

# *Contact dermatitis*

## What Is It?

Contact dermatitis is a form of skin inflammation that occurs because the skin has been exposed to a substance that irritates it or that causes an allergic reaction. A long list of natural and synthetic chemicals can trigger contact dermatitis, including those found in soaps, household cleaners, laundry detergents, metal jewelry, perfumes, industrial solvents, cosmetics, fabric finishes, shampoos and even antibiotic ointments. As a result, the problem can develop in an almost endless variety of ways. Common types of skin exposures (or "contacts") that can lead to contact dermatitis include hand washing; housecleaning; wearing a diaper; hiking near poison ivy, oak or sumac; spraying or dabbing on perfume; wearing a metal necklace or bracelet that contains nickel; wearing clothes with metal snaps or zippers; shampooing hair; applying makeup or hair dye; working with industrial solvents; and sitting near a campfire where poison ivy is being burned.

For purposes of diagnosis and treatment, doctors classify contact dermatitis into two types, depending on the cause of the skin inflammation:

- **Irritant contact dermatitis (ICD)** — ICD is triggered by exposure to a chemical that is naturally toxic (poisonous) or irritating to human skin. It is not an allergic reaction. In children, the most common form of ICD is "diaper dermatitis," a skin reaction in the diaper area that is caused by prolonged contact with the natural chemicals found in urine and stool. Childhood ICD also can develop around the mouth because of skin contact with dribbles of baby food or drools of saliva. In adults, ICD is often an occupational illness that can be triggered by exposure to, strong soaps, solvents or cutting agents. It is especially common among health-care workers, homemakers, janitors, mechanics, machinists and hairdressers, but it can occur in anyone whose household chores or hobbies involve exposure to irritating chemicals.
- **Allergic contact dermatitis (ACD)** — This form of contact dermatitis is an immune reaction that occurs only in people who are naturally hypersensitive to certain chemicals. Unlike the inflammation of ICD, which usually happens rather quickly after the skin is exposed to a harmful chemical, the inflammation of ACD may not develop until 24 to 36 hours after skin contact with the substance (allergen). This is because ACD is a delayed form of hypersensitivity that involves recruiting the body's immune defenses, a process that takes some time. Specific skin allergies vary from person to person. However, among the most common types of allergens responsible for ACD are a chemical found in poison ivy, oak and sumac; nickel and cobalt in metal jewelry, clothing snaps, zippers and metal-plated objects; neomycin, in antibiotic skin ointments; potassium dichromate, a tanning agent found in leather shoes and clothing; latex in gloves and rubberized clothing; and certain preservatives, such as formaldehyde. Overall, an estimated 20 percent

of the U.S. population is probably at risk of ACD because of skin sensitivity to at least one common chemical allergen

## Symptoms

Symptoms of contact dermatitis may vary slightly, depending on the cause:

- **ICD** — In mild cases, there may be only mild redness of the skin. However, more severe cases may cause skin swelling, blistering or even ulceration. Symptoms usually begin immediately after exposure to the harmful substance, and they are limited to areas of the skin that have been touched, splashed, covered by or immersed in the irritant. For example, a janitor may develop symptoms on his hands after washing the floor with a strong detergent, while a factory worker may develop ICD on her face after an industrial solvent splashes upward.
- **ACD** — When contact dermatitis is caused by an allergic reaction, it usually produces localized skin redness, blistering and severe itching. Because ACD is a form of delayed hypersensitivity, these skin symptoms may not appear for several hours after exposure to the allergen. As in ICD, the specific distribution and pattern of the skin reaction may provide clues to the cause of the skin problem. For example, poison ivy usually appears as a pattern of tiny lines or streaks in places where plant leaves have brushed against the skin, while allergies to metal jewelry often produce rings of skin inflammation around the neck and wrist. An allergy to laundry detergent may cause symptoms that are limited to the torso and other clothed areas of the body, while an allergy to tanning chemicals in leather will affect parts of the feet that are covered by shoes.

