



CHILD BEHAVIOUR MANAGEMENT: NON-PHARMACOLOGICAL STRATEGIES

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ABSTRACT

Treating children can be challenging for all healthcare professionals, especially those who are newly qualified or have had less experience of paediatric dentistry. Children develop at different rates, and an understanding of the influence of psychological and personal development on their coping ability is key to providing successful, safe and efficient dental interventions.^{1,2} This involves careful consideration of their age, cognitive abilities, emotional responses, communication skills and maturity, as well as an appreciation of the child's dental history and any possible dental anxiety they might have.^{2,3} This first half of the series will help to support dental professionals in making educated judgements on which non-pharmacological behaviour management approaches to adopt for each individual child patient.

Behaviour management strategies

National and international guidelines exist to support the dental team in the use of non-pharmacological behaviour management strategies for paediatric dental patients.^{2,3} The overarching aim is to instil life-long positive attitudes towards dental health and the receipt of dental treatment.^{1,2}

The foundation of any strategy stems from trust, communication and education, not only with the patient, but the parent/carer as well.² The responsibility of this falls to the whole dental team from the moment the child arrives in the dental surgery. Some strategies are straightforward and universally applicable. Indeed, most clinicians will apply these without thinking, e.g. voice control, body language, facial expression and use of child-friendly vocabulary.

Examples of basic non-pharmacological behaviour management strategies recommended by the British Society of Paediatric Dentistry (BSPD)² and European Academy of Paediatric Dentistry (EAPD)³ are shown in Table 1. No one method will be applicable to every situation, and indeed combinations are frequently used inherently.²

Older children may benefit from more advanced techniques, such as hypnosis, motivational interviewing, memory reconstruction or particularly cognitive behaviour therapy (CBT). The University of Sheffield provides excellent online resources for the use of CBT for children, targeted at clinicians, parents and patients over 9 years of age⁴ (<http://dental.litf.com/>).

Child development

Dental clinicians are often faced with children of different ages, personalities and temperaments. Traditionally, children who struggled to cope with dental treatment were labelled as “uncooperative”, but it is much fairer to use the terms “pre-cooperative”, “potentially cooperative” or “lacking co-operative ability”.² An appreciation of the child's cognitive abilities and development will help distinguish a child who is simply being pushed beyond their coping abilities, from those who might be deliberately obstructive.

Typically, child development is categorised within physical, cognitive, social and emotional domains. Jean Piaget's theory of

Table 1: Non-pharmacological Behaviour Management Strategies

Strategy	Definition/Examples
Providing preparatory information	Pre-appointment letters, description of what to expect at their appointment.
Verbal communication	Child friendly and age-appropriate words, avoiding negative or emotive words.
Non-verbal communication	Child friendly environment, happy and smiling dental team, gentle pats or squeezes to alleviate distress.
Voice control	Altering volume, tone and pace as necessary.
Tell-Show-Do	Tell: age appropriate explanation e.g. slow handpiece as a 'digger'. Show: demonstration e.g. shown vibrations on finger. Do: without delay.
Enhancing control	Hand-signalling/stop signal, or using a traffic light (green, amber, red dependent on level of discomfort).
Positive reinforcement (behaviour shaping)	Selective reinforcement of specific positive behaviours, increasing the probability of repetition of the ideal behaviour e.g. "You are getting a sticker/badge for opening really wide". Negative reinforcement has been shown to be less effective.
Modelling	Learning by observing others in real life or video, particularly a positive outcome at the end of the appointment.
Distraction	Shifting attention to something else to assist with more unpleasant procedures e.g. cartoons, audio, asking the child to clench their fist to prevent gagging, or tugging on their lip while administering local anaesthetic
Systematic desensitisation	Relaxation, followed by planned exposure of the patient to fear-producing stimuli in a hierarchical order (from least to most fearful), only progressing when they feel able. An excellent guide for needle desensitisation was produced by Greig Taylor and Caroline Cambell ⁵ .

cognitive development provides a practical basis from which to better understand child development, however, an appreciation of the variability and influence of individual differences is needed in applying development theories too strictly.^{5,7} He defined the four stages of child development:

1. **Sensorimotor (0-2 years)**
2. **Pre-operational (2-7 years)**
3. **Concrete operational (7-11 years)**
4. **Formal operational (12 years – adulthood)**

Appropriate non-pharmacological behaviour management strategies can be loosely assigned to children in each stage and are explored in more detail below.

Applying appropriate strategies

Dental procedures require quite specific and complex behaviours from our child patients, all of which need to be explained and learned.² Every child is different, and every situation necessitates a different strategy. An understanding of child development is key to the successful application of an appropriate technique.

