

## ACNE

### DEFINITION

- Blackheads, whiteheads (pimples), or red bumps
- Face, neck, and shoulders involved
- Adolescent and young adult years
- Larger red lumps quite painful

### Cause

Acne is due to plugging of the oil glands. More than 90% of teenagers have some acne. The main cause of acne is increased levels of hormones during adolescence. It is not caused by diet, and it is unnecessary to restrict fried foods, chocolate, or any other food. Acne is not caused by sexual activity of any kind, nor by dirt or not washing the face often enough. The tops of blackheads are black because of the chemical reaction of the oil plug with the air.

### Expected Course

Acne usually lasts until 20 or 25 years of age and it is rare for acne to leave any scars.

### HOME CARE

There is no magic medicine at this time that will cure acne. However, good skin care can keep acne under control and at a mild level.

### Basic Treatment for All Acne

- **Soap:** The skin should be washed twice each day and after exercise. The most important time is before bedtime. A mild soap such as Dove or Neutrogena should be used.
- **Hair:** The hair should be shampooed daily. Hair can make acne worse by friction if it is too long.
- **Avoid picking.** Picking keeps acne from healing.

**Treatment for Pimples.** Pimples are infected oil glands. They should be treated with the following:

- **Benzoyl peroxide 5% lotion or gel.** This lotion helps to open pimples and unplug blackheads, and it also kills bacteria. It is available without a prescription. Ask your pharmacist to recommend a brand. The lotion should be applied daily at bedtime. Fair-skinned people should initially apply it every other day, using only a pea-sized amount. If the skin becomes red or peels, you are using too much of the medicine or applying it too often. This lotion may be needed for several years.
- **Pimple opening:** In general, it is best not to "pop" pimples. Never open a pimple before it has come to a head. Wash your face and hands first. Use a sterile needle (sterilized by alcohol or a flame). Nick the surface of the yellow pimple with the tip of the needle. The pus should run out without squeezing. Wipe away the pus and wash the area

with soap and water. Scarring will not result from opening small pimples, but it can result from squeezing boils or other large, red, tender lumps.

**Treatment for Blackheads (Comedones).** Blackheads are the plugs found in blocked-off oil glands. They should be treated with the following:

- **Benzoyl peroxide:** This agent is also excellent for removing thickened skin that blocks the openings to oil glands. It should be used as described above for treating pimples.
- **Blackhead extractor:** Blackheads that are a cosmetic problem can sometimes be removed with a blackhead extractor, available from any drugstore. By placing the hole in the end of the small metal spoon directly over the blackhead, uniform pressure can be applied that does not hurt the normal skin. This method is much more efficient than anything you can accomplish with your fingers. Soak your face with a warm washcloth before you try to remove blackheads. If the blackhead does not come out the first time, leave it alone.

**Treatment for Red Bumps.** Large red bumps mean the infection has spread beyond the oil gland. If you have several red bumps, you probably also need an antibiotic. Antibiotics come as solutions for the skin or pills.

Common acne medications include combination antibiotic/benzoyl peroxide product or a retinoid product.

### Common Mistakes in Treating Acne

- **Avoid scrubbing the skin.** Hard scrubbing of the skin is harmful because it irritates the openings of the oil glands and can cause them to be more tightly closed.
- **Avoid applying any oily or greasy substances to the face.** They make acne worse by blocking off oil glands. If you must use cover-up cosmetics, use water-based ones and wash them off at bedtime.
- **Avoid greasy hair products.** Sweating sometimes spreads it to the face and aggravates the acne.
- **Don't stop your acne medicine too soon.** It could take up to 8 weeks to see a good response.



### CALL OUR OFFICE

*During regular hours if:*

- It looks infected (large, red, tender lump).
- Acne is not improved after treating it with benzoyl peroxide for 2 months.
- Benzoyl peroxide makes the face itchy or swollen.
- You have other concerns or questions.

## ATHLETE'S FOOT (TINEA PEDIS)

### DEFINITION

- A red, scaly, cracked rash between the toes
- Itchy, burning rash
- Rash raw and weepy with scratching
- Often spreads to instep
- Unpleasant foot odor
- Mainly occurs in adolescents

### Cause

Athlete's foot is caused by a fungus infection that grows best on warm, damp skin.

