

# TREATMENT PLANNING IN PAEDIATRIC DENTISTRY:

## A STRUCTURED APPROACH

Cassandra Lewis

The successful management of the child dental patient requires competence and confidence in numerous skills, ranging from the need for tactful communication and behaviour management of both child patients and their parents, to differing clinical techniques in smaller mouths with (potentially) less patient cooperation and time restrictions. Underlying all of this is the need for an appropriate, evidence-based treatment plan.<sup>1</sup> This is a challenging multifactorial process, but particularly key to ensuring safe, appropriate and effective care for our paediatric dental patients. Following a few simple steps can help to make this process less daunting, and more predictable.

### Caries risk assessment

Caries risk assessment is defined as 'the determination of the likelihood of the increased incidence of caries (i.e. the number of new cavitated or incipient lesions) during a certain time period or the likelihood that there will be a change in the size or activity of lesions already present.'<sup>2</sup>

While there is still insufficient data to enable a validated multivariate assessment tool for caries risk assessment in dentistry, current models utilise a combination of factors in determining a child's individual caries risk as low, moderate or high risk.<sup>1,2</sup> These include:

- **The child's age;**
- **Clinical findings e.g. evidence of disease, level of plaque;**
- **Social/biological factors e.g. dietary habits, socioeconomic status, medical history;**
- **Protective factors e.g. dental attendance, exposure to fluoride, tooth brushing practices.**

An appreciation of these factors allows for a better understanding of the disease process and contributing risk factors at an individual level, particularly caries progression or stabilisation.<sup>2</sup> It provides dental practitioners with a means of applying tailored evidence-based approaches to referrals, frequency of diagnostic, preventative and restorative interventions as well as recall intervals. It also



allows the implementation of standardised care pathways and protocols based upon caries risk.<sup>2</sup>

The Scottish Dental Clinical Effectiveness Programme (SDCEP)<sup>1</sup> and the American Association of Paediatric Dentistry (AAPD)<sup>2</sup> outline specific ways to assess caries risk, with associated care pathways for caries management. These can assist dental professionals in treatment planning appropriately for our patients.

### The coping ability of the child (and the parent)

A child's ability to cope with any medical or dental intervention depends upon their psychological and personal development. More specifically this relates to their ability to understand the need for the intervention, and is determined by their age, cognitive abilities, emotional responses, communication skills and maturity.<sup>3</sup> An appreciation of a child's dental history, and their dental anxiety is also fundamental.<sup>3,4</sup>

Indeed, younger children, and more anxious children, may use more behavioural coping

strategies such as hand-holding, or wanting a friend with them, compared to their older counterparts, who show a propensity for more cognitive coping strategies e.g. rationalisation and normalisation.<sup>3</sup>

Understanding that children experiencing dental anxiety often exhibit destructive behavioural coping strategies (e.g. closing their mouth, getting angry, trying to escape) allows dental professionals to tailor appropriate behaviour management and anxiolytic interventions.<sup>2,3</sup>

The British Society of Paediatric Dentistry (BSPD) and European Association of Paediatric Dentistry (EAPD) also recognise the influence of parental dental anxiety and parenting style.<sup>4,5</sup> Appreciation of the influence of an overly passive or overly involved parenting style can provide valuable insight for the clinician in managing expectations, and preparing the patient, and their parent(s). This is where careful consideration should be given to the benefit of parental presence, keeping in mind that there is an increasing trend for parents to want to be more involved in their child's care.<sup>4</sup>

## Behaviour management strategies

There is a wealth of literature pertaining to the various strategies and techniques available for use with children to instil a positive attitude towards dental health and the receipt of dental care.<sup>4,5</sup>

First and foremost, the dental professional must establish a relationship based on trust, after which the chosen methods should be adapted to suit the individual child's needs. No one method will be applicable to every situation, and indeed combinations are frequently used inherently, depending on the expertise of the clinician. As mentioned, an appreciation of the coping ability of the child allows the correct approach to be tailored.

