

### Overview

- Pulpal and periapical diagnosis
- Systematic endodontic diagnosis
- Pain history Clinical examination
- Radiographic examination
- Diagnosis
- Cases

### PULPAL DIAGNOSIS

- Clinically normal pulp
- Reversible pulpitis
- Irreversible pulpitis
- Pulp necrosis Pulp calcification
- Previously initiated treatment

### PERIAPICAL DIAGNOSIS

- Normal apical tissues
- Symptomatic apical periodontitis
- Asymptomatic apical periodontitis Acute apical abscess
- Chronic apical abscess
- Previously treated

### **Patient History**

- Listen to the patient and take a thorough history this will often give you a diagnosis
- Common diagnoses occur commonly

PAI	IN HISTORY
Location	Stimulus
Intensity	Relief
Duration	Spontaneity
	and the second se

# Pain History

- Location
   Only 73.3% of patients could localise the painful tooth (McCarthy *et al.* 2010)
- Intensity
   The intensity of the pain is governed by the frequency of firing, number of erves, and the type of nerve fibre that are involved which can give insight as to what the diagnosis may be
- Stimulus
   Thermal stimulus is usually caused by pulpitis
- Relief
   Does anything relieve the pain medications, drinking cold water?
  - Spontaneity

# Clinical Examination

- Extraoral
- Soft tissueDentition
- Periodontal
- Clinical tests
- Facial asymmetry
- SwellingSinus tracts
- Lymph nodes
- Tenderness to muscles of mastication or region of TMJ

## **Clinical Examination**

- Extraoral
- Soft tissue
- Dentition
- PeriodontalClinical tests

- Inflammation
- UlcerationSwelling
  - Draining sinus

**Clinical Examination Clinical Examination** • Extraoral Caries Extraoral Probing depths Narrow or broad Soft tissue Soft tissue Restorations Open contacts and food packs Dentition Defective restorations Dentition Periodontal • Discolouration Periodontal Clinical tests Clinical tests Cracks Abfraction Attrition • Tooth morphology



- Extraoral
- Soft tissue
- Dentition
- Periodontal
- Clinical test
- chinical tests
- Palpation
   Mobility

Percussion

- FracFinder, methylene blue, transillumination
- Pulp testing

# **REPRODUCE THE PATIENTS PAIN**



# CO<sub>2</sub> and Cold Spray Pulp Tests

- CO<sub>2</sub> = -78°
   Cold spray (TFE) = -18° to -28°
   Gopikrishna *et al.* 2007
- Correct identification of pulp necrosis = 81%
  Correct identification of vital pulp = 92%



## Electric Pulp Testing

- Not a routine test
- Indicated when CO<sub>2</sub> results are questionable
  Pulp canal calcification cases where dentine is thick







### Radiographic Examination

- Resorptive and bone remodelling activities in response to the inflammation are the main causes of changes that become visible on the radiograph
- Limitations in periapical radiographs is the superimposition of anatomical structures
- Interpretation of a periapical radiograph is subjective (Tewary et al. 2011)

### Cone-beam Computed Tomography

- CBCT more accurate in identifying apical periodontitis (Lofthag-Hansen *et al.* 2007; Estrela *et al.* 2008; Abella *et al.* 2014; Davies *et al.* 2015)
- For CBCT to be used as a diagnostic tool, it is important to have an understanding of the appearance of a healthy periapex and the manifestations of apical periodontitis on CBCT























# Conclusion

- Listen to the patient's history
- Be thorough with diagnostic testing
- If unable to formulate a definitive diagnosis do not carry out irreversible treatment
- Ask for a second opinion