ACUTE DENTO-ALVEOLAR INFECTION V2.0

Comments from the Expert Advisory Group

Summary

Most localised uncomplicated dental infections can be successfully treated without antibiotics using local measures.

Always consider local measures in the first instance. Antibiotics should only be used as an adjunct where local measures are ineffective or there is evidence of spreading infection or systemic involvement.

Where there is a significant swelling, trismus, eye closing or difficulty breathing refer patient to hospital as an emergency.

Inappropriate antibiotic use can encourage the development of drug resistance and therefore the prescribing of antibiotics must be kept to a minimum.

Broad spectrum antibiotics are rarely indicated and increase the risk of adverse effects, antibiotic resistance and *Clostridioides difficile* infection.

Local Measures

- If pus is present in a dental abscess drain by extraction of the tooth or through root canals.
- If pus is present in the soft tissue attempt incision.

Treat dental abscesses in the first instance using local measures to achieve drainage with removal of the cause where possible.

Antibiotics are only required in the case of spreading infection (cellulitis, lymph node involvement, swelling), systemic involvement (fever, malaise) or when local measures are ineffective or not possible.

Dental abscesses are usually infected with viridians-type streptococcus or anaerobic organisms.

Phenoxymethylpenicillin (penicillin V) has a narrower spectrum of antimicrobial activity than amoxicillin, but has equivalent efficacy for treatment of acute dento-alveolar infections. Amoxicillin should be reserved for patients where adherence is likely to be more challenging (for example in children).

It is recommended to take phenoxymethylpenicillin 30 minutes before a meal or 2 hours after food. If the clinician and/or patient/parent feels this is not feasible, amoxicillin should be considered as the next option.

The duration of treatment depends on the severity of the infection and the clinical response but antibiotic treatment is usually given for 5 days.

Do not prolong courses of treatment unduly because this can encourage the development of resistance.

For a severe dental abscess, consideration should be given to using both a penicillin and metronidazole in combination. Severe infections include those cases where there is extra-oral swelling, trismus or eye closing, but is a matter of clinical judgement. Use clinical judgement regarding referral to hospital or seeking specialist advice. All cases with suspicion of orbital cellulitis should be referred to hospital urgently.

For children with a severe infection or at extremes of body weight for their age, the antibiotic dose should be calculated using the weight-based dose (mg/kg) recommended in the treatment table below. The child's weight should be recorded on the prescription.

The prescribing of clindamycin, cephalosporins or co-amoxiclav offer no advantage over a penicillin, metronidazole or a macrolide and is not recommended for the routine management of dento-alveolar infections.

If the patient does not respond to the prescribed antibiotic check the diagnosis and consider referral to a specialist. Patients with severe infections who are allergic to penicillin may need to be referred earlier.

Patients should be informed of any potential side effects of chosen antibiotic and given clear information on dose, frequency, duration of course and how best to take antibiotics. The reason for the prescription, antibiotic, dose and duration should be recorded in patient's notes.

Further information on prescribing in children is available, including weight-based dosing tables for analgesics in children: **Paracetamol**, **Ibuprofen**

Treatment

ACUTE DENTO-ALVEOLAR INFECTION TREATMENT TABLE (Page 1 of 3)

Drug	Dose	Duration	Notes
1st choice options			
Phenoxymethyl penicillin	**1-5years:** 125 mg every 6 hours **6-11 years:** 250 mg (Kopen® liquid or tablet) or 333 mg (Calvepen® tablet) every 6 hours **For children with severe infection** (or at extremes of body weight for their age) consider 12.5 mg/kg (max. 1 g) every 6 hours **Adults and children over 12 years:** 666 mg (Calvepen® tablet) **or** 500 mg (Kopen® tablet or liquid) every 6 hours (increased in severe infection to a max. of 1 g every 6 hours)	5 days	Recommend to take 30 minutes before a meal or 2 hours after food. Avoid in penicillin allergy. Liquid preparations: 125 mg/5 mL 250 mg/5 mL Tablet preparations: Calvapen® 333 mg or 666 mg Kopen® 250 mg
Or (if 6 hourly dosing and/or fasting requirement above is likely to lead to poor adherence)			
Amoxicillin	**1-11 months:** 125 mg every 8 hours **1-4 years:** 250 mg every 8 hours **5-11 years**: 500 mg every 8 hours **For children with severe infection** (or at extremes of body weight for their age) consider **30 mg/kg (max. 1 g) every 8 hours** **Adults and children over 12 years:** 500 mg every 8 hours (max. 1 g every 8 hours for severe infection)	5 days	Avoid in penicillin allergy. Liquid preparations available (sugar-free): 125 mg/5 mL 250 mg/5 mL