### Expected Course

With proper treatment, it usually clears in 2 to 3 weeks.

### HOME CARE

**Antifungal Cream.** Buy Tinactin, Micatin, or Lotrimin cream at your drugstore. You won't need a prescription. First rinse the feet in plain water or water with a little white vinegar added. Dry the feet carefully, especially between the toes, then apply the cream to the rash area and well beyond its borders twice a day. Continue the cream for several weeks or for at least 7 days after the rash seems to have cleared. Successful treatment often takes 3-4 weeks.

**Dryness.** Athlete's foot improves dramatically if the feet are kept dry. It helps to go barefoot or wear sandals or thongs as much as possible. Wear shoes that allow the feet to breathe. Cotton socks should be worn because they absorb sweat and keep the feet dry. Change the socks twice daily. Dry the feet thoroughly after baths and showers.

**Foot Odor.** Foot odor will often clear as the athlete's foot improves. Rinsing the feet and changing the socks twice daily are essential. If that doesn't work, rinse the feet in a basin of warm water containing 1 ounce of vinegar. If you can still smell your child coming, take off his tennis shoes and wash them in your washing machine with some soap and bleach.

**Discourage Scratching.** Scratching infected feet will delay a cure.

**Contagiousness.** The condition is not very contagious. The fungus won't grow on dry, normal skin. Your child may take physical education and continue with sports.



CALL OUR OFFICE

### *IMMEDIATELY if*

- It looks infected (yellow pus, spreading redness, red streaks).

### *During regular hours if*

- The athlete's foot is not improved in 1 week.
- It is not completely cured after using this treatment for 4 weeks.
- You have other concerns or questions.

# ECZEMA (ATOPIC DERMATITIS)

## DEFINITION

- Red, extremely itchy rash
- Often starts on the cheeks at 2-6 months of age
- Most common on flexor surfaces (creases) of elbows, wrists, and knees
- Occasionally, neck, ankles, and feet involved
- Rash raw and weepy if scratched
- Constant dry skin
- This diagnosis must be confirmed by a physician

## Cause

Eczema is an inherited type of sensitive skin. A personal history of asthma or hay fever or a family history of eczema makes it more likely that your child has eczema. Flare-ups occur when there is contact with irritating substances (e.g., soap or chlorine).

In 30% of infants with eczema, certain foods cause the eczema to flare up. If you suspect a particular food item (e.g., cow's milk, eggs, or peanut butter) is causing your child's flare-ups, feed that food to your child one time (a "challenge") after avoiding it for 2 weeks. If it does cause flare-ups, the eczema should become itchy or develop hives within 2 hours of ingestion. If this occurs, avoid ever giving this food to your child and talk to us about food substitutes.

## Expected Course

This is a chronic condition and will usually not go away before adolescence. Therefore early treatment of any itching is the key to preventing a severe rash.

## HOME TREATMENT

**Steroid Creams.** Steroid cream is the main treatment for itchy eczema.

There are several types of steroid cream available and they should be used 2 times/day until the rash quiets down. When the rash quiets down, use it at least once daily for an additional 2 weeks. After that, use it immediately on any spot that itches. When you travel with your child, always take the steroid cream with you. If your supply starts to run out, get the prescription renewed.

**Bathing and Hydrating the Skin.** Hydration of the skin followed by lubricating cream is the main way to prevent flare-ups of eczema. Your child should have one bath each day for a short time. Water-soaked skin is far less itchy. Eczema is very sensitive to soaps. Cetaphil body wash is a hydrating body wash and can be used on children of all ages. Cetaphil is the skin cleanser of choice by many dermatologists.

