to those in whom preservation of a caries-free dentition is particularly important, eg, those with clefts and hypodontia and the medically compromised; and, second, to those who are especially prone to caries, eg, those with the first sign of caries in the primary dentition by the age of 5 years. Parents are instructed to use only a small pea-sized amount of dentifrice for their young child and to remind their children to rinse and expectorate thoroughly after toothbrushing to avoid excessive ingestion of fluoride from toothpaste. Periodic topical fluoride therapy with an acidulated phosphate fluoride (APF) gel or fluoride varnish is useful in children with rampant caries to prevent further tooth destruction. The value of systemic therapy decreases with age, as the permanent teeth are calcified and erupt, so fluoride tablets are not prescribed for older children and adolescents. However, fluoride toothpastes, fluoride mouthrinses, and professionally applied topical fluoride are of significant value. Tables 3 and 4 summarize the methods of fluoride treatment and other methods used for the prevention of rampant caries in different age groups.

Once rampant caries is under control, comprehensive restorative treatment can be carried out. Restorative therapy begins with the restoration of any residual sound tooth structure. Once the initial lesions are treated, the child is placed on a fluoride regimen and is reexamined periodically to ensure that the regimen is effective in preventing further caries. If multiple restorations are necessary, they are done in multiple visits to avoid crowding the oral cavity and to allow time for the fluoride to have an effect.

Table 3: Fluoride treatment for children with rampant caries (0.3 to 0.7 ppm water fluoride level)

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Dietary Fluoride Supplement</th>
<th>Operator-applied Topical Fluoride</th>
<th>Self-applied Topical Fluoride</th>
<th>Fluoride Dentifrice</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-2 yr</td>
<td>Not indicated</td>
<td>APF topical solution or gel, 1.23% F, applied four times a year</td>
<td>Not indicated</td>
<td>Brush with F-containing dentifrice</td>
</tr>
<tr>
<td>2-3 yr</td>
<td>0.25 mg F daily</td>
<td>APF topical solution or gel, 1.23% F, applied four times a year</td>
<td>Not indicated</td>
<td>Brush with F-containing dentifrice</td>
</tr>
<tr>
<td>3-13 yr</td>
<td>0.5 mg F daily</td>
<td>APF topical solution or gel, 1.23% F, applied four times a year</td>
<td>Self-application of gel-tray daily for approximately 4 weeks; thereafter continue with a daily fluoride rinse (0.05% NaF)</td>
<td>Brush with F-containing dentifrice</td>
</tr>
<tr>
<td>&gt;13 yr</td>
<td>Not indicated</td>
<td>APF topical solution or gel, 1.23% F, applied four times a year</td>
<td>Self-application of gel-tray daily for approximately 4 weeks; thereafter continue with a daily fluoride rinse (0.05% NaF)</td>
<td>Brush with F-containing dentifrice</td>
</tr>
</tbody>
</table>

Table 3 provides a summary of the fluoride treatment for children with rampant caries (0.3 to 0.7 ppm water fluoride level). The table includes the dietary fluoride supplement, operator-applied topical fluoride, self-applied topical fluoride, and fluoride dentifrice for children aged 0-2 years, 2-3 years, 3-13 years, and >13 years. The table indicates the appropriate fluoride treatment for each age group, along with the frequency and form of application.
**Table 4  Prevention of rampant caries in children and adolescents**

**Primary dentition: 0 – 5 years**

**Dietary advice:** Dietary counseling with parents on good nursing techniques

**Fluoride therapy:** Toothpaste
- Tablets if in area without water fluoridation
- Professional topical fluoride application every 6 months

**Plaque control:** Oral hygiene instructions to parents
- Toothbrushing with parental supervision

Early visit to dental office at around 12 months of age with 3- to 6-month recall

**Mixed dentition: 5 – 12 years**

**Dietary advice:** Dietary counseling with parents and patients

**Fluoride therapy:** Toothpaste
- Tablets up to 8 years if in area without water fluoridation
- Mouthrinse
- Professional topical fluoride application every 6 months

**Plaque control:** Oral hygiene instructions to patient
- Toothbrushing without parental supervision
- Disclosing tablets

