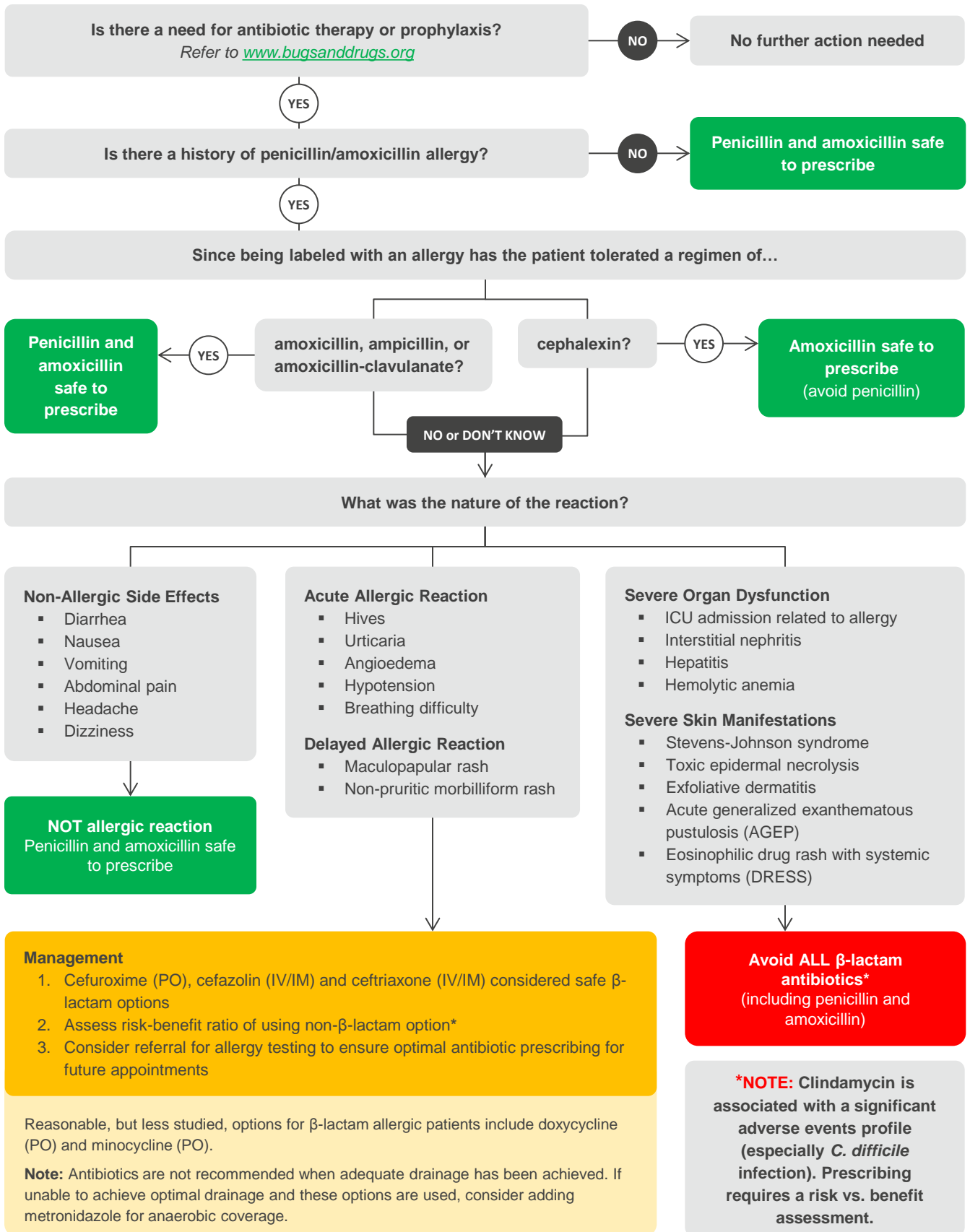


# Management of Penicillin/Amoxicillin Allergic Patients in Dental Practice



Is there a need for antibiotic therapy or prophylaxis?  
Refer to [www.bugsanddrugs.org](http://www.bugsanddrugs.org)

NO

No further action needed

YES

Is there a history of penicillin/amoxicillin allergy?

