



Australian Research Centre for Population Oral Health

Dental fear and anxiety: Information for Dental Practitioners

How common is dental anxiety?

High dental fear affects approximately one in six Australian adults and about one in ten children. Among some sub-groups of the population, such as middle-aged women, the prevalence of high dental fear may be as high as one in three individuals. Dental phobia, which is high dental fear that impacts significantly on someone's life, affects about 5% of the Australian population¹.

While the prevalence of high dental anxiety varies by a number of possible patient characteristics, such as age, gender, education and socio-economic status², it should be noted that anybody, irrespective of these characteristics, may have dental anxiety.

What are the consequences of dental anxiety?

The consequences of high levels of dental fear in the community are appreciable³⁻⁵.

1. People with high dental fear are much more likely to delay or avoid dental visiting, and a number of fearful people regularly cancel or fail to show for appointments.
2. People with high dental fear, both children and adults, may prove difficult to treat, require more time, and present with behavioural problems which can result in a stressful and unpleasant experience for both the patient and treating dental practitioner.
3. Research indicates that trying to manage patients with dental fear is a source of considerable stress for many dentists.
4. Dentally anxious individuals, because of their avoidant behaviours, often have poorer dental health. In particular, those people who delay dental visiting for a prolonged time, even if experiencing considerable pain, might have extensive problems that require more complex and complicated treatment.

If patients are not managed appropriately, it is quite possible to establish what has been referred to as a 'vicious cycle of dental fear'. Patients avoid making dental visits because of their fear, which results in a worsening of problems, requiring more intensive and potentially traumatic treatment, which then reinforces or exacerbates the fear, which leads to continued avoidance. In Australia, estimates suggest that about 40% of people with high dental fear fit the vicious cycle profile⁶. In this scenario, the patient, the dental practitioner and the dental care system all lose out.

Why are some patients afraid of the dentist?

Experiences and perceptions

While it has generally been regarded that the underlying cause of anxiety is as the result of direct negative dental experiences, the nature of dental anxiety is more complicated than what is commonly presumed. For example, it has been proposed, and evidence suggests, that how a person perceives the dental environment is a considerably more important determinant of dental fear and avoidance than having had a previous distressing experience at a dental visit^{7,8}. Dental practitioners should be aware that the process of providing a dental examination and carrying out treatment combines a host of potentially aversive situations. Patients are generally placed in a reclined position, increasing their sense of powerlessness, and are afforded little control over the situation. Often the clinician's probing, scraping and drilling are unpredictable from the patient's perspective, who is unable to see into their own mouth, and this can heighten their perceived lack of control. In addition, the dental practitioner is literally inside the oral cavity of the patient which represents both an intrusion into the patient's personal space and a significant concern for people with heightened disgust sensitivity. These inherent aspects of the dental experience may lead to negative perceptions relating to the dental visit and these may directly result in anxiety.

Specific treatment aspects

Dental anxiety and fear might also focus on various aspects of the treatment experience, and specific concerns might be independent of other possible concerns. The source of a patient's anxiety might be in relation to fear of gagging or choking, fear of injection, or a strong aversion to the sight or thought of blood. Patients might have concerns about perceived problems with getting numb, might have a low pain threshold or might have issues with trusting dental practitioners⁹. And there will be differences in the willingness of different patients to talk about these issues. Good communication skills and establishing rapport with the patient are critical in these circumstances.

Symptom of another condition

Avoidance of dental care might also be an aspect of some other condition, such as fear of social evaluation (as in social phobia), fear of germs (as in obsessive compulsive disorder) or fear of being away from the safety of home (as in panic disorder with or without agoraphobia). Other psychological conditions, such as depression, might also be related to reduced dental visiting and increased dental need. Current evidence indicates that people considered to have dental anxiety are also much more likely to have various other comorbid psychological conditions¹⁰.

Sexual abuse

There is also an observed association between dental anxiety and having been the victim of past sexual abuse¹¹.

Concerns about pain

Despite considerable advancements in dental techniques and the modern idea of pain-free dentistry, a recent Australian study found that 85% of the adult population are still at least a little anxious about painful or uncomfortable procedures when they make a dental visit¹. These inherent aspects of the current approach to delivering dental care might help to explain the relatively high prevalence of dental anxiety.

Summary

All these various factors might be indirectly or directly implicated in a patient's dental-related anxiety and should be determined.

Assessing dental anxiety

Some dental practitioners may hesitate to discuss or delve into possible patient anxiety due to concerns that they might make matters worse. This is not, however, the case. In almost all cases it is better to find out that a patient is anxious than to ignore their fear.

To work successfully with a fearful dental patient, a dental practitioner must first identify that an individual is scared or nervous, and then should be able to adopt an appropriate treatment approach tailored to that patient's concerns.

While the identification of a fearful patient can happen at various points, the earlier a dental practitioner can determine that a patient is fearful, the greater the likelihood of success in working with the patient.