Fissure sealants
3- to 6-Month recalls

**Permanent dentition: 12 years – onward**

**Dietary advice:** Dietary counseling with parents and patients

**Fluoride therapy:** Toothpaste
- Mouthrinse
- Professional topical fluoride application every 6 months

**Plaque control:** Oral hygiene instructions to patient
- Toothbrushing
- Interdental cleaning with floss or toothpicks

Fissure sealants
3- to 6-Month recalls

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**Table 5  Restorative strategies for rampant caries**

**Early caries with minimal loss of enamel:**
- Weekly professionally applied topical fluoride therapy

**Extensive cavitation with no pulpal involvement:**
- Anterior teeth
  - Acid-etched composite resin restorations
  - Pedo strip crowns
  - Glass-ionomer cement restorations
- Posterior teeth
  - Posterior composite resin restorations
  - Glass-ionomer cement restorations
  - Stainless steel crowns

**Extensive cavitation with pulpal involvement:**
- Pulpotomy or pulpectomy, where appropriate, followed by permanent restoration
- Extraction followed by space maintainer or partial or complete dentures

Strategies for rampant caries are shown in Table 5. If the patient is seen at an early stage, when caries is still in the incipient or white-spot stage, and there is minimal or no loss of enamel surface integrity, an improvement in oral hygiene technique, a change in dietary habits, and weekly home or professionally applied topical fluoride therapy will help arrest the lesions, and the need for restorations may be obviated.

Unfortunately, dental treatment is only sought for most children with rampant caries when extensive cavitation has occurred and restorative treatment is required. Acid-etched composite resin restorations can be used to restore anterior maxillary teeth whereas pedo-form strip crowns, which are more esthetic, functional, and durable, are indicated in anterior teeth with gross caries and extensive coronal destruction. Alternatively, glass-ionomer cement, which adheres to enamel and dentin as well as releases fluoride, can also be used as the restorative material; however, the results are esthetically less pleasing than those achieved with composite resin restorations. Acid-etched composite resin restorations, glass-ionomer-silver cement cements, and stainless steel crowns can be used to
Fig 1 Intraoral photograph of a 4-year-old child with rampant caries.

Fig 2 Immediately postoperative photograph of the same patient.

Fig 3 A maxillary occlusal view showing the distribution of caries in the teeth.

Fig 4 The carious teeth have been restored with stainless steel crowns and acid-etched anterior and posterior composite resin restorations.

restore the posterior teeth. Depending on the extent of the lesions, pulpotomies, pulpectomies, or extraction may be indicated. Where extractions of teeth have been carried out, a prosthesis should be provided for space maintenance, function, and esthetics. Management of rampant caries in two children is shown in Figs 1 to 16.

Summary
Rampant caries is a distressing clinical condition confronting the child, parents, and dentist. With the advances in knowledge about the etiology and pathogenesis of dental caries, rampant caries can now be prevented. Successful management of rampant caries depends on a coordinated team approach among the pediatrician, pediatric dentist, parents, and child. The pediatrician should educate the parents about good nursing and dietary habits and the importance of good oral hygiene to their child's teeth and should encourage parents to bring their child to the dental office before he or she is 12 months of age for a screening examination and counseling, because pediatricians are often the first medical personnel to see the newborn baby.

Pediatric dentists, who are more experienced in the implementation of preventive and restorative dentistry to infants and young children, should play a vital role in the management of rampant caries in children. However, interest and cooperation from the parents and children are equally important. Consequently, educational efforts should be emphasized and reinforced, especially in areas where the prevalence of rampant caries is high.
Fig 5. A mandibular occlusal view showing the distribution of caries in the teeth.

Fig 6. The carious teeth have been restored with stainless steel crowns and acid-etched anterior composite resin restorations.

Fig 7. Initial panoramic radiograph showing the distribution of caries in the dentition.

Fig 8. Immediately postoperative radiograph of the same patient.

Fig 9. Initial intraoral photograph of a 3-year-old child with carious involvement of the maxillary molars.

Fig 10. The carious molars have been restored with stainless steel crowns and acid-etched posterior composite resin restorations.
A buccal abscess is associated with tooth 74. Teeth 75, 84, and 85 are also grossly carious.

The mandibular molars have been extracted and a mandibular removable acrylic resin denture has been fabricated to improve function and esthetics.

Postoperative photograph of the same patient.

The smiling 3-year-old child at the completion of dental treatment.

Initial panoramic radiograph showing the distribution of caries in the dentition.

Postoperative radiograph of the same patient.
References