**Lubricating Cream.** Children with eczema always have dry skin. After a 10-minute bath, the skin is hydrated and feels good. Help trap the moisture in the skin by applying an outer layer of lubricating cream to the entire skin surface while it is damp. Apply it after steroid cream has been applied to any itchy areas. Apply the lubricating cream once daily (twice daily during the winter). Some lubricating creams are Aveno or Cetaphil. Avoid applying any ointments, petroleum jelly, or vegetable shortening because they can block the sweat glands, increase itching, and worsen the rash (especially in warm weather). Also, soap is needed to wash them off. For severe eczema, ointments may be needed temporarily to heal the skin.

**Itching.** At the first sign of any itching, apply the steroid cream to the area that itches. Keep your child's fingernails cut short. Also, wash your child's hands with water frequently to avoid infecting the eczema.

**Prevention.** Wool fibers and clothes made of other scratchy, rough materials make eczema worse. Cotton clothes should be worn as much as possible. Avoid triggers that cause eczema to flare up, such as excessive heat, sweating, excessive cold, dry air (use a humidifier), chlorine, harsh chemicals, and soaps. Never use bubble bath. Also, keep your child off the grass during grass pollen season (May and June). Keep your child away from anyone with fever blisters since the herpesvirus can cause a serious skin infection in children with eczema. Try to breast feed all high-risk infants; consider a soy formula, some infants need an elemental formula which we would recommend. Also try to avoid cow's milk products, eggs, peanut butter, wheat, and fish during the first year of life.



## CALL OUR OFFICE

### IMMEDIATELY if:

- The rash looks infected (yellow pus or scabs, spreading redness, red streaks).
- The rash flares up after contact with someone who has fever blisters (herpes).
- Your child starts acting very sick.

### During regular hours if:

- The rash becomes raw and open in several places.
- The rash hasn't greatly improved after 7 days of using this treatment.
- You have other concerns or questions.

## HEAT RASH (MILIARIA)

### DEFINITION

- Tiny, pink bumps
- Occasionally, some are pinpoint-size water blisters
- Mainly neck and upper back/chest
- Occurs during hot, humid weather
- Heat rash can be itchy
- Older children report a "prickly" pins-and-needles sensation
- No fever or sickness
- Also called "prickly heat"

### Cause

Heat rash is caused by blocked-off sweat glands. Lots of children get it during hot, humid weather when sweat glands are overworked. Infants can also get it in the wintertime with fever, overdressing, or ointments applied to the chest for coughs. (**Reason:** ointments block off the sweat glands.) Older children can get it with exercise.

### Expected Course

With treatment, heat rash usually clears up completely in 2-3 days.

### HOME CARE

**Cooling.** Use techniques that cool off the skin:

- Give cool baths every 2-3 hours, without soap. Let the skin air dry.
- For localized rashes, apply a cool, wet washcloth to the area for 5-10 minutes.
- Dress in as few layers of clothing as possible.
- Lower the temperature in your home or use a fan when your child is asleep.
- Have the child lie on a cotton towel to absorb perspiration.

**Hydrocortisone Cream.** Apply 1% hydrocortisone cream (no prescription necessary) 3 times a day to itchy spots. Avoid hydrocortisone ointments. Calamine lotion is another option.

**Avoid Ointments.** Avoid all ointments or oils, because they can block off sweat glands. Be sure the rash isn't caused by a mentholated ointment being used for a cough.



### CALL OUR OFFICE

*During regular hours if:*

- The rash lasts more than 3 days on this treatment.
- You have other concerns or questions.

# HIVES (URTICARIA)

## DEFINITION

- Very itchy rash
- Raised pink spots with pale centers (hives look like mosquito bites.)
- Size range of  $\frac{1}{2}$  inch to several inches across
- Shapes quite variable
- Rapid and repeated changes of location, size, and shape

## Cause

Widespread hives are an allergic reaction to a food, drug, viral infection, insect bite, or a host of other substances. Often the cause is not found. Localized hives are usually due to skin contact with plants, pollen, food or pet saliva. Localized hives are not caused by drugs, infections or swallowed foods. Hives are not contagious.

## Expected Course

More than 10% of children get hives. Most children who develop hives have it only once. The hives come and go for 3-4 days and then mysteriously disappear. Large swellings are common around the eyes, lips, and genitals if hives occur there. Some young children become sensitized to mosquito or flea bites. They develop big hives (called papular urticaria) at the sites of old and new bites that can last for months.