Observing patient behaviour and physiology

The patient's behaviour in the waiting room can provide an early indication of dental anxiety. Anxious patients may demonstrate various behaviours such as:

- > fidgeting with their hands
- > sitting on the edge of their chair
- > rapidly flicking through magazines
- > changing sitting positions often
- > sweating
- > sighing deeply or breathing rapidly
- > talking loudly
- > making negative comments about dentists and dentistry
- > pacing or walking around the waiting room
- > rapid head motions or startle reactions to office noises

Similar anxious behaviours may also be observed in the clinic. However, some people who appeared jittery or loud in the waiting room may become quiet and still when in the dental chair. Observing patient behaviour can provide indications of possible anxiety, but there may be many other explanations for these behaviours. As a result, patient observation should not be used as a method of diagnosing dental anxiety.

Asking the patient

While some patients have little hesitation in identifying themselves as anxious, other patients may be very reluctant to bring up the issue of their dental anxiety and this may be for any number of possible reasons. People might feel that they will be ridiculed, that their fears might be dismissed out of hand, or that they will appear weak or cowardly. They may be embarrassed or upset by their fears. They may even have previously had a negative experience with a dental practitioner when discussing their concerns.

The simplest way to identify dental anxiety in a patient is to ask them. In fact, many dental practitioners currently attempt to elicit information from their patients about possible dental concerns. However, this

approach can be highly variable between dental practitioners and from one patient to the next. It is always wise for a practitioner to discuss possible concerns or anxieties with patients but there are other and more reliable ways to identify patient anxiety.

Using a self-report dental anxiety scale

There have been longstanding recommendations for the use of structured dental fear questionnaires during clinical assessment. These can be either distributed to patients before they come to the clinic (to be returned at the time of their visit) or can be distributed for completion when the patient is already at the clinic.

While the information gained from dental anxiety scales may also be obtained from a skilfully conducted interview, questionnaires are more efficient and the responses provide a basis for comparison among patients. They can also be given to the same patient over a period of time to determine patient progress in overcoming their fear.

There are several structured, psychometrically valid self-report scales which can be used to assess dental anxiety. These are freely available and various scales can be used to measure dental anxiety in adults and children.

Self-report scales that can be used include:

1. the Dental Fear Survey (DFS) for adults which has 20 items related to various situations, feelings and reactions to dental work⁹;
2. the Modified Child Dental Anxiety Scale (MCDAS) which has eight items and is used for children¹²;
3. the Index of Dental Anxiety and Fear (IDAF-4C+), used for adults, and which contains an eight-item module measuring the physiological, cognitive, emotional and behavioural components of dental fear and an additional 10-item stimulus module designed to assess possible areas of specific concern (see Table 1)¹³.

Other self-report scales might also be valuable in helping understand patient concerns. The Dental Beliefs Survey, for example, has 28 items that help identify to what degree the patient perceives the interpersonal relationship with the dental practitioner as being, or contributing to, their concerns about dental visits.

Working with the anxious patient

Effective communication and building trust

Communication between the dental practitioner and patient is crucial for a productive working relationship that results in competent clinical care. There now exists a considerable body of writing on dental communication skills. Essential elements of good communication involve establishing an effective two-way interaction, genuinely acknowledging (rather than dismissing) patient concerns, attending to non-verbal cues, effective listening and accurate reflection of what the patient says, demonstrating empathy, and using appropriate voice and tone⁹. Ultimately, rapport, communication and trust form the backbone of any anxiety management approach.

Dental visiting and treatment plan modifications

Treatment planning for dentally anxious patients should be flexible, the order being determined by what the patient fears and what he or she considers most important.

Treatment should be thought of in phases⁹.

- > An initial phase might involve getting the patient used to the clinic, establishing rapport, and talking through issues and concerns with the patient. An anxious patient may or may not be ready to undergo diagnostic procedures at this point so a second visit might need to be scheduled for diagnosis.

> An early treatment phase might include a discussion around the treatment plan and, if possible at that time, should include treatment designed to increase the patient's ability to tolerate treatment, such as simple preventive treatments.

> A second or third phase may include other areas of dentistry. It is often advisable to avoid detailed discussion of the later phases.

Techniques for helping people with dental anxiety⁴

Providing control

Tell-show-do. One way of reducing uncertainty and increase predictability is to use the 'tell-show-do' technique. This involves an explanation of what is about to happen, what instruments will be used and the reasons for this (the 'tell' phase), followed by a demonstration of the procedure (the 'show' phase). The 'do' phase is then undertaken by carrying out the procedure.

Rest breaks. Either the dental practitioner or patient may initiate breaks during a procedure. Many dentally fearful individuals feel the need to continue with a procedure until they "can't bear it any longer," at which time it is more difficult for patients to calm themselves down enough to continue with the procedure. When the patient initiates a rest break, being able to pause the procedure can increase the patient's sense of control over treatment.

Signalling. Being able to signal for the dentist, therapist or hygienist to stop treatment is a key component of building communication and trust between the patient and dental practitioner. By giving the patient a means to communicate with the dental practitioner during the procedure, the patient's sense of control and trust increases.

A signal can be as simple as a raised hand to notify the dental practitioner that the patient would like to stop the procedure. Specific signals can be determined ahead of time.

