



Diabetes and Oral Health

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Australian Research Centre for Population Oral Health

- to undertake research and research training in population oral health that is internationally recognised to be of the highest quality
- provides a broad range of dental and oral health statistics for Australia.
- undertaking dental research in prevention, access to dental care, risk factors for oral diseases, dental labour force
- Funded by variety of sources - governments, NHMRC and Colgate oral care and others

Complications of diabetes

1. Heart disease and stroke
2. Foot ulceration, gangrene and lower limb amputation
3. Renal failure
4. Visual impairment
5. Neuropathy
6. Periodontal disease (Löe 1993)

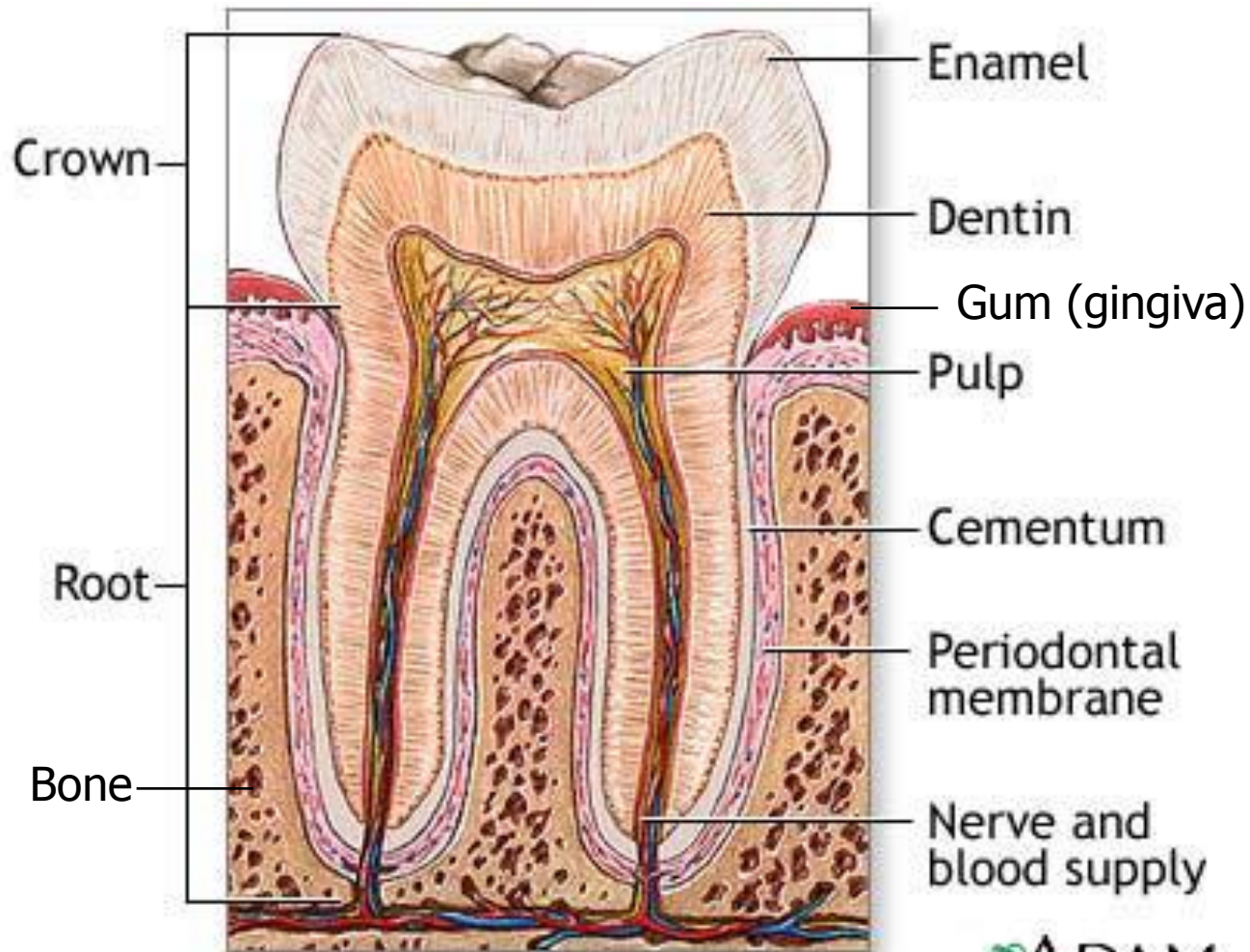
Periodontal disease

- Gum disease
- The result of inflammation of the tissues surrounding the tooth affecting the gum, the ligaments and the bone.
- It is caused by a bacterial infection and host related factors.
- In its severe forms there can be loss of bone which supports the tooth, resulting in the tooth becoming loose and even tooth loss

Healthy gums



Periodontal tissues



Causes of periodontal disease

- Dental plaque – bacterial film

Mucous

+

Bacteria

Host related factors

- Smoking
- Systemic disease - Especially diabetes
- Medications
- Stress
- Genetics
- Puberty and pregnancy
- Nutrition
- Specific dental problems