NO

Penicillin and amoxicillin safe to prescribe

YES

Since being labeled with an allergy has the patient tolerated a regimen of...

Penicillin and amoxicillin safe to prescribe

amoxicillin, ampicillin, or amoxicillin-clavulanate?

YES

cephalexin?

YES

Amoxicillin safe to prescribe  
(avoid penicillin)

NO or DON'T KNOW

What was the nature of the reaction?

## Non-Allergic Side Effects

- Diarrhea
- Nausea
- Vomiting
- Abdominal pain
- Headache
- Dizziness

NOT allergic reaction  
Penicillin and amoxicillin safe to prescribe

## Acute Allergic Reaction

- Hives
- Urticaria
- Angioedema
- Hypotension
- Breathing difficulty

## Delayed Allergic Reaction

- Maculopapular rash
- Non-pruritic morbilliform rash

## Severe Organ Dysfunction

- ICU admission related to allergy
- Interstitial nephritis
- Hepatitis
- Hemolytic anemia

## Severe Skin Manifestations

- Stevens-Johnson syndrome
- Toxic epidermal necrolysis
- Exfoliative dermatitis
- Acute generalized exanthematous pustulosis (AGEP)
- Eosinophilic drug rash with systemic symptoms (DRESS)

## Management

1. Cefuroxime (PO), cefazolin (IV/IM) and ceftriaxone (IV/IM) considered safe beta-lactam options
2. Assess risk-benefit ratio of using non-beta-lactam option\*
3. Consider referral for allergy testing to ensure optimal antibiotic prescribing for future appointments

Reasonable, but less studied, options for beta-lactam allergic patients include doxycycline (PO) and minocycline (PO).

**Note:** Antibiotics are not recommended when adequate drainage has been achieved. If unable to achieve optimal drainage and these options are used, consider adding metronidazole for anaerobic coverage.

Avoid ALL beta-lactam antibiotics\*  
(including penicillin and amoxicillin)

**\*NOTE:** Clindamycin is associated with a significant adverse events profile (especially *C. difficile* infection). Prescribing requires a risk vs. benefit assessment.

# Guide to Penicillin/Amoxicillin Allergy Management Tool

1 Refer to [www.bugsanddrugs.org](http://www.bugsanddrugs.org) for best practice recommendations and to confirm whether your patient requires an antibiotic.

2 If your patient states they have a penicillin allergy, consider asking the following questions:

**Do you have an allergy to penicillin?**

- True penicillin allergy is infrequent. About 10% of people report allergy to penicillin but less than 1% of people have a true allergy.
- Penicillin allergies are not genetic; a relative with an allergy does not prohibit use.

**When was the last time you had penicillin?** Half of patients with IgE-mediated penicillin allergy lose their sensitivity after five years (80% after 10 years).

**What was the nature of your reaction?** In children, a rash occurring during a viral infection and concurrent amoxicillin therapy is not indicative of an allergy.

**Have you previously tolerated amoxicillin, ampicillin, amoxicillin-clavulanate, or cephalexin?** See reverse side for recommendations in prescribing based on past history of antibiotic use.

**Were you ever hospitalized due to a penicillin reaction?** See reverse side for contraindications for penicillin based on medical history.

3 Use the patient information to follow the allergy management tool on the reverse side.

4 Provide the patient with education materials (available at [www.dobugsneeddrugs.org](http://www.dobugsneeddrugs.org)).

## Seven actions you can take to fight antibiotic resistance

- Don't prescribe antibiotics for irreversible pulpitis.
- Don't prescribe antibiotics for acute dental abscess without signs of systemic involvement.
- Don't give prophylactic antibiotics prior to dental procedures with total joint replacement.
- Limit pre-operative antibiotics to a single dose.
- Don't give prophylactic antibiotics to patients with non-valvular cardiac or other indwelling devices.
- Use penicillin rather than amoxicillin as drug of first choice for most indications.
- Use this allergy management tool to avoid over-use of clindamycin.

