



PEDIATRICS CLINIC

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DIAPER RASH OVERVIEW — Diaper rash, or diaper dermatitis, is the term used to describe an irritating condition that develops on the skin that is covered by a diaper [1]. It is one of the most common skin problems in infants and children, affecting between 7 and 35 percent of infants at some point. Diaper rash occurs most commonly in infants between ages 9 and 12 months, but can occur at any time the child wears a diaper.

Fortunately, most cases of diaper rash are short-lived and resolve with home treatment. This topic review discusses the most common causes, treatment recommendations, and strategies to prevent diaper rash.

TYPES OF DIAPER RASH — There are two main types of diaper rash:

- Rashes that are caused or worsened by a diaper
- Rashes that are not related to diaper use

It is not always possible for parents to determine the type and cause of diaper rash. In most cases, it is reasonable to begin treatment at home, as described below. If the rash is severe or worsens, you should contact your child's healthcare provider. (See '[Diaper rash treatment](#)' below and '[When to seek help](#)' below.)

Diaper-related rash — Diaper-related rashes can be caused by irritation, a yeast infection, or an allergic reaction. Diaper-related rashes may occur more frequently if a child has an episode of diarrhea or has recently taken antibiotics.

Irritant dermatitis — Irritant dermatitis is the medical term for red and inflamed skin that is caused by any irritant (usually urine or feces with diaper rash). Irritant dermatitis is the most common cause of diaper rash. It is generally seen on the buttocks, lower abdomen, genitals, and upper thighs ([picture 1](#)); the skin folds are not usually affected. Symptoms can vary from mild redness to painful areas of skin that are raised, peeling, or weeping. (See "[Patient information: Contact dermatitis \(including latex dermatitis\) \(Beyond the Basics\)](#)".)

Yeast infection — Yeast (*Candida*) infections can develop if irritant dermatitis is not treated for more than a few days. Signs of yeast diaper dermatitis include dark red areas of skin with or without raised yellow, fluid-filled pustules that can rupture and flake ([picture 2](#)). Yeast infections are often found in the skin folds between the thigh and body, and in the folds of skin around the genitals.

Allergic reaction — Allergic reactions or skin sensitivity to the diaper itself is a less common cause of diaper rash. Signs of allergic contact dermatitis include itchy red, raised, scaly skin in the diaper area. Areas of skin that are in contact with dyes on the diaper can become sensitive and develop an allergic reaction.

Non-diaper related rash — Skin conditions that can affect the diaper area but are not caused by the diaper include seborrhea, atopic dermatitis, bacterial infections, psoriasis, scabies, and others.

Seborrhea — Seborrhea is a skin condition that causes patches of redness and greasy yellow scaly skin in infants. It is commonly located in the skin folds between the thighs and body, and is often found in other areas as well, including the scalp (where it is called "cradle cap"), face, neck, or in other skin folds (eg, in the armpit, in front of the elbow, behind the knees). (See ["Patient information: Seborrheic dermatitis \(including dandruff and cradle cap\) \(Beyond the Basics\)"](#).)

Atopic dermatitis — Atopic dermatitis (also called eczema) is not usually found in the diaper area because moisture is trapped there by the diaper. If the diaper area is affected, there may be signs of frequent scratching (eg, scratch marks, scabs). Atopic dermatitis is discussed in more detail in a separate topic review. (See ["Patient information: Atopic dermatitis \(eczema\) \(Beyond the Basics\)"](#).)

Bacterial infection — Impetigo is a bacterial infection that can develop in the diaper area, as well as other areas of the body. It is usually caused by bacteria that normally live on the skin; infection can develop when there is a break in the skin. Signs of impetigo include tiny (1 to 2 millimeter) raised yellow fluid-filled areas and honey-colored crusted lesions; the lesions may be itchy and/or painful. A healthcare provider should evaluate any child with these signs and symptoms. (See ["Impetigo"](#).)