Dental plaque



Dental plaque (microscope)



Plaque stained

Pink-stained areas
identify plaque



Healthy gums



Diagram healthy gums



Gingivitis



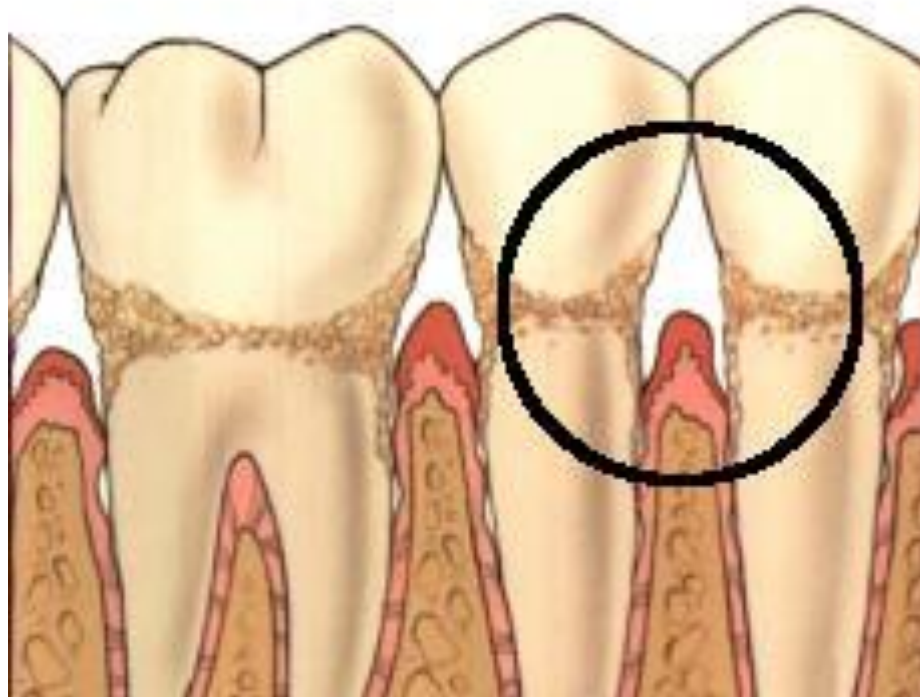
Diagram gingivitis



Moderate disease



Diagram moderate disease



Severe disease



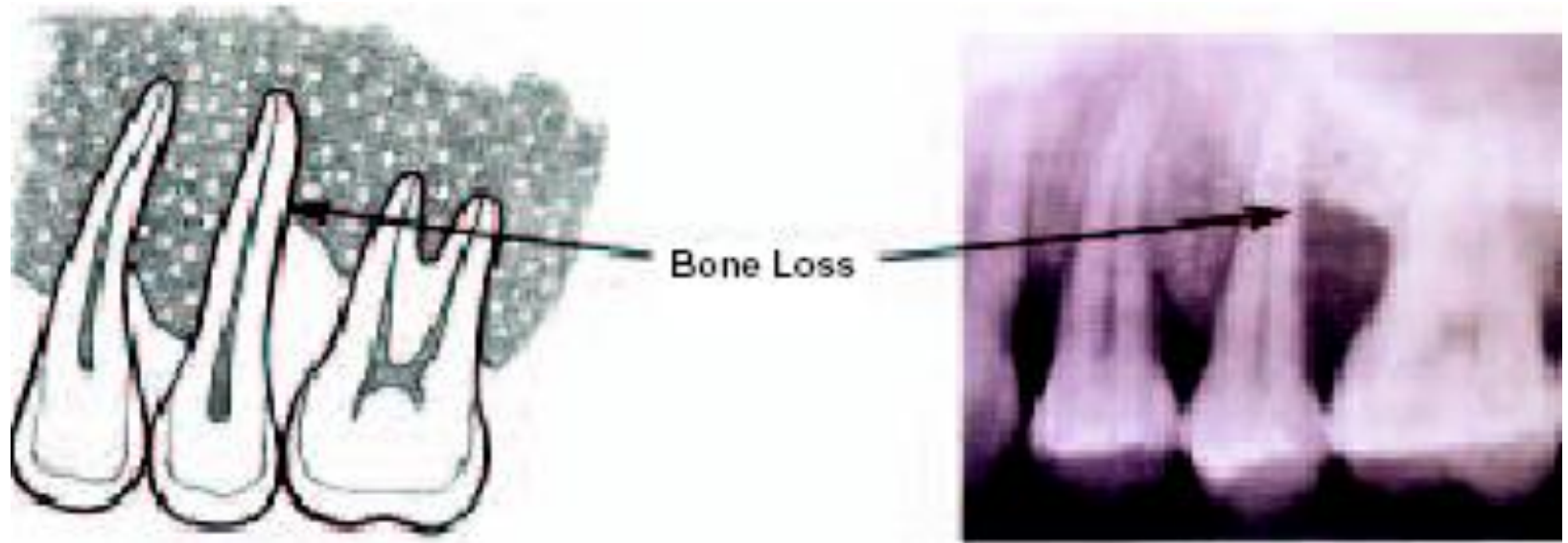
Diagram severe disease



How do I know I have periodontal disease?