## HOME TREATMENT

**Antihistamine Medicine.** The best drug for hives is an antihistamine. An antihistamine won't cure the hives, but it will reduce their number and relieve itching. Benadryl is one of the most commonly used drugs for hives. The main side effect of this drug is drowsiness. School-age children can't take Benadryl during the day but giving it at nighttime is ok.

## BENADRYL DOSAGE

Child's weight more than (lb)	22	33	44	55	110
Total amount (mg)	10	15	10	25	50
Liquid 12.5 mg/5 ml (tsp)	$\frac{3}{4}$	1	$1\frac{1}{2}$	2	-
Chewable 12.5 mg	-	1	$1\frac{1}{2}$	2	4
Capsules 25 mg	-	-	-	1	2

In addition to Benadryl at night we often recommend a non-sedating antihistamine, such as Zyrtec, in the morning. Continue the medicine until the hives are completely gone for 24 hours.

**Itching.** Give a cool bath to relieve itching. Hold an ice cube on very itchy areas for 10 minutes.

**Avoidance.** Avoid anything you think might have caused the hives. For hives triggered by pollen or animal contact, take a cool shower or bath. For localized hives, wash the allergic substance off the skin with soap and water. If itchy, massage the area with a cold washcloth or ice for 10 minutes. Localized hives usually disappear in a few hours and don't need Benadryl.

**Common Mistakes in Treatment of Hives.** Many parents wait to give the antihistamine until new hives have appeared. This means your child will become itchy again. The purpose of the medicine is to keep your child comfortable until the hives go away. Therefore, give the medicine regularly until you are sure the hives are completely gone. Since hives are not contagious, your child can be with other children.



## CALL OUR OFFICE

### IMMEDIATELY if:

- Breathing or swallowing becomes difficult.
- Your child starts acting very sick.

### During regular hours if:

- The itch is not controlled after your child has been taking continuous antihistamines for 24 hours.
- The hives last more than 1 week.
- You have other concerns or questions.

## INSECT BITES (Bee/Yellow Jacket Stings or Itchy/Painful Insect Bites)

A *bite* involves biting with the insect's mouth parts and removing a drop of blood from the human. A *sting* involves injecting a poison into the human from the insect's stinger.

### 1. BEE AND YELLOW JACKET STINGS

#### DEFINITION

Your child was stung by a honeybee, bumblebee, hornet, wasp, or yellow jacket. Over 95% are from yellow jackets. These stings cause immediate painful red bumps. Although the pain is usually better in 2 hours, the swelling may increase for up to 24 hours. Multiple stings (more than 10) can cause vomiting, diarrhea, a headache, and fever. This is a toxic reaction related to the amount of venom received (e.g., not an allergic reaction). A sting on the tongue can cause swelling that interferes with breathing.

#### HOME CARE

**Treatment.** If you see a little black dot in the bite, the stinger is still present (this occurs only with honeybee stings). Remove it by scraping it off. If only a small fragment remains, don't worry about it. Then rub each sting for 20 minutes with a cotton ball soaked in a meat tenderizer solution. This will neutralize the venom and relieve the pain. If meat tenderizer is not available, apply aluminum-based deodorant or a baking soda solution for 20 minutes. For persistent pain, massage with an ice cube for 10 minutes. Give Acetaminophen or Ibuprofen immediately for relief of pain and burning.

#### PREVENTION

Some bee stings can also be prevented by avoiding gardens and orchards and by not going barefoot. Insect repellents are not effective against these stinging insects.



#### CALL OUR OFFICE

##### **IMMEDIATELY if:**

- Breathing or swallowing is difficult (call 911).
- Hives are present.
- There are 10 or more stings.
- Your child starts acting very sick.

##### **During regular hours if:**

- Swelling of the hand (or foot) spreads past the wrist (or ankle).
- You have other questions or concerns.

