DermNet NZ

Authoritative facts about the skin from the New Zealand Dermatological Society Incorporated.

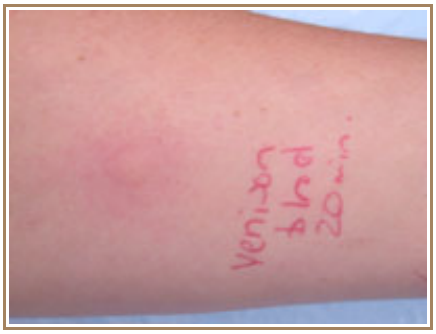
Home | Skin reactions to external agents

Contact urticaria

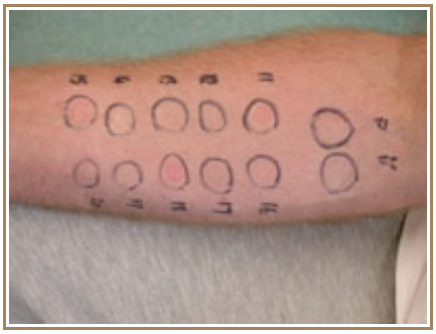
What is contact urticaria?

Contact urticaria is an immediate but transient localised swelling and redness that occurs on the skin after direct contact with an offending substance. Contact urticaria should be distinguished from allergic contact dermatitis where a dermatitis reaction develops hours to days after contact with the offending agent.

Contact urticaria



Venison reaction



Prick testing

What causes contact urticaria?

Contact urticaria is caused by a variety of compounds, such as foods, preservatives, fragrances, plant and animal products, metals, and rubber latex. The mechanism by which these provoke an immediate urticarial rash at the area of contact can be divided into two categories: non-immunological contact urticaria and immunological (allergic) contact urticaria.

- Non-immunological contact urticaria typically causes mild localised reactions that clear within hours, e.g. stinging nettle rash. This type of urticaria occurs without prior exposure of a patient's immune system to an allergen.
- Immunological contact urticaria occurs most commonly in atopic (prone to allergy) individuals. Hence prior exposure to an allergen is required for this type of contact urticaria to occur.

Commonly reported causes of the different types of contact urticaria are shown in the table below.

Non-immunological contact urticaria	Immunological contact urticaria

• Ingredients of cosmetics and medicaments
  • Balsam of Peru
  • Benzoic acid
  • Cinnamic alcohol
  • Cinnamic aldehyde
• Sorbic acid, a commonly used preservative in many foods
• Raw meat, fish, and vegetables
	• Natural rubber latex (e.g. surgical gloves)
	• Many antibiotics
	• Some metal, e.g. nickel
	• Parabens
	• Benzoic and salicylic acids
	• Polyethylene glycol

	• Short chain alcohols • Raw meat, fish, and vegetables

What are the clinical features of contact urticaria?

Contact urticaria reactions appear within minutes to about one hour after exposure of the offending substance to the skin. Signs and symptoms of affected skin areas include:

- Local burning sensation, tingling or itching
- Localised or generalised red swellings or weals may occur, especially on the hands. Severity of redness and swelling can range from slight redness or spots with minimal swelling to fiery redness with tense swelling and weals.
- Rash usually resolves by itself within 24 hours of onset.

Signs and symptoms may occur in other organs other than the skin. These are known as extracutaneous reactions and are more likely to occur in patients with immunological contact urticaria. Features of extracutaneous reactions include:

- Wheezing (bronchial asthma)
- Runny nose, watery eyes
- Lip swelling, hoarse throat, difficulty swallowing
- Nausea, vomiting, diarrhoea, cramps
- Severe anaphylactic shock (this can be life-threatening)

Who gets contact urticaria?

Anyone is able to get contact urticaria, however there are some groups of people that are at increased risk for the condition to occur. The following table shows the occupational groups at risk and the substances that cause contact urticaria. In most cases exposure has occurred over time and the response is of the immunological contact urticarial type.

Occupational group	Substances causing contact urticaria
Agricultural and dairy workers	Cow dander, grains and feeds
Bakers	Ammonia persulfate, flour, alpha-amylase
Dental workers	Latex, acrylate and epoxy resins
Electronic workers	Acrylate and epoxy resins
Food workers	Foodstuffs, e.g. cheese, egg, milk, fish, shellfish, fruit, flour, wheat
Hairdressers	Ammonia persulfate, latex
Medical/veterinary workers	Latex

What is the diagnosis and treatment for contact urticaria?

Sometimes it is easy to recognise contact urticaria and no specific tests are necessary. In most cases the rash rapidly clears up completely once the offending substance is no longer in contact with the skin. RAST tests (a blood test) where available, can be used to confirm allergy. Skin prick test and scratch patch tests confirm the diagnosis of contact urticaria but do not differentiate between allergic and non allergic mechanisms.

Patient should have an understanding of the nature of their urticarial reaction (non-immunological vs immunological). Patients with immunological contact urticaria should wear medical alert tags and be aware of the potential life-threatening reactions of the condition.

The main aim of treatment is to avoid the substances that cause the urticarial reaction, and find suitable alternatives. Medications that may be used to minimise the reaction include antihistamines and adrenalin for more severe reactions.

Related information

References:

- Book: Textbook of Dermatology. Ed Rook A, Wilkinson DS, Ebling FJB, Champion RH, Burton JL. Fourth edition. Blackwell Scientific Publications.

On DermNet NZ:

- Urticaria
- Cold urticaria
- Cholinergic urticaria
- Angioedema
- Dermographism
- Allergic contact dermatitis

Other websites:

- Urticaria, Contact Syndrome – emedicine dermatology, the online textbook

Books about skin diseases:

See the DermNet NZ bookstore

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DermNet does not provide an on-line consultation service.
If you have any concerns with your skin or its treatment, see a dermatologist for advice.