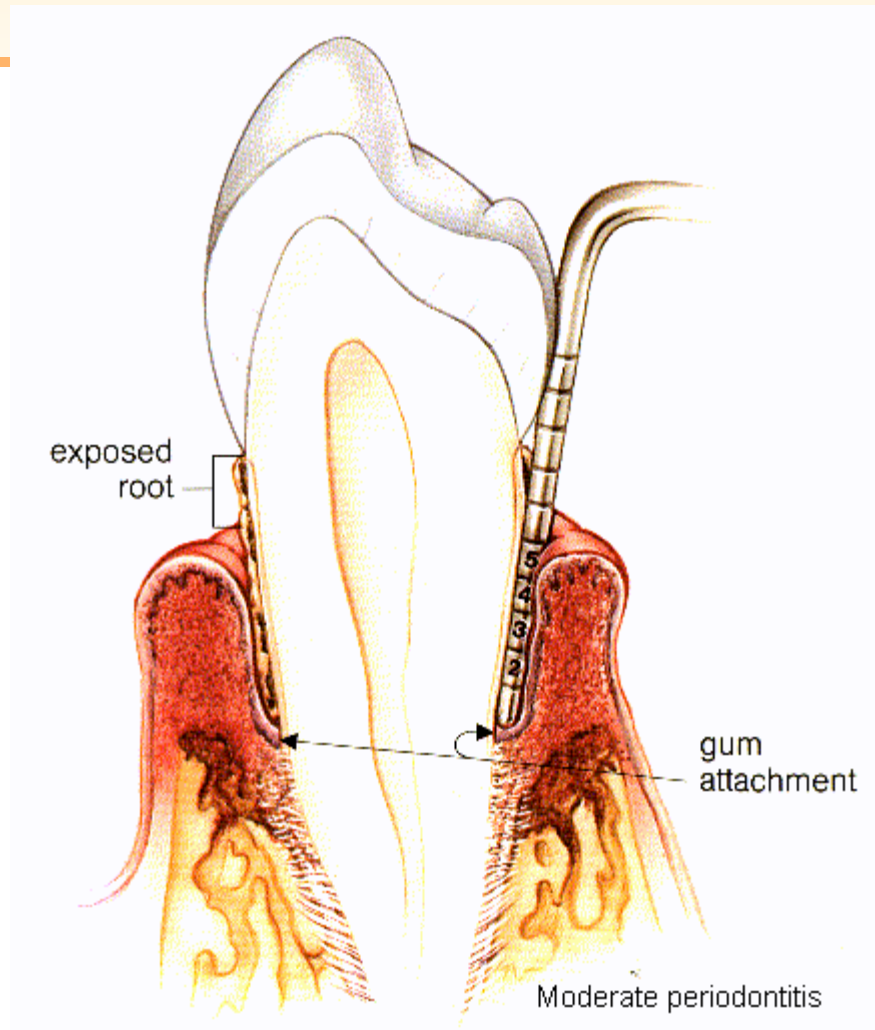
- Gums bleed easily
- Gums are red, swollen or tender
- Bad breath or bad taste
- Loose teeth
- Pain on biting
- Hard yellow sediments on teeth (tartar)
- Pus around teeth

Diagnosis of periodontal disease



Dental probing





Periodontal disease and diabetes

- People with type 1 and type 2 diabetes more susceptible
 - ▶ Increased risk of severe periodontitis
 - ▶ More rapid progression of disease
 - ▶ Adolescents
- More severe if also smoke
- Periodontal disease worse when diabetes is not well controlled
- More tooth loss among people with diabetes

Diabetes and periodontal disease

But reverse also true

- Periodontal disease makes it more difficult to have well controlled diabetes
- Chronic infection
- Progression from pre-diabetes to diabetes

Why people with diabetes have more periodontal disease

Reasons include

- Blood vessel changes
- Changes in resistance to infection
- Altered wound healing
- Altered cell turnover

Prevention of periodontal disease

- Blood glucose control
- Meticulous oral hygiene
- Regular dental visits
- No smoking
- Healthy diet

Dental hygiene



Interdental cleaning



Other oral conditions and diabetes

- Other oral infections eg thrush
- Oral mucosal disturbances
- Taste alterations
- Slower healing after surgery including extractions

Dental visits and treatment

Before dental visit

- Take medication or insulin
- Have meal
- Morning appointments may be better

At dental visit

- Tell dentist that have diabetes and medication
- Detailed periodontal exam
- Scaling and cleaning
- Referral to periodontist?

Periodontal disease and other medical conditions

- Heart disease
- Stroke
- Preterm, low birth weight babies
- Osteoporosis



Thank you

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