### 2. ITCHY OR PAINFUL INSECT BITES

#### DEFINITION

Bites of mosquitoes, chiggers, fleas, and bedbugs usually cause itchy, red bumps. The size of the swelling can vary from a dot to  $\frac{1}{2}$  inch. The larger size does not mean that your child is allergic to the insect bite. Mosquito bites near the eye always cause massive swelling. The following are clues that a bite is due to a mosquito: itchiness, a central raised dot in the swelling, bites on surfaces not covered by clothing, summertime, and the age of the child (e.g., she is an infant). In contrast to mosquitoes, fleas and bedbugs don't fly; therefore, they crawl under clothing to nibble. Flea bites often turn into little blisters in young children.

Bites of horseflies, deerflies, gnats, fire ants, harvester ants, blister beetles, and centipedes usually cause a painful, red bump. Within a few hours, fire ant bites change to blisters or pimples.

#### HOME CARE

**Itchy Insect Bites.** Apply calamine lotion or a baking soda paste to the area of the bite. If the itch is severe (as with chiggers), apply nonprescription 1% hydrocortisone cream 4 times daily. Another way to reduce the itch is to apply firm, sharp, direct, steady pressure to the bite for 10 seconds. A fingernail, pen cap, or other object can be used. Encourage your child not to pick at the bites or they will leave marks.

**Painful Insect Bites.** Rub the area of the bite with a cotton ball soaked in meat tenderizer solution for 20 minutes. This will relieve the pain. If you don't have any meat tenderizer, use a baking soda solution. Give Acetaminophen or Ibuprofen for pain relief.

#### PREVENTION

**Mosquitoes and Chiggers.** Many of these bites can be prevented by applying an insect repellent sparingly to the clothing or exposed skin before your child goes outdoors or into the woods. Repellents are essential for infants (especially those less than 1 year old) because they cannot bat the insects away.

**Bedbugs.** The bed and baseboards can be sprayed with 1% malathion, but young children must be kept away from the area because this substance is somewhat poisonous. You may need to call an exterminator.

**Fleas.** Usually you will find fleas on dogs or cats. If the bites started after a move into a different home, fleas from the previous owner's pet are the most common cause. Fleas can often be removed by

## LICE (PEDICULOSIS)

### DEFINITION

- Nits (white eggs) are firmly attached to hairs.
- Unlike dandruff, nits can't be shaken off.
- Gray bugs (lice) are 1/16 inch long, move quickly, and are difficult to see.
- The scalp itches and has a rash.
- The back of the neck is the favorite area.
- The nits are easier to see than the lice because they are white and very numerous.

### Cause

Head lice only live on human beings and can be spread quickly by using the hat, comb, or brush of an infected person or simply by close contact. Anyone can get lice despite good health habits and frequent hair washing. The nits (eggs) normally hatch into lice within 1 week. Pubic lice ("crabs") are slightly different but are treated the same way. They can be transmitted from bedding or clothing and do not signify sexual contact.

### Expected Course

With treatment, all lice and nits will be killed. A recurrence usually means another contact with an infected person or the shampoo wasn't left on for 20 minutes. There are no lasting problems from having lice and they do not carry other diseases.

### HOME TREATMENT

#### Antilice Shampoo or Rinse.

There are several different types of Lice shampoo, Nix or Rid are two examples.

Wash the hair with your regular shampoo, rinse, and towel-dry. Pour about 2 ounces of the shampoo into the damp hair. Scrub the hair and scalp for 10-20 minutes. Rinse the hair thoroughly and dry it with a towel. These shampoos kill both the lice and the nits. Most antilice shampoos need to be repeated once in 7 days to prevent reinfection. (**Note:** Antilice shampoos, such as Nix or Rid, only requires one application.)

**Removing Nits.** Remove the nits by back combing with a fine-tooth comb or pull them out individually. The nits can be loosened from the hair shafts using a mixture of half vinegar and half water applied for 30 minutes under a towel wrap. It is critically to spend the time to clean each hair strand individually; it is the only way to be sure all the nits are gone. Even though the nits are dead, most schools will not allow children to return if nits are present. Obviously, the hair does not need to be shaved to cure lice.

**Lice in the Eyelashes.** If you see any lice or nits in the eyelashes, apply petroleum jelly to the eyelashes twice a day for 8 days. The lice won't survive.

