## The link between ord health and heart disease



# Introduction to oral health and heart disease





Poor oral hygiene can increase the risk of heart problems Infection, inflammation and bacteria from the mouth can enter the blood and spread to the heart

### What is gum disease?

- Infection that damages the gum and bone that support the teeth
- Caused by plaque
- Often painless and can go unnoticed

Stages:

- **Gingivitis:** Bad breath, red, swollen, bleeding gums (reversible)
- **Periodontitis:** Destruction of gum tissue and bone, leading to tooth loss (irreversible)

## Stages of gum disease 1 Healthy gums Gingivitis



INFLAMMATION



Periodontitis



### The science behind the link

- Bacteria from gum disease can travel in the bloodstream
- These bacteria may trigger inflammation in blood vessels
- This can worsen high blood pressure and contribute to arterial plaque
- Periodontal bacteria e.g. S Aureus have been found in the heart tissue and arterial plaques of patients with cardiovascular disease

### What is Infective Endocarditis?

A serious and potentially fatal infection of the heart's inner lining or valves Caused by bacteria or fungi from the mouth which enters the blood and attaches to the heart The infection can damage heart valves, leading to heart failure and other complications Can occur after dental procedures or from poor oral hygiene



#### Symptoms:

• May include fever, chills, fatigue, shortness of breath, and a new heart murmur

#### **Complications:**

 Untreated endocarditis can lead to serious complications, including heart failure, valve damage, and stroke

### Treatment:

 Involves a course of antibiotics (or antifungals if the cause is fungal), which may be given intravenously for several weeks. Surgery may be needed to repair or replace damaged heart valves

## High risk groups for Infective Endocarditis

### Artificial heart valves

Previous endocarditis Congenital heart defects

Heart transplants with valve complications

## Case study



Scottish Dental Clinical Effectiveness Programme

- Patient is scheduled for an angioplasty
- Referred by his cardiologist for dental assessment prior to surgery
- Full mouth radiographs taken to check for secondary decay, leaking restorations, bone levels and other pathology
- No restorative treatment needed
- Only required intervention was root surface debridement to remove generalised plaque and calculus
- Amoxicillin 3g 1 hour before dental procedure

# Epidemiological evidence between oral health and heart disease



Gum disease and heart attack risk

Gum disease increases the risk of a heart attack by 28%, as oral bacteria can cause inflammation leading to cardiovascular complications



## Childhood oral infections and adult cardiovascular health

Oral infections in childhood are linked to adult atherosclerosis and higher chances of developing high blood pressure later in life



# Oral health challenges in the elderly

- Poor oral health can worsen chronic conditions like heart disease
- Lack of access to dental services
- Reduced dexterity may hinder effective oral hygiene
- Reduced prioritisation of oral health
- Medication side effects (xerostomia, gum overgrowth)
- Increased use of dentures

## The role of dentures in cardiac health

#### **Bacterial colonisation**

 Improperly cleaned dentures harbour bacteria and fungi, leading to infections such as denture stomatitis and oral thrush

### Systemic impact

- Poorly fitting dentures can cause irritation, ulcers, and infections which can serve as bacterial entry points
- These infections enter the bloodstream, causing heart problems

### Denture cleanliness and maintenance advice

Remove dentures at night Clean with a soft brush and hand soap

Soak in cold water overnight

Sterident tablet 15 minutes Milton's solution no longer than 10 minutes Clean teeth, gums and tongue



### Good oral hygiene practices

- Brush and floss daily
- Schedule regular dental visits
- Promptly address toothaches and infections
- Look out for signs of gum disease
- Keep dentures clean and well-fitted
- Communicate with your dentist if you have a heart condition or are high-risk

### How Heartlink volunteers can help

D1 Educate others on the oral-heart

health connection

02

Help members find dental services 03

Encourage routine dental hygiene 04

Support members in preparing for dental visits, especially if they have heart conditions

### Questions

