

## Short title: Chlorhexidine hypersensitivity

*The following organisation has endorsed this document:*

**Australian and New Zealand Anaesthetic Allergy Group (ANZAAG)**

### 1. Purpose

This guideline is intended to provide information for healthcare practitioners to assist with perioperative management of patients with proven or suspected hypersensitivity to chlorhexidine.

### 2. Scope

This document is intended to apply to all settings where chlorhexidine may be used.

### 3. Background

- 3.1 Chlorhexidine (1:6-Di-4'-Chlorophenyldiguanidohexane) is a broad-spectrum antiseptic that is extensively used in healthcare environments. Its many applications include, but are not limited to, antiseptic solutions and gels for the disinfection of skin and in lubricants for indwelling urinary catheter insertion. It may be impregnated into central venous catheters, dressings, surgical drapes and other medical devices. It is also widely available in the community in many presentations such as antiseptic hand rubs, mouthwashes, toothpastes and throat lozenges.
- 3.2 Recognition of the efficacy of chlorhexidine has seen its use dramatically increase within the hospital and community environments in recent years. Hypersensitivity to chlorhexidine has an unknown incidence, but is currently still rare. Concomitant with widespread use, however, there have been increasing reports of hypersensitivity to chlorhexidine, usually immediate type hypersensitivity (in its severe form, anaphylaxis).
- 3.3 Ready identification of all products containing chlorhexidine is difficult with non-uniform standards of labelling. Frequent changes of products used by, and available to the practitioner, makes the task of avoiding the allergen during the patient's hospital stay particularly difficult.
- 3.4 Careful planning and precautions are necessary to prevent harm to patients with known chlorhexidine hypersensitivity. Patients diagnosed with or suspected of having chlorhexidine hypersensitivity have the right to expect that they will not be exposed to chlorhexidine during an episode of care if they have informed staff that they have chlorhexidine hypersensitivity.

### 4. Identification of chlorhexidine allergic patients

- 4.1 Patients previously diagnosed with anaphylaxis following chlorhexidine exposure will ideally present with a letter from the testing centre responsible for the diagnosis (anaesthetic allergy testing centre or immunologist). In this situation, the patient will commonly have a Medic-Alert® device or bracelet warning "Anaphylaxis to Chlorhexidine".
- 4.2 Where no formal documentation of chlorhexidine hypersensitivity exists, but a patient provides a history consistent with hypersensitivity to chlorhexidine (symptoms or signs of hypersensitivity after known exposure to this antiseptic), they should be managed as "chlorhexidine allergic" in the absence of prior allergy testing. Referral to an appropriate testing centre for investigation of potential chlorhexidine hypersensitivity should occur as soon as reasonably practicable.

- 4.3 Patients with a history suggestive of perioperative anaphylaxis which has not been investigated, particularly where the reaction was delayed in relation to induction of anaesthesia or intravenous drug administration, may have chlorhexidine hypersensitivity. If a surgical procedure is required as an emergency, alternatives to chlorhexidine should be utilised perioperatively. If hospitalisation is elective and time permits, referral to a testing centre for clarification of the patient's allergy status is advisable.
- 4.4 A resource for locating local perioperative allergy testing centres in Australia and New Zealand can be found at [www.anzaag.com](http://www.anzaag.com).

## **5. Development of a chlorhexidine product register**

- 5.1 Central to avoiding exposure to chlorhexidine-containing products is the ability of health professionals to identify all products in their clinical environment containing chlorhexidine. This can be difficult and requires the clinician to maintain a high level of vigilance at all stages of patient care.
- 5.2 It is recommended that healthcare facilities should establish and maintain a current register of products that contain chlorhexidine within their hospital.
  - 5.2.1 This listing should include all products provided by the hospital for the provision of patient care, including but not limited to pharmaceutical products, topical antiseptics, and medical devices.
  - 5.2.2 It should be regularly updated to allow for changes in purchasing practices, hospital policies and available products. Compilation of this register will require collaboration between health professionals and departments.
  - 5.2.3 This register should be hospital based to account for variations in purchasing practices among hospitals.
- 5.3 Establishment of this register will allow clinical staff to access a resource that will assist them to make choices to use products without chlorhexidine in the patient's environment.
- 5.4 It is particularly important to understand that while a register of chlorhexidine containing products may help identify such products, absence of a product on the register is no guarantee that the product is chlorhexidine-free. Each healthcare worker should check every product they use when caring for patients who have a definite or suggestive history of chlorhexidine hypersensitivity, in order to prevent inadvertent exposure.
- 5.5 Operating theatre facilities should give consideration to the development of a "chlorhexidine free box" which would contain a copy of the facility's chlorhexidine free register. It would also contain chlorhexidine free alternatives for common procedures, such as skin antisepsis prior to intravenous cannulation and surgical procedures, lubrication jelly for indwelling catheter insertion and a chlorhexidine free central venous access device.