The sensorimotor stage (0-2 years)

Piaget believed that children are active, curious and engaged learners.⁶ Those in the sensorimotor stage construct knowledge largely by accident, and through trial and error. Safety is born out of familiarity and repetition, and parental support is essential. They are largely egocentric, struggling to understand others' points of view.^{6,7} With this in mind, it is easy to understand the argument for early exposure to the clinical environment (and toothbrushing) at this age. Dental practitioners should work to present the dental practice in a way which supports this, allowing children to assimilate their

new experiences in a non-threatening way.^{6,7} Smiling and a happy atmosphere is also key, avoiding loud noises, distinct tastes and smells.^{2,3}

Pre-operational stage (2-7 years)

At this age, children learn through exploration, and although they have yet to develop the cognitive ability to think logically or abstractly, their language skills are developing rapidly. They still tend towards more egocentric and generalised viewpoints, with value placed on visual aspects.⁶ Their improved language development and the understanding/familiarity of objects can be used to the clinician's advantage by giving dental equipment funny but familiar names ('Fantasy Play'). Short-term positive reinforcement, and behaviour shaping through rewards, are usually successful because the child is able to relate it to themselves, but they will struggle to understand abstract concepts such as the future benefit of a 'healthy tooth'. Children may also benefit from watching dental treatment in a mirror, acclimatisation, modelling and 'tell-show-do' at this stage.^{2,3,7} Distraction can be useful, but clinicians should ensure the patient knows what is happening and has an active role in treatment using concrete, observable instructions and demonstrations.⁶ Separation anxiety is also a concern (especially until 4-5 years of age), therefore careful consideration should be given to the benefit of parental presence, and the impact of parental dental anxiety.^{2,3,6,7}

Concrete operational stage (7-11 years)

During this stage children have an improved ability to reason and thinking becomes more logical.⁶ They are able to appreciate others' points of view and are less egocentric, often operating under a set of 'concrete rules' which are quite fixed e.g. they must brush their teeth twice a day because they have been told to. However, rewards may become less effective, and verbal praise may be a stronger motivator.⁷ At this age, learning is improved by doing, so concepts

such as systematic desensitisation and demonstrating will be much better understood. Ownership of tasks can be assigned, and as manual dexterity improves, toothbrushing instruction can be given directly to the child.⁷

Formal operational stage (12 years – adulthood)

During this stage thought processes become more similar to that of an adult, and the child is now able to understand concepts like 'health', 'disease', and the importance of prevention. They can weigh up hypothetical situations and have more independence, therefore clinicians can now reason with the child.^{6,7} However, during adolescence, egocentrism often returns with a heightened self-consciousness. Two types of social thinking may emerge, an 'imaginary audience' where the child may change frequently while 'trying out' different versions of themselves, and a 'personal fable' where they feel unique and invincible. For clinicians this may result in varied/fluctuating personalities and denial about the consequences of poor oral health. However, this is also a time when adolescents will be more affected by aesthetics and motivation could be drawn from this and the importance of oral health on social interactions.⁷

Personality

In addition to the child's level of development, their personality and temperament play an important role.⁹ Specifically, the child's adaptability, intensity, activity, and shyness. Those with an easy temperament tend to be positive, flexible, adaptable, and have reasonable reactions to problems. These children are generally more easily supported in the dental clinic. Those with a difficult temperament have a tendency to be withdrawn, find it difficult to adapt to new situations, and are quick to show negative, intense reactions. These children will need a lot more patience, adopting strategies like acclimatisation and progressive desensitisation. Slow reactors, like those with a difficult temperament, also have difficulty adapting. They are shy and often respond negatively to change. These children will again benefit from a slow and patient approach.

Dental fear and anxiety

Dental fear and anxiety (DFA) is defined as "a state of apprehension that something dreadful is going to happen", and should be distinguished from a genuine phobia, where the anxiety is excessive or unreasonable for the situation.^{9,10} It is estimated to affect approximately 9% of children⁹ and is a major contributing factor to DFA in adulthood.¹⁰ The origins of DFA are frequently multifactorial, influenced by both endogenous factors (genetic predisposition, personality, cognitive ability) and exogenous factors (direct, or vicarious exposure to negative or traumatic experiences).¹⁰

Unsurprisingly, DFA dramatically influences a child's ability to cope with dental intervention, particularly younger children who may lack the cognitive ability to fully understand and rationalise feelings of pain, discomfort, and anxiety.⁹ Children experiencing DFA often exhibit destructive behavioural coping strategies (e.g. closing their mouth, getting angry, trying to escape), but these coping strategies differ by age, dental anxiety and previous pain experience.⁸

Younger children, and more anxious children, may use more behavioural coping strategies such as handholding, 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.⁶ There is also evidence that DFA more frequently affects girls and is related to general fear and temperament.⁹

Having an appreciation of the child's dental history, in particular previous dental pain and experience at a young age⁷, will better prepare dental professionals to tailor appropriate behaviour management and anxiolytic interventions.^{6,7}

Conclusion

As dental clinicians we all want to provide the best experience for our child patients. An appreciation of the interplay of a child's age, their cognitive development, personality and dental anxiety facilitates the choice and application of non-pharmacological behaviour management strategies. The importance of taking time to establish a rapport and get to know

the child cannot be over-emphasised. With time and experience, the delivery of dental treatment can be better tailored to each child's unique circumstance, supporting our aim to instil life-long positive attitudes and behaviours towards oral health.

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Images: www.piqsels.com

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