**Cleaning the House.** Lice can't live for more than 72 hours (3 days) off the human body. Your child's room should be vacuumed. Combs and brushes should be soaked for 1 hour in a solution made from the antilice shampoo. Wash your child's sheets, blankets, and pillowcases in hot water. Items that can't be washed (hats, coats, or toys) can be set aside in plastic bags for 3 weeks (the longest that nits can survive). Car upholstery should also be cleaned. Antilice sprays or fumigation of the house is unnecessary.

**Contagiousness.** Check the heads of everyone else living in your home. If any have scalp rashes, sores, or itching, they should be treated with the antilice shampoo even if lice and nits are not seen. Your child can return to school after one treatment with the shampoo. Re-emphasize to your child that he or she should not share combs and hats. Notify any organization that your child might be involved with to help find the source and/or prevent further spread (e.g., dance class, sports teams, scout troops, etc.).

**Recurrence.** What should you do if the prior treatment does not work? The lice are becoming very resistant to the medications so we often have to recommend the "old fashion" methods of lice treatment using petroleum jelly on the scalp and hair with a shower cap overnight to smother the lice. The next morning shampoo the hair and remove all the nits from the hair by combing each hair strand individually; a process which can take hours but works!



### CALL OUR OFFICE

#### During regular hours if:

- The rash and itching are not cleared by 1 week after treatment.
- The sores start to spread or look infected.
- The lice or nits return.
- You have other questions or concerns.

# POISON IVY

## DEFINITION

- Redness and blisters
- Eruption on exposed body surfaces (e.g., hands)
- Shaped like streaks or patches
- Extreme itchiness
- Onset 1 or 2 days after the patient was in a forest or field

## Cause

Poison ivy, poison oak, and poison sumac cause the same type of rash and are found throughout the United States. More than 50% of people are sensitive to the oil of these plants.

## Expected Course

Poison ivy usually lasts 2 weeks. Treatment reduces the symptoms but doesn't cure the disease. The best approach is prevention.

## HOME TREATMENT

**Cool Soaks.** Soak the involved area in cold water or massage it with an ice cube for 20 minutes as often as necessary. Then let it air dry. This will reduce itching and oozing.

**Steroid Creams.** If applied early, a steroid cream can reduce the itching.

We often prescribe Desonide cream which can be applied 2 times per day for 2 days.

The sores should be dried up and no longer itchy in 10-14 days. In the meantime, cut your child's fingernails short and encourage your child not to scratch himself or herself.

**Benadryl.** If itching persists, give Benadryl orally (no prescription needed) every 6 hours as needed.

**Contagiousness.** The fluid from the sores themselves is not contagious; however, anything that has poison ivy oil or sap on it is contagious for about 1 week. This includes the shoes and clothes the child last wore into the woods, as well as any pets that may have oil on their fur. Be sure to wash them off with soap and water. The rash begins 1-2 days after skin contact and can take up to 1 week to break out fully with the areas of greatest exposure breaking out first and areas of lesser exposure following. You cannot spread poison ivy once the oil on the skin has been washed off.

## PREVENTION

Learn to recognize these plants. Otherwise, avoid all plants with three large shiny, green leaves. Another clue is the presence of shiny black spots on damaged leaves. (The sap of the plant turns black when exposed to air.)

Wear long pants or socks when walking through woods that may contain poison ivy, poison oak, or poison sumac. If you think your child has had contact with one of these plants wash the exposed areas of skin with any available soap for 5 minutes. Strong laundry soap has no added benefits. Do this as soon as possible, because after 1 hour it is of little value in preventing absorption of the oil.

Ivy Block is a nonprescription product that the pharmacist has that can prevent a break out if applied to the skin before an exposure. It is a good product to use if there is a lot of poison ivy around your house.



**CALL OUR OFFICE**

***IMMEDIATELY if***

- The rash looks infected (yellow pus, spreading redness, red streaks).

***During regular hours if***

- The face, eyes, or lips become involved.
- The itching becomes severe even with treatment.
- Poison ivy lasts longer than 2 weeks.
- You have other concerns or questions.