If symptoms of ICD or ACD are not treated, and the skin continues to be exposed to the substance that is triggering the skin reaction, contact dermatitis may become a chronic condition. In chronic contact dermatitis, the affected skin eventually becomes thick, scaly and dry, with pigment changes and areas of hair loss.

## Diagnosis

Depending on your specific pattern of skin symptoms, the doctor will ask about your personal and family allergy history, your history of exposure to irritating chemicals at work or at home, or your contact with poisonous plants. In some cases, your doctor also may need to know the names of specific ingredients found in products that you routinely apply to your skin or hair, especially cosmetics, shampoos, hair dyes, skin lotions, nail polish or antibiotic skin ointments.

After reviewing your history of allergies and chemical exposures, your doctor usually can confirm the diagnosis of contact dermatitis by examining your skin.

In cases of possible ACD, your doctor may refer you to a dermatologist (skin specialist) for a more detailed workup using patch testing. Patch testing is a

type of allergy test in which small amounts of specific allergens are applied to the skin of your back, and then covered with tape. After 48 hours, the doctor removes the tape and examines the underlying skin for signs of an allergic reaction. A second reading is done after three to seven days.

## Expected Duration

With proper treatment, your symptoms probably will clear up within one to two weeks, as long as you stop exposing your skin to the substance that first triggered your skin reaction.

On the other hand, if you continue to have long-term exposure to harmful chemicals or allergens, you eventually may develop symptoms of chronic contact dermatitis that can persist for many years.

## Prevention

In general, you can prevent contact dermatitis by avoiding exposure to irritating chemicals, plants, jewelry and other substances that trigger ICD or ACD.

To help prevent diaper dermatitis, you should change your baby's diaper frequently, cleanse the soiled area with warm water and a soft cloth, and apply a protective coat of zinc oxide ointment. Also, avoid using store-bought wipes and cleansers on your child's skin, since these products may trigger skin reactions.

To help prevent work-related ICD and ACD, the U.S. National Institute of Occupational Safety and Health (NIOSH) has established the Allergic and Irritant Dermatitis Team to research contact dermatitis in the workplace. The team's goal is to be able to provide workers with reliable information about specific types of protective equipment, protective clothing and "barrier creams" that can be used to prevent contact dermatitis on the job.

## Treatment

Your doctor usually will treat contact dermatitis with the following:

- **An antihistamine to control the itch** — Common antihistamines used to treat contact dermatitis include diphenhydramine (Benadryl), hydroxyzine (Atarax), cetirizine (Zyrtec), loratadine (Claritin) and fexofenadine (Allegra). Of these five medications, the last three are less likely to cause drowsiness than the first two.
- **A corticosteroid to relieve skin inflammation** — In most cases, the corticosteroid can be applied as a cream or ointment containing one of the following: hydrocortisone (Hytone), hydrocortisone valerate (Westcort), desonide (Tridesilon or DesOwen), hydrocortisone butyrate (Locoid), desoximetasone (Topicort), fluocinonide (Lidex) or amcinonide (Cyclocort). If symptoms are especially severe, corticosteroids can be given by mouth or by injection.

- **A moisturizer to help restore the normal texture of the skin —**  
Your doctor probably will suggest a nonirritating ointment or cream that contains few potential allergens. Examples include petroleum jelly, Vanicream, Cetaphil and Eucerin. For many people, oatmeal baths (Aveeno) are also helpful.

## When To Call A Professional

Call your doctor whenever you are troubled by an area of skin that is red and very itchy, or skin that is cracked, blistered or painfully dry. Even if you are certain that your skin problem is "just a case of poison ivy," your doctor may be able recommend a prescription medication that will relieve your symptoms more effectively than over-the-counter remedies.

## Prognosis

For most cases of ICD or ACD, the prognosis is excellent, as long as you can identify the substance that triggered your contact dermatitis and avoid future exposure to it.

## Additional Info

### **National Institute of Arthritis and Musculoskeletal and Skin Diseases**

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