

# Perception is reality

## What is pain? To understand the nature of pain and treat it effectively, let's look at the physical, emotional and psychological factors that determine how it is experienced by individuals.

### Factors that influence the perception of pain

The way an individual perceives pain is the result of both physiological and physical factors. Pain is one of the body's most important ways of communicating, and the way each person processes pain involves complex neural phenomena. Nerve cells detect potentially damaging stimuli and send a signal to the brain, which assesses the threat and coordinates a response. Although the physical experience of pain is highly subjective, for most people pain originating in the head is very hard to ignore, especially dental pain. Tooth decay, sensitivity, abscesses and periodontal diseases are among the most common types of pain that prompt patients to see their dentist.

### Pain and emotions

Emotions greatly impact the experience of pain, and an individual's emotional state while visiting a dentist is crucial. Such personal factors as memories of past experiences, age, gender, social and cultural influences, expectations and attitudes affect how each person interprets pain. The dentist's role is to understand the patient's emotional state and to take this into account to deliver the best care for that individual.

### The psychology of pain and the consequences of dental anxiety

When it comes to pain, psychological stimuli can have the same effect as physical stimuli. Scientific models of psychological pain make it possible to study it in an objective way. In one study (Eisenberger et al. 2003), subjects' brains were scanned as they played an interactive video game. When they were excluded from the game, the reaction of distress in their brains was similar to that induced by a needle prick. Pain is more likely to be reported by people who are anxious and have past memories of painful experiences. Younger people and those with higher education levels also tend to report pain more often. Negative emotions can increase the perception of pain too. What are the consequences? Research shows that neglecting dental care can lead to heart disease, stroke and diabetes<sup>1</sup>. When they avoid treatment, people suffering from dental anxiety and dental phobia present a higher health risk. They also suffer financially, often incurring higher treatment costs by waiting rather than seeking care before complications set in.

### How pain messages reach the brain: the gate control theory

According to the gate control theory of pain (Melzack & Wall, 1965), a "gate" mechanism in the central nervous system opens and closes to let pain messages through to the brain, or not. As nerve signals are transmitted, it is therefore possible to amplify, reduce and block pain messages before they reach the brain where pain is processed and perceived. Dentists can use this phenomenon to modulate the pain and to relax patients during treatment.

### What can the dentist do?

Dentists must keep in mind that "perception is reality" for patients experiencing dental pain. To reduce fear and stress, they can start by creating a reassuring environment. Keeping up to date on the most recent techniques for overcoming dental anxiety is also important. And simply explaining the physiology of pain to patients in simple terms can be helpful.

1- WebMD.com dental care and diabetes