Table continued on the next pages for second choice options and severe infections

ACUTE DENTO-ALVEOLAR INFECTION TREATMENT TABLE (Page 2 of 3)

2nd choice options / Penicillin Allergy

Drug	Dose	Duration	Notes
Metronidazole (1^{st} choice for penicillin allergy, or if recent penicillin course)	**1-2 years**: 50 mg every 8 hours **3-6 years**: 100 mg every 12 hours **7-9 years**: 100 mg every 8 hours **10-17 years**: 200 mg every 8 hours **For children with severe infection** (or at extremes of body weight for their age) consider 7.5 mg/kg (max. 400 mg) every 8 hours **Adults:** 400 mg every 8 hours	5 days	Advise patients to avoid alcohol. Anticoagulant effect of warfarin may be enhanced by metronidazole. Liquid preparations available: 200 mg/5 mL
OR			
Clarithromycin (2^{nd} choice for penicillin allergy)	**1-2 years:** 62.5 mg every 12 hours **3-6 years**: 125 mg every 12 hours **7-9 years**: 187.5 mg every 12 hours **10-11 years**: 250 mg every 12 hours **For children with severe infection** (or at extremes of body weight for their age) consider 7.5 mg/kg (max. 500 mg) every 12 hours **12-17 years**: 250 mg every 12 hours (max 500 mg every 12 hours) **Adults:** 500 mg every 12 hours	5 days	Prolonged release tablets not recommended in children. Patients on warfarin will require close INR monitoring during and after treatment with clarithromycin. Check for drug interactions before prescribing Liquid Preparations available: 125 mg/5 mL 250 mg/5 mL

Table continued on the next page for severe infections

ACUTE DENTO-ALVEOLAR INFECTION TREATMENT TABLE (Page 3 of 3)

Severe Infection:

- For severe infection, maximum dose of a single agent (as above) should be considered in the first instance for a duration of 5 days.
- Use of dual therapy regimens can also be considered as outlined below.
- If the patient does not respond to the prescribed antibiotic therapy, check the diagnosis and consider referral to a specialist.

Drug	Dose	Duration	Notes
Phenoxymethylpenicillin **Plus** Metronidazole	**Adults:** 1 g every 6 hours **Plus** 400 mg every 8 hours **Children:** Use max weight-based dose (mg/kg) of each agent as indicated in tables above.	5 days	Recommend to take 30 minutes before a meal or 2 hours after food. Avoid in penicillin allergy. Phenoxymethylpenicillin tablet preparations: Kopen® 250 mg Liquid preparations: 125 mg/5 mL 250 mg/5 mL Anticoagulant effect of warfarin may be enhanced by metronidazole. Advise patients to avoid alcohol.
OR (if 6 hourly dosing and/or fasting requirement above is likely to lead to poor adherence)			
Amoxicillin **Plus** Metronidazole	**Adults:** 1 g every 8 hours **Plus** 400 mg every 8 hours **Children:** Use max weight-based dose (mg/kg) of each agent as indicated in tables above.	5 days	Avoid in penicillin allergy. Advise patients to avoid alcohol. Anticoagulant effect of warfarin may be enhanced by metronidazole.
OR (Penicillin allergy)			
Metronidazole **Plus** Clarithromycin	**Adults:** 400 mg every 8 hours **Plus** 500 mg every 12 hours **Children:** Use maximum weight-based dose (mg/kg) of each agent as indicated in tables above.	5 days	Advise patients to avoid alcohol. Anticoagulant effect of warfarin may be enhanced by metronidazole and clarithromycin. Patients on warfarin will require close INR monitoring during and after treatment. Check for other drug interactions before prescribing