## **6. Avoidance of exposure in allergic patients**

- 6.1 As with hypersensitivity to any drug or substance, the key to avoiding further reactions is the avoidance of exposure. The increasingly widespread presence of chlorhexidine in clinical environments and the lack of clear labelling of its presence in many products mandates adoption of additional precautions.
- 6.2 Patients should be allocated single rooms. All products containing chlorhexidine (including hand rubs and chlorhexidine containing skin wipes) should be removed from the room and suitable alternatives immediately available. The rationale for recommending single rooms is to ensure no disadvantage to other patients.
- 6.3 There should be clear signage stating "Allergy to Chlorhexidine" on the door of the room and in the patient notes, to highlight the special precautions that need to be undertaken when caring for the patient. In the case of patients who have had severe allergy (anaphylaxis), the wording should be "Anaphylaxis to Chlorhexidine".

- 6.4 A current copy of the hospital's chlorhexidine register should be placed in a prominent position in the patient's room for ready reference.
- 6.5 The contents of each product to be used should be checked prior to administration to ensure it does not contain chlorhexidine.
- 6.6 The patient's notes and bed should also be clearly signed with either "Anaphylaxis to Chlorhexidine" or "Allergy to Chlorhexidine", depending on which is appropriate, to ensure that warnings move throughout the hospital with the patient as procedures are required.
- 6.7 Wherever safe to do so, Medic-Alert® devices should remain on the patient throughout their hospital stay. If removed in the operating theatre the Medic-Alert® device should be replaced with a plastic alert band stating – "Anaphylaxis to Chlorhexidine".
- 6.8 Whenever clinical care of the patient is handed over between staff and/or between departments (such as on transfer from ward to operating theatres or radiology), the patient's allergy to chlorhexidine should be clearly identified. Where possible, advance warning should be given before patient transfer to facilitate location of the chlorhexidine product register and removal of all chlorhexidine containing products from the immediate environment before arrival of the patient in that environment.

## **7. Treatment of hypersensitivity reactions associated with chlorhexidine**

- 7.1 Treatment of anaphylaxis associated with chlorhexidine should follow established protocols.
  - 7.1.1 When associated with anaesthesia, in the presence of haemodynamic monitoring and medical staff with anaesthesia training, the guidelines of the Australian and New Zealand Anaesthetic Allergy Group (ANZAAG) and ANZCA should be followed<sup>1</sup>.
  - 7.1.2 In all other situations, treatment should follow the Australian Prescriber Wallchart "Anaphylaxis: Emergency management for health professionals"<sup>2</sup>. This guideline is endorsed by Australasian Society of Clinical Immunology and Allergy, the Royal Australasian College of Physicians, the Royal Australian College of General Practitioners, the Australasian College for Emergency Medicine, the Royal Australian and New Zealand College of Radiologists, the Internal Medicine Society of Australia and New Zealand, and the Australian Dental Association.

## **8. Follow-up of suspected cases of chlorhexidine hypersensitivity**

- 8.1 Following an apparent allergic reaction in a healthcare setting caution should be taken when attributing a cause to the reaction, particularly in the setting of polypharmacy and exposure to multiple chemicals (such as in a perioperative environment). In such situations, all pharmaceutical and chemical agents to which the patient is exposed before the event should be noted, including route of exposure (topical/mucosal/ intravenous/inhalational) and timing of exposure relative to the onset of the reaction.
- 8.2 In situations where chlorhexidine appears to be the only possible causative agent, this should be noted, and the patient given written advice to this effect. Referral should be made to an appropriate allergy testing centre for confirmation of the diagnosis.
- 8.3 Patients with confirmed anaphylaxis to chlorhexidine should be advised to wear a Medic-Alert® device at all times stating "Anaphylaxis to Chlorhexidine". They should also be advised regarding the widespread use of chlorhexidine in medical environments and the community.

**This document is accompanied by a background paper (PG60(POM)BP) which provides more detailed information regarding the rationale and interpretation of the Guideline.**

## Related ANZCA documents

PG28(A) Guideline on infection control in anaesthesia

## References

1. ANZCA and Australian and New Zealand Anaesthetic Allergy Group (ANZAAG). Perioperative anaphylaxis management guideline. 2022. Available from: <https://anzaag.com/anaphylaxis-management/management-resources/> Accessed 20 May 2024.
2. Anaphylaxis Wall chart. 2011, updated 2022. \*This reference has been superseded by: Anaphylaxis: emergency management for health professionals [Update 1]. Aust Prescr. 2022;45:100. First published 5 May 2022. <https://doi.org/10.18773/austprescr.2022.022> Accessed 20 May 2024.

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Promulgated: 2015  
Current document: November 2016  
Links reviewed: May 2024

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