

## Dental pulp

\*\*\* The life span of the odontoblasts generally is believed to equal that of the viable tooth because the odontoblasts are end cells, which means that, once differentiated, they cannot undergo further cell division. This fact poses an interesting problem. On occasion, when the pulp tissue is exposed, repair can take place by the formation of new dentin. This means that new odontoblasts must have differentiated and migrated to the exposure site from pulp tissue, most likely from the **cell-rich subodontoblast zone**.

**Remember:** The dental pulp is the soft-tissue component of the tooth. It is a connective tissue originating from the mesenchyme of the dental papilla and performs multiple functions throughout life. In addition to being the formative organ of the dentin, it also has the following functions:

- **Nutritive** — the pulp keeps the organic components of the surrounding mineralized tissue supplied with moisture and nutrients
- **Sensory** — extremes in temperature, pressure, or trauma to the dentin or pulp are perceived as pain
- **Protective** — the formation of reparative or tertiary dentin (*by the odontoblasts*)

### Important clinical information:

Pulp capping is **more successful** in young teeth because:

- The apical foramen of a young pulp is **large**
- The young pulp contains **more cells** (*odontoblastic*)
- The young pulp is **very vascular**
- The young pulp has **fewer fibrous** elements
- The young pulp has **more tissue fluid**

\*\*\* The young pulp **lacks** a collateral circulation