Psoriasis — Psoriasis is a skin condition that causes reddened and silver scaly patches of skin. In the diaper area, the silver scale may be absent. Psoriasis is discussed in more detail in a separate topic review. (See ["Patient information: Psoriasis \(Beyond the Basics\)"](#).)

Scabies — Scabies is an intensely itchy skin condition caused by mites that have burrowed under the skin. Symptoms usually begin suddenly and include widespread red, raised, itchy areas on the abdomen, web spaces of the hands and feet, armpits, and genitals. Scabies often affects multiple family members at the same time. (See ["Patient information: Scabies \(Beyond the Basics\)"](#).)

DIAPER RASH DIAGNOSIS — In most cases, it is possible to begin treatment for diaper rash at home without seeing a healthcare provider. However, if you are concerned that your child's rash is severe, worsening, or is associated with other signs or symptoms (eg, significant discomfort, bloody stool, fever, skin that appears infected), you should contact your child's healthcare provider immediately. (See ["When to seek help"](#) below.)

Lab testing is not usually required. If you have been using a diaper rash treatment at home, bring this product to the appointment.

DIAPER RASH TREATMENT — Treatment of diaper rash includes a combination of measures, which are most effective when used together. The letters ABCDE are a useful way to remember all of these measures [\[2\]](#):

- A = air out the skin by allowing the child to go diaper-free
- B = barrier; use a paste or ointment to protect the skin

- C = clean; keep the skin clean
- D = disposable diapers; during an episode of diaper rash, consider using disposable rather than cloth diapers
- E = educate; educate yourself about how to prevent a recurrence of diaper rash

Diaper-free periods — The most effective way to treat irritant diaper rash is to reduce skin contact with urine and feces (ie, by discontinuing or limiting the use of diapers). One way to do this is to allow the child to periodically go without a diaper, allowing the skin to be exposed directly to the air. Using a waterproof barrier under the child can minimize soiling.

When the child wears a diaper, frequent diaper changes are recommended; a suggested interval might be every two to three hours and immediately after every bowel movement.

Skin barrier ointments or pastes — Skin ointments or pastes also can help to treat or prevent irritant diaper rash. The ointment or paste should be applied thickly at every diaper change, and can be covered with petroleum jelly to prevent sticking to the diaper. The ointment or paste should be long-lasting and should stick to irritated or broken areas of skin. It is not necessary to completely clean the ointment or paste off the skin at diaper changes.

Lotions and creams are not as effective as ointments or pastes and are not recommended. In addition, products that contain preservatives, fragrances, or other additives are not recommended because they may further irritate the skin. It is important to closely read the ingredient label of all diaper products.

Most diaper products contain ingredients such as [zinc oxide](#) and petrolatum, which form a protective skin barrier against wetness; some also contain lanolin, paraffin, or dimethicone. Sample brands that contain these ingredients include Desitin, Triple Paste, A & D Ointment, and Balmex. White petrolatum (sample brand name: Vaseline) is an inexpensive option as well.

Powders — Powders that contain talc or corn starch can reduce friction and moisture. However, powders are not generally recommended as a treatment for diaper rash because the child could accidentally inhale them.

Antifungal treatments — An antifungal treatment may be prescribed if the child is diagnosed with a yeast infection. This type of treatment is not recommended without consulting the child's provider first. Antifungal treatments are available as a cream, ointment, or powder. The treatment is usually applied two or three times per day, beneath a skin ointment or paste, until the rash is gone.

Steroid ointment — If the child's skin becomes severely inflamed, the healthcare provider may recommend a mild, over-the-counter steroid ointment such as 1 percent [hydrocortisone](#). This can be applied in a thin layer to the irritated skin twice per day for no more than one week. More potent or adult-strength steroid ointments are not recommended for children without the advice of a clinician. Steroid creams are not recommended because ingredients in the cream can be irritating.

