

**ANZAAG**Australian & New Zealand
Anaesthetic Allergy Group

This information was prepared by ASCIA in conjunction with ANZAAG, the Australian & New Zealand Anaesthetic Allergy Group.

Chlorhexidine Allergy

Chlorhexidine is a highly effective antiseptic agent. Allergic reactions to chlorhexidine are rare, but are increasing in frequency, possibly related to increased use of chlorhexidine containing products in recent years.

Chlorhexidine is used in a large number of products and its presence can sometimes be hidden

There has been a dramatic increase in the number of chlorhexidine containing products in hospital and community settings over the last couple of decades. As antibiotic resistant organisms are becoming more common, its use in both prevention and treatment of infection is likely to continue.

In the hospital setting, chlorhexidine is routinely used for handwashing and to clean the skin before performing a surgical procedure or inserting a needle. Some surgical dressings, medical devices (such as central venous lines) and lubricants also contain chlorhexidine, to reduce the risk of infection. Many over-the-counter (OTC) products contain chlorhexidine. The table on page 3 lists some of the products that may contain chlorhexidine. Please note this list is not exhaustive. New products containing chlorhexidine are frequently released, so it is essential to read all labels carefully prior to use to check the contents of products.

If you are allergic to chlorhexidine, you need to be aware that the presence of chlorhexidine is often not obvious. Labelling can be inconsistent. There is no universal symbol identifying that a product contains Chlorhexidine. It may be described using the full word 'chlorhexidine' or sometimes as an abbreviation (such as CHG in dressings or AGB on central venous lines). If you are uncertain ask your pharmacist to help to ensure OTC preparations do not contain chlorhexidine as labels can be difficult to read and not placed in a prominent position.

As chlorhexidine can be hidden, for example, as a coating agent on medical devices such as central venous lines, allergic reactions can be difficult to diagnose. Chlorhexidine allergic people often have more than one reaction, due to misdiagnosis or accidental re-exposure caused by inadequate labelling or awareness.

Immediate allergic reactions to chlorhexidine can be severe

Immediate allergic reactions (also known as Type 1 or IgE mediated reactions) are the most serious adverse reactions to chlorhexidine. In people with immediate chlorhexidine allergy, contact with chlorhexidine results in activation of immune cells and release of histamine into the tissue. This can result in a variety of symptoms including itching, hives (urticaria) and angioedema (swelling).

Severe allergic reactions (anaphylaxis) can result in difficulty breathing, dizziness, a drop in blood pressure and collapse. Anaphylaxis typically occurs when chlorhexidine comes in contact with internal (mucosal) surfaces or deeper tissues in the body, through an opening of the skin during a medical procedure. People who develop anaphylaxis to chlorhexidine may report prior mild hives (urticaria) to chlorhexidine. The significance of these may not have been appreciated. Further information on anaphylaxis is available on the ASCIA website: www.allergy.org.au/anaphylaxis

Whilst chlorhexidine allergy is rare, it is a well recognised cause of anaphylaxis during surgery. A past history of other allergies such as eczema, asthma or allergic rhinitis (hay fever), does not appear to increase the risk of developing chlorhexidine allergy.

So far, we do not know whether health care professionals who are frequently exposed to chlorhexidine are at increased risk of developing chlorhexidine allergy. People with chlorhexidine allergy should be able to tolerate other antiseptic products due to the lack of cross-reactivity.

Chlorhexidine can also cause irritant contact dermatitis or allergic contact dermatitis

Chlorhexidine can also cause irritant dermatitis. This is not a true allergic reaction as it does not involve a specific immune response. It is caused by chlorhexidine directly irritating skin and results in rough, dry and scaly skin, sometimes with weeping sores. Chlorhexidine can also cause allergic contact dermatitis. Whilst the symptoms of allergic contact dermatitis look similar to those of irritant dermatitis, it involves a non-immediate (non-IgE mediated) allergic response. It typically occurs 12-48 hours after contact with chlorhexidine.

Irritant dermatitis and allergic contact dermatitis to chlorhexidine are annoying but not dangerous. However, there are reports of people with allergic contact dermatitis who later develop immediate allergic reactions to chlorhexidine. In both these conditions recognition, treatment and chlorhexidine avoidance are recommended.

Awareness and diagnosis are important first steps

Your doctor will initially assess your history to identify the cause of your problem. This will often be followed by allergy testing to help confirm or exclude chlorhexidine allergy. Allergy skin tests and/or blood tests for allergen specific IgE (commonly known as RAST) are often used to confirm or exclude immediate chlorhexidine allergy. Other types of skin tests called patch tests may be used for the diagnosis of allergic contact dermatitis. Further information on allergy testing is available at www.allergy.org.au/patients/allergy-testing/allergy-testing

Management of chlorhexidine allergy involves careful avoidance

If you are allergic to chlorhexidine, you should:

- **Avoid** chlorhexidine exposure. It is important to check the labels carefully to make sure that chlorhexidine is not included in prescribed or OTC products. Ask health care professionals such as pharmacists if you are not sure whether a product contains chlorhexidine.
- **Advise doctors, nurses, dentists and blood collectors** of your chlorhexidine allergy well in advance of any procedures, dental treatment, blood tests or x-rays, to ensure that chlorhexidine is not used.
- **Wear a medical identification bracelet** stating that you are allergic to chlorhexidine. If you are unconscious or confused and need emergency treatment, then the nurses and doctors will know to avoid chlorhexidine. This is especially important since chlorhexidine is often used as an antiseptic in medical procedures.
- **Discuss an Emergency action plan (ASCIA Action Plan for allergic reactions or ASCIA Action Plan for Anaphylaxis)** with your doctor. This may include training in the use of an adrenaline (epinephrine) autoinjector (such as EpiPen®) which may be prescribed by your doctor where appropriate.

Currently there isn't evidence that chlorhexidine allergy may resolve with time or by avoidance. It is therefore important to remember that the avoidance of chlorhexidine is lifelong.

Products that may contain chlorhexidine

In hospital settings

- Skin antiseptic wipes
- Hand gels and hand wash solutions
- Surgical skin disinfectants
- Pre-surgery wash sponges and wipes
- Surface cleaning sprays and solutions
- Lubricant preparations
- Mouthwash
- Central venous lines
- Surgical dressings and mesh

In community settings

- Hand gels and washes
- Mouthwashes, toothpastes and other mouth products
- Disinfectants or antiseptics
- Shampoo, body wash, sponges and wipes
- Skin creams, ointments and cleansers
- Antiseptic throat lozenges and sprays
- Nasal sprays
- Cosmetics

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