**Correlation between Clinical and Histologic Pulp Diagnoses**

**Authors:** Ricucci et al  
**Year:** 2014  
**Journal:** JOE

**Aim**  
To correlate the clinical diagnosis of normal pulps, reversible pulpitis, and irreversible pulpitis with the histologic diagnosis.

**Materials & Methods**  
- 95 teeth (79 patients) planned for extraction were included in this study.  
- Teeth were clinically categorized as having:  
  - **Normal pulp:** 4 caries-free maxillary molars whose pulp responded normally to all tests  
  - **Reversible pulpitis:** mild sensitivity to cold or sweet stimuli (no hx. of spontaneous pain)  
  - **Irreversible pulpitis:** severe pain or teeth with hx. of repeated pain episodes, with no periapical changes  
- Teeth were extracted, fixed, prepared for histological analysis and classified histologically into 3 categories:  
  - **Healthy pulp:** pulp with no changes in the dentin/predentin and odontoblast complex is present.  
  - **Reversible pulp disease:**  
    1. Specimens with uninflamed & atrophic pulps. (less cellular with fewer fibroblasts but a greater amount of collagen bundles than the young healthy pulp)  
    2. The odontoblastic layer may be reduced and flattened.  
    3. Islands of calcification may be seen throughout the pulp tissue with thick layers of tertiary dentin.  
  - **Irreversible pulp disease:**  
    1. Partial or total necrosis of the coronal pulp  
    2. Areas of liquefaction or coagulation surrounded by masses of live & dead PMNs.  
    3. Conc. of chronic inflammatory cells (lymphocytes, plasma cells, and macrophages)  
    4. Bacterial aggregations/ biofilms colonizing the necrotic pulp tissue or the adjacent dentin

**Results**  
- The control teeth showed a normal pulp microscopic architecture with normally aligned odontoblasts and absence of inflammatory cells.  
- The clinical diagnosis of normal pulp or reversible pulpitis matched the histologic diagnosis in 96.6%. The remaining 3.4%, the histologic diagnosis was “irreversible pulpitis”.  
- The clinical diagnosis of irreversible pulpitis matched the histologic diagnosis in 84.4%. The remaining 15.6%, the histologic diagnosis was “reversible pulpitis”.

**Conclusion**  
- The classification of pulp conditions as normal, reversible or irreversible pulpitis is highly accurate in the large majority of cases.  
- Based on existing parameters and to avoid unnecessarily treatment, there is a need for improved means for reliable pulp diagnosis.

**Authors**

Domenico Ricucci, Simona Loghin & José Siqueira