## For more information

- Patient information resources available to print from [www.dobugsneeddrugs.org](http://www.dobugsneeddrugs.org)
- References available at [www.dobugsneeddrugs.org](http://www.dobugsneeddrugs.org)
- Please direct any comments or feedback on allergy management tool to [dbnd@bccdc.ca](mailto:dbnd@bccdc.ca)



Your mouth is full of good and bad bacteria. The good bacteria keep your mouth healthy. Sometimes the bad bacteria take over and can cause an infection. In the mouth, draining the infection is often all that you need. If the dentist cannot drain infection completely, antibiotics are given to help fight the infection. Some people are also at more risk of an infection and your dentist might prescribe one dose of an antibiotic before a dental procedure to prevent an infection.

# Antibiotics & Dental Care

## What is the harm in overusing antibiotics?

Your mouth is full of good and bad bacteria. The good bacteria keep your mouth healthy. Sometimes the bad bacteria take over and can cause an infection. In the mouth, draining the infection is often all that you need. If the dentist cannot drain infection completely, antibiotics are given to help fight the infection. Some people are also at more risk of an infection and your dentist might prescribe one dose of an antibiotic before a dental procedure to prevent an infection. If you use antibiotics too often, or incorrectly, the bacteria may develop antibiotic resistance. This is a protection mechanism that allows the bacteria to survive. In this case, the use of antibiotics does not kill the bad bacteria and may cause more harm by killing the good bacteria. Keeping the good bacteria is the best defense against bad bacteria. Some individuals may experience antibiotic resistance regardless of their use of antibiotics.

## Are antibiotics needed for dental care?

The use of antibiotics will depend on a number of factors including your dental condition, the procedure, as well as your personal medical health history. More recent studies show that antibiotics are not needed for many dental conditions.

**Early detection and daily mouth care can prevent dental pain and infection. Brush twice daily, floss at least once a day, eat a well-balanced diet and visit your dentist regularly for an exam to detect the early signs of disease.**

antibiotic  
**wise.ca**



BC Centre for Disease Control  
Provincial Health Services Authority



BRITISH COLUMBIA DENTAL ASSOCIATION

## Penicillin allergies seem to be surprisingly common – or are they?

One in 10 Canadians reports having had a penicillin allergy reaction. In fact many of these reactions are not an allergy, but rather a side effect of the antibiotic, such as diarrhea, dizziness or nausea. Sometimes a rash due to a virus infection can be mistaken for an allergy if a patient is also on antibiotics (of course, antibiotics do not work for viruses).

### TRUTH IS:

Penicillin is a very important and useful drug.



# You Might Not Be Allergic to Penicillin

### DID YOU KNOW?

True penicillin allergy is rare with an estimated frequency of anaphylaxis (i.e. an extreme allergic reaction) at 1 to 5 per 10,000 cases of penicillin therapy. As well, allergies to penicillin tend to disappear within 10 years.

- **10% of people** report a penicillin allergy
- **Less than 1%** are truly allergic



### What is penicillin?

Penicillin belongs to an important group of antibiotics called beta (β)-lactam antibiotics, which are very effective at dealing with common bacterial infections. Penicillin is relatively inexpensive and widely used to treat skin, ear, sinus and upper respiratory tract infections (e.g. bronchitis or laryngitis).

### Why is penicillin so important?

Relative to other antibiotics, penicillin can be more effective, less likely to result in superbug bacteria (such as MRSA and VRE)<sup>1</sup>, and has a lower risk of *C. difficile* infection (a sometimes severe and difficult to treat cause of diarrhea). Of course, all antibiotics must be used with care and only for bacterial infections.