## RINGWORM OF THE BODY (TINEA CORPORIS)

### DEFINITION

- Ring-shaped pink patch
- Scaly, raised border
- Ring slowly increases in size
- Clearing of the center as the patch grows
- Usually  $\frac{1}{2}$  to 1 inch in size
- Mildly itchy

### Cause

Ringworm is caused by a fungus infection of the skin, often transferred from puppies or kittens who have it.

### Expected Course

It responds well to appropriate treatment.

### HOME CARE

**Antifungal Cream.** Buy Tinactin, Micatin, or Lotrimin cream at your drug store. You won't need a prescription. Apply the cream twice daily to the rash and 1 inch beyond its borders. Continue this treatment for 1 week after the ringworm patch is smooth and seems to be gone. Successful treatment often takes 3-4 weeks. Encourage your child to avoid scratching the area.

**Contagiousness.** Ringworm of the skin is mildly contagious. It requires direct skin-to-skin contact. The type acquired from pets is not transmitted human- to-human, only animal-to-human. After 48 hours of treatment, it is not contagious at all. Your child doesn't have to miss any school (or day care).

**Treatment of Pets.** Kittens and puppies with ringworm usually do not itch and may not have any rash. If ringworm patches are seen, call your veterinarian. If no patches are present but ringworm recurs in your child, also contact your veterinarian. Also have your child avoid close contact with the animal until he or she is treated. Natural immunity will develop in animals after 4 months even without treatment.



### CALL OUR OFFICE

*During regular hours if:*

- The ringworm continues to spread after 1 week of treatment.
- The rash has not cleared up in 4 weeks.
- You have other concerns or questions.

# RINGWORM OF THE SCALP (TINEA CAPITIS)

## DEFINITION

- Round patches of hair loss that slowly increase in size
- A black-dot, stubbled appearance of the scalp from hair shafts that are broken off at the surface
- The scalp may have scaling
- Mild itching of the scalp
- Ringworm of the face may also be present
- Usually occurs in children age 2-10 years
- This diagnosis requires a positive microscope test (potassium hydroxide [KOH prep]) or fungus culture.

## Cause

A fungus infects the hairs and causes them to break. Ringworm is not caused by a worm. Over 90% of cases are due to *Trichophyton tonsurans*, which is transmitted from other children who are infected. Combs, brushes, hats, barrettes, seat backs, pillows, and bath towels can transmit the fungus. Less than 10% of the cases are caused by infected animals. The animal type causes more scalp irritation, redness, and scaling. If your child has the animal type of fungus, he is not contagious to other children.

## Expected Course

Ringworm of the scalp is not dangerous. Without treatment, however, the hair loss and scaling may spread to other parts of the scalp. Some children develop a kerion, which is a boggy, tender swelling of the scalp that can drain pus. Kerions are an allergic reaction to the fungus and may require additional treatment with an oral steroid. Hair regrowth is slow after treatment but will take 6 to 12 months. In the meantime, your child can wear a hat or scarf to hide the bald areas.

## HOME CARE

**Oral Antifungal Medicine.** The main treatment for ringworm of the scalp is griseofulvin taken orally for 8 weeks.

(The product comes in a 125 mg/5 ml suspension and 250-mg capsules.) Griseofulvin is best absorbed if taken with fatty foods such as milk or ice cream. Antifungal creams or ointments are not effective in killing the fungus that causes ringworm of the scalp.

**Antifungal Shampoo.** The use of an antifungal shampoo makes your child less contagious and allows him to return to day care or school. Purchase a nonprescription shampoo containing selenium sulfide

(e.g., Selsun). Lather up and leave it on for 10 minutes before rinsing. Use the antifungal shampoo twice a week for the next 8 weeks. On other days, use a regular shampoo.

**Contagiousness.** Ringworm is mildly contagious. In the days before antifungal medications, about 5% of school contacts usually became infected. However, 25% of siblings (close contacts) developed ringworm. Once your child has been started on griseofulvin and received one washing with the special shampoo, he can return to school. Caution your child not to share combs or caps with other children. Check the scalps of your child's siblings and close friends. If you see any scaling or patches of hair loss, refer that child to their doctor's office.