Antibiotics — If the child develops signs or symptoms of a skin infection, a healthcare provider should evaluate the child. If needed, he or she may prescribe an antibiotic ointment or oral antibiotic. Over-the-counter

antibiotic creams or ointments (sample brand names: Neosporin, [Bacitracin](#)) are not recommended because they contain ingredients such as [neomycin](#) and bacitracin, to which many children are allergic.

DIAPER RASH PREVENTION — It is possible to reduce the risk of developing diaper rash by following some basic hygiene suggestions:

- It is not clear whether cloth or disposable diapers are superior in preventing diaper rash. With either choice, changing the diaper frequently can reduce contact between the skin and urine or feces.
- During an episode of diaper rash, disposable diapers are recommended because they are highly absorbent and specifically designed to minimize skin exposure to wetness.
- If cloth diapers are used, avoid using plastic pants to cover the diaper. Cloth diapers should be washed in hot water with bleach.
- Clean the skin in the diaper area gently and carefully. Overzealous cleansing can cause or worsen irritation and delay skin healing. Gentle cleansing with warm water and a soft cloth is usually sufficient. If soap is desired, a mild, fragrance-free product (sample brand names: Dove sensitive or Cetaphil) is recommended.
- If baby wipes are used, choose a brand that is alcohol and fragrance-free. Baby wipes are not recommended if the skin becomes irritated or develops open sores.
- Dried feces can be loosened with [mineral oil](#) applied to a cotton ball.
- Skin that is peeling or broken can be cleansed using a plastic squeeze bottle filled with warm water. Alternately, a washcloth can be soaked in warm water and squeezed out onto the skin. To avoid unnecessary friction, the skin should be patted dry with a soft towel.

WHEN TO SEEK HELP — If a child develops a fever (temperature above 100.4°F or 38°C) or has bloody stool, a change in the pattern of wet or dirty diapers (eg, constipation, diarrhea, frequent urination, etc), or any other worrisome signs or symptoms, the parent should contact the child's healthcare provider.

In addition, if an infant or child with diaper rash does not improve after a few days or if the child develops blisters or pus-filled sores, the parent should contact the child's healthcare provider.

WHERE TO GET MORE INFORMATION — Your child's healthcare provider is the best source of information for questions and concerns related to your child's medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Diaper rash \(The Basics\)](#)

[Patient information: Seborrheic dermatitis \(The Basics\)](#)

[Patient information: Giving your child over-the-counter medicines \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Contact dermatitis \(including latex dermatitis\) \(Beyond the Basics\)](#)

[Patient information: Seborrheic dermatitis \(including dandruff and cradle cap\) \(Beyond the Basics\)](#)

[Patient information: Atopic dermatitis \(eczema\) \(Beyond the Basics\)](#)

[Patient information: Psoriasis \(Beyond the Basics\)](#)

[Patient information: Scabies \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Candida infections in children: An overview](#)

[Contact dermatitis in children](#)

[Epidemiology, clinical manifestations, and diagnosis of atopic dermatitis \(eczema\)](#)

[Overview of diaper dermatitis in infants and children](#)

[Skin abscesses, furuncles, and carbuncles](#)

[Treatment of atopic dermatitis \(eczema\)](#)

[Impetigo](#)

The following organizations also provide reliable health information.

- National Library of Medicine

www.nlm.nih.gov/medlineplus/healthtopics.html

- American Academy of Pediatrics

www.aap.org/healthtopics/skinhealth.cfm

- The Nemours Foundation

www.kidshealth.org

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GRAPHICS

Irritant diaper dermatitis

Intense erythema and scaling with sparing of the skin fold are characteristic of irritant diaper dermatitis. *Reproduced with permission from: www.visualdx.com. Copyright Logical Images, Inc.*

Graphic 90765 Version 1.0

Candida diaper dermatitis in an infant



Erythematous plaques and pustules are visible with scattered satellite lesions.

Courtesy of Anthony Mancini, MD, Children's Memorial Hospital, Chicago, IL.

Graphic 59361 Version 5.0

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Patient information: Diaper rash in infants and children (Beyond the Basics)

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