Distraction

There is evidence that focussing attention on specific alternative visual or auditory stimuli in the dental clinic might be beneficial for patients with mild to moderate dental anxiety. Several options are available in the clinic, ranging from background music to television sets to computer games to 3D video glasses for watching movies.

Relaxation breathing

One exercise which is believed to be of benefit to almost every fearful patient is relaxation through paced breathing. There are several variations on relaxation breathing. For example, patients can be taught to take slow, deep breaths, holding each breath for approximately 5 seconds, before slowly exhaling. Slow, steady breathing for 2–4 minutes is regarded as effective in reducing a patient's heart rate and making anxious patients noticeably more comfortable.

The various breathing techniques can be taught quite easily at the dental clinic and can be practised at home by the patient prior to an initial examination.

Progressive muscle relaxation

The procedure used in progressive muscle relaxation is relatively simple but will require an investment of time, firstly to teach the patient and then for the patient to practice at home (once or twice per day for 1–2 weeks), in order to master the technique.

There are several specific muscle sequences that can be used for practising progressive muscle relaxation but, regardless of the sequence, each muscle is tensed to approximately 75% of full tension, held for between 5 to 10 seconds, and then relaxed for about 10

Table 1. Dental anxiety assessment using the Index of Dental Anxiety and Fear

1) How much do you agree with the following statements?

	Disagree	Agree a little	Somewhat agree	Moderately agree	Strongly agree
(a) I feel anxious shortly before going to the dentist.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(b) I generally avoid going to the dentist because I find the experience unpleasant or distressing.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(c) I get nervous or edgy about upcoming dental visits.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(d) I think that something really bad would happen to me if I were to visit a dentist.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(e) I feel afraid or fearful when visiting the dentist.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(f) My heart beats faster when I go to the dentist.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(g) I delay making appointments to go to the dentist.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(h) I often think about all the things that might go wrong prior to going to the dentist.	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

2) To what extent are you anxious about the following things when you go to the dentist?

	Disagree	Agree a little	Somewhat agree	Moderately agree	Strongly agree
(a) Painful or uncomfortable procedures	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(b) Feeling embarrassed or ashamed	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(c) Not being in control of what is happening	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(d) Feeling sick, queasy or disgusted	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(e) Numbness caused by the anesthetic	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(f) Not knowing what the dentist is going to do	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(g) The cost of dental treatment	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(h) Needles or injections	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(i) Gagging or choking	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5
(j) Having an unsympathetic or unkind dentist	<input type="checkbox"/> 1	<input type="checkbox"/> 2	<input type="checkbox"/> 3	<input type="checkbox"/> 4	<input type="checkbox"/> 5

> Items 1a – 1h get summed to create an overall fear score ranging from 8 to 40. Higher scores indicate more anxiety. People responding 4 or 5 to any one item or who score over 20 overall may have enough concerns to warrant further enquiry.

> Items 2a – 2j are used to help identify some possible concerns of people and are especially useful when combined with the results from the first section.

seconds, with attention focussed on the feeling of tension and then the specific sensations of muscle relaxation.

Systematic desensitisation

Systematic desensitisation involves gradually exposing a fearful individual to the aspect of dentistry they find frightening while encouraging them to use relaxation strategies to reduce their anxiety. The process of exposure can be systematised by using video-based exposure such as a computer-based systematic desensitisation program named CARL (Computer-Assisted Relaxation Learning), which has been developed to help reduce fear of dental injections.

Pharmacological strategies to dental anxiety management

Dentists may be familiar with various pharmacological approaches to helping people cope with dental anxiety, but these are often only effective for people who:

- > just want it over with;
- > don't want to be conscious while receiving dental treatment;
- > just need a little help relaxing ('laughing gas');
- > have fear-specific issues such as needles;
- > have tried other approaches, such as those listed above, and had no success.

In many cases, a caring and patient-centred approach in combination with various behavioural and psychological approaches to fear management will yield superior short-term results as well as better long-term patient retention than the use of pharmacological methods. However, for some people, sedation may prove very effective.

The three types of sedation are:

- > Inhalation sedation using a combination of nitrous oxide and oxygen
- > Oral sedation, primarily through the use of benzodiazepines (e.g., Valium, Xanax) which act as sedatives and/or anti-anxiety drugs.
- > Intravenous (IV) sedation, which involves administering a drug to produce a deep sedation.

The Australian Dental Association has produced a policy statement and guidelines for the use of sedation in dentistry¹⁴. Only dentists endorsed by the Dental Board of Australia should practice conscious sedation. Many other countries have similar requirements.

Summary of steps to take with anxious patients

1. For all patients, establish good two-way communication, build rapport, and always aim to foster a trusting relationship.
2. Appropriately identify the anxious person and their specific concerns, worries, comorbidities and issues.
3. Work with the patient to establish a treatment plan which is flexible and organised in phases and which works well for the patient.
4. Use various behavioural and cognitive anxiety management techniques to help the patient undergo the treatment phases.
5. Consider pharmacological anxiety management approaches in consultation with the patient.

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