ANTIBIOTIC PROPHYLAXIS OF INFECTIVE ENDOCARDITIS FOR DENTAL PROCEDURES V2.0

Comments from the Expert Advisory Group

- Endocarditis prophylaxis is only recommended in certain situations, as antibiotic prophylaxis may only be effective at preventing a very small number of endocarditis cases.
- There is evidence demonstrating effectiveness of antibiotic prophylaxis in reducing the incidence of infective endocarditis in specific high-risk patients, which are listed below.
- Bacteraemia may be caused by daily activities such as tooth brushing, flossing, and chewing, and although these constitute low-level bacteraemia, they occur repetitively and may therefore outweigh the risk of bacteraemia associated with dental procedures.
- Maintenance of optimal oral health and hygiene and regular dental review are important in reducing the risk of endocarditis from both daily activities and dental procedures.
- The 2023 European Society of Cardiology (ESC) Guidelines for the management of endocarditis was a key reference source used for the development of these guidelines.

See the next pages for when antibiotic prophylaxis for endocarditis is recommended for dental procedures, and guidance on antibiotic choice and dose.

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Procedures where endocarditis prophylaxis is not recommended:

- Routine anaesthetic injections through non-infected tissue.
- Taking dental radiographs.
- Placement of removable prosthodontic or orthodontic appliances.
- Adjustment of orthodontic appliances.
- Placement of orthodontic brackets.
- Shedding of deciduous teeth.
- Bleeding from trauma to the lips or oral mucosa.
- Treatment of caries not involving the gingival margin or pulp.
- Removal of sutures

Procedures where endocarditis prophylaxis is recommended:

Endocarditis prophylaxis **is recommended** in patients with any cardiac condition listed below for at-risk dental procedures including:

- Dental extractions.
- Oral surgery procedures (including periodontal surgery, implant surgery and oral biopsies).
- Procedures involving manipulation of the gingival or periapical region of the teeth (including scaling and root canal procedures).
- Invasive dental procedures on established implants.

If any of the above occur inadvertently during a dental procedure, antibiotic prophylaxis may be administered up to 2 hours afterwards.

Cardiac conditions requiring endocarditis prophylaxis for at-risk dental procedures (listed above):

- Antibiotic prophylaxis is recommended in:
  - Patients with previous infective endocarditis.
  - Patients with surgically implanted prosthetic valves and with any material used for surgical cardiac valve repair.
  - Patients with transcatheter implanted aortic and pulmonary valvular prostheses.
  - Patients with venticular assist devices.
  - Patients with untreated cyanotic Congenital Heart Disease (CHD), and patients treated with surgery or transcatheter procedures with post-operative palliative shunts, conduits, or other prostheses. After surgical repair, in the absence of residual defects or valve prostheses, antibiotic prophylaxis is recommended only for the first 6 months after the procedure.
- Antibiotic prophylaxis should be considered in patients with transcatheter mitral and tricuspid valve repair.
- Antibiotic prophylaxis may be considered in recipients of heart transplant.

If the patient's cardiac condition is unclear to the treating dentist, advice should be sought from the patient's GP or Cardiologist

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Children should be weighed to ensure optimal dosing. Antibiotic prophylaxis should be administered as a single dose 30 to 60 minutes before procedure. In high-risk patients requiring antibiotic prophylaxis, where it is inadvertently not administered, then prophylaxis may be administered up to 2 hours afterwards.			
Drug	**Adults**	**Children**	**Notes**
1st choice option – oral			
Amoxicillin	2 g single dose	50 mg/kg (max. 2 g) single dose	Avoid in penicillin allergy.
Penicillin Allergic - oral			
Cefalexin*	2 g single dose	50 mg/kg (max. 2 g) single dose	Cephalosporins should not be used in severe penicillin allergy.
Azithromycin or Clarithromycin	500mg single dose	15 mg/kg (max. 500 mg) single dose	Macrolides should be used with caution in pregnancy. Clarithromycin suitable only in 2nd and 3rd trimester in pregnancy. Review any concomitant medication to avoid risks of drug interactions and QT interval prolongation.
Doxycycline	100 mg single dose	<45 kg, 2.2 mg/kg single dose >45 kg, 100 mg single dose	Not recommended in children < 12 years. Avoid in pregnancy. Advise to take with a glass of water and sit upright for 30 minutes after taking. Absorption of doxycycline significantly impaired by antacids, iron / calcium / magnesium / zinc-containing products.
1st choice option: unable to take oral medication			
Amoxicillin	2 g IM or IV single dose	50 mg/kg (max. 2 g) IM or IV single dose	Avoid in penicillin allergy.
Penicillin Allergic – unable to take oral medication			
Ceftriaxone*	1 g IM or IV single dose	50 mg/kg (max. 1 g) IM or IV single dose	Cephalosporins should not be used in severe penicillin allergy. In severe penicillin allergy, seek advice from infection specialist doctor on suitable agent.
* Cephalosporins should not be used in an individual with a history of anaphylaxis, angioedema, or urticaria with penicillins. For further information see penicillin and cephalosporin allergy guideline.			