Evidence-based examples of non-pharmacological behaviour management strategies are shown below.<sup>4</sup> Due consideration needs to be paid to the child's comprehension level in applying techniques successfully.<sup>5</sup>

- Providing preparatory information
- Non-verbal communication
- Voice control
- Tell-Show-Do
- Hand signal (enhancing control)
- Positive reinforcement (behaviour shaping)
- Modelling
- Distraction
- Systematic desensitisation
- Guided imagery

Additional more advanced options for older children include hypnosis, motivational interviewing, memory reconstruction and particularly cognitive behaviour therapy (CBT). Indeed, the University of Sheffield produce excellent online resources for the use of CBT for children over 9 years of age<sup>6</sup> (<http://dental.litff.com/>).

## Treatment options and staging

Following clinical and radiographic assessment (as per FGDP guidelines<sup>7</sup>), decisions relating to treatment options should always be grounded in current evidence-based practices. The SDCEP<sup>1</sup> and AAPD<sup>8</sup> provide detailed guidance on the most suitable restorative materials and techniques for caries affecting the primary and permanent dentition, depending on the location and extent of the lesion. Prevention measures and interventions are outlined clearly by Public Health England's 'Delivering Better Oral Health Toolkit'.<sup>9</sup> All aspects of a treatment plan need to be discussed with the parent and patient as part of valid informed consent processes.<sup>1</sup>

The next step is to order and stage the treatment. Organisation and honest communication are of key importance. By providing clarity in sequencing and prioritising care, clinicians can curtail frustration on all sides through saving time and energy. Specifically, it avoids dissatisfaction or confusion on the side of the parent. It also allows for efficient use of clinical time (with respect to organising appointment length and clinic set-up) whilst instilling confidence in successful future management.

Various (often conflicting) arguments emerge when ordering treatment, for example, the deepest carious lesion necessitates your immediate attention, but will the child be able to cope with what is inarguably more advanced treatment? Similarly, if faced with multiple lesions, clinicians must consider which teeth take priority. In this instance it is often helpful to take the first permanent molars as priority, followed by primary teeth most important in terms of space maintenance and management of the occlusion e.g. the first primary molars and canines. These too are retained the longest in the mouth. The primary anterior teeth are often mostly of aesthetic concern.

When staging treatment, it can be helpful to order treatments in the following ways:

- **Emergency phase: management of dental pain and/or trauma should take precedence, and a quick assessment of the child's coping ability is necessary to deem whether a timely referral is required for sedation or general anaesthetic.**
- **Prevention/stabilisation phase: this involves a tailored oral health promotion plan, which may include oral hygiene instruction, dietary analysis, topical fluoride varnish, prescription of fluoride mouth rinses and/or toothpaste (age-dependent as per recommendations<sup>9</sup>), fissure sealants and supra-gingival scaling.**
- **Restorative/definitive phase: start with smaller less-invasive procedures to build confidence e.g. preventive resin restoration on first permanent molars, small occlusal restorations or Hall Technique crowns, before the introduction of local anaesthetic for pulp therapy or extractions. Again, staging treatment to prioritise strategic teeth can help structure this phase, particularly for the child experiencing multiple progressing carious lesions.**
- **Maintenance phase: as previously mentioned, consideration of the child's caries risk allows appropriate maintenance care pathways to be followed with respect to dental recall interval (as per NICE<sup>10</sup> guidelines), bitewing radiograph frequency (as per FGPD guidelines<sup>7</sup>) and frequency of topical fluoride application.<sup>9</sup>**

## Conclusion

Every interaction with a child dental patient is an opportunity to instil lifelong positive attitudes and behaviours towards oral health. As clinicians we all want to provide the best experience for our patients, with the most predictable outcomes. Treatment planning the child dental patient necessitates careful consideration of multiple interdependent factors: the child's age, their caries risk status, coping ability, parental preferences, and the treatment options available. Careful consideration of these key factors, and a structured approach, will help support the delivery of a treatment plan tailored to each child's unique circumstance.

### About the author:

Cassandra worked within the Community Dental Services for several years before becoming a Clinical Lecturer in Paediatric Dentistry at QMUL. She is involved in teaching undergraduate and postgraduate dental students, whilst providing dental care under sedation for Barts NHS Trust. Her clinical interests include paediatric dentistry, dental anxiety and dental education. She has a Post Graduate Diploma in Conscious Sedation and is a Fellow of the Higher Education Academy.

### Correspondence:

Cassandra.lewis@qmul.ac.uk

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