**Common Mistakes.** It is psychologically harmful and unnecessary to shave the hair, give a close haircut, or to force your child to wear a protective skull cap.

**Follow-up Appointment.** In 4 weeks return for lab tests of your child's hair to be certain we have achieved a cure. If not, the griseofulvin will need to be given for longer than 8 weeks.



## CALL OUR OFFICE

*During regular hours if*

- The ringworm looks infected with pus or a yellow crust.
- The scalp becomes swollen or boggy.
- The ringworm continues to spread after 2 weeks of treatment.
- You have questions or concerns.

## RINGWORM, MULTICOLORED (TINEA VERSICOLOR)

### DEFINITION

- The name means "multicolored ringworm."
- The condition occurs in adolescents and adults.
- Numerous spots and patches appear on the neck, upper back, and shoulders.
- The spots are covered by a fine scale.
- The spots vary in size.
- In summer, the spots are light and don't tan like normal skin.
- In winter as normal skin fades, the spots look darker (often pink or brown) than normal Caucasian skin.

### Cause

This superficial infection is caused by a yeast-like fungus call *Malassezia furfur*. It is more common in warm, humid climates.

### Expected Course

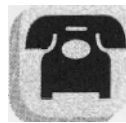
The problem tends to wax and wane for many years. Since complications do not occur, tinea versicolor is solely a cosmetic problem. Itching is uncommon.

### HOME CARE

**Selsun Blue Shampoo.** Selsun Blue (selenium sulfide) is a nonprescription medicated shampoo that can cure this condition. Apply this shampoo once each day for 14 days. Apply it to the affected skin areas as well as 2-3 inches onto the adjacent normal skin. Rub it in and let it dry. Be careful to keep it away from the eyes and genitals, since it is irritating to these tissues. After 30 minutes, take a shower. In 2 weeks the scaling should be stopped, and the rash temporarily cured. Normal skin color will not return for 6 to 12 months.

**Prevention of Recurrences.** Tinea versicolor tends to recur. Prevent this by applying Selsun Blue shampoo to the formerly involved areas once each month for several years. Leave it on for 1-2 hours, then shower. This precaution is especially important in the summer months, because this fungus thrives in warm weather.

**Contagiousness.** Tinea versicolor is not contagious. This fungus is a normal inhabitant of the hair follicles in many people. Only a few develop the overgrowth of the fungus and a rash.



### CALL OUR OFFICE

*During regular hours if:*

- The rash is not improved with this treatment after 2 weeks.
- You feel your child is getting worse.
- You have other questions or concerns.

# SKIN TRAUMA (Cuts/Scratches, Scrapes, Puncture Wounds, Bruises)

## 1. CUTS AND SCRATCHES

### DEFINITION

Most cuts are superficial and extend only partially through the skin. They are caused by sharp objects. The cuts that need sutures are deep and leave the skin edges separated. Another rule of thumb is that cuts need sutures if they are longer than  $\frac{1}{2}$  inch ( $\frac{1}{4}$  inch if on the face).

### HOME CARE

#### Treatment

- Apply direct pressure for 10 minutes to stop any bleeding.
- Wash the wound with soap and water for 5 minutes.
- Cut off any pieces of loose skin using a small scissors.
- Apply an antibiotic ointment and cover it with a Band-Aid or gauze. Wash the wound, apply the ointment, and change the Band-Aid or gauze daily.
- Give Acetaminophen or Ibuprofen, as needed, for pain relief.

#### Common Mistakes in Treating Cuts and Scratches

- Don't use alcohol or Merthiolate on open wounds. They sting and damage normal tissue.
- Don't kiss an open wound because the wound will become contaminated by the many germs from a person's mouth.
- Let the scab fall off by itself; picking it off may cause a scar.



**CALL OUR OFFICE**

#### **IMMEDIATELY if:**

- Bleeding won't stop after 10 minutes of direct pressure.
- The skin is split open and might need sutures. (**Note:** Lacerations must be sutured within 