



Dentist

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Tooth pain explained: Why it hurts so much

A tooth is far more than a piece of enamel. Inside every tooth lies the dental pulp, a confined chamber of blood vessels and nerve fibres. When infection or decay reaches this space, inflammation begins, but the tooth cannot expand.

Pressure builds, compressing the nerve fibres and sending amplified pain signals. This is why even a small cavity can feel unbearable.

The role of the trigeminal nerve

The real reason tooth pain feels extreme lies deeper. Teeth are innervated by branches of the trigeminal nerve, the largest cranial nerve and the primary sensory nerve of the face. This nerve connects directly to the brainstem and the brain's pain-processing centres.

When dental pulp becomes inflamed, it stimulates these fibres. Pain signals travel rapidly through the trigeminal pathway, which the brain interprets as sharp, intense, or sometimes throbbing pain.

Because branches of the trigeminal nerve overlap across the jaw, ear, and parts of the head, tooth pain often radiates, making it hard to pinpoint the exact source.

Why tooth pain can feel disproportionate

A toothache can feel far worse than the visible problem suggests. Pain may spread to the ear, jaw, or head. Standard painkillers often provide only temporary relief, and sleep disruption is common.

If an infection progresses to an abscess, increased pressure and inflammatory chemicals further stimulate the trigeminal nerve, amplifying pain.

A toothache is not just discomfort; it is a direct neurological warning signal. Left untreated, the infection can spread into bone, facial spaces, and, in rare cases, the bloodstream.

Pain is your body's alert system. Early treatment is not cosmetic; it is critical for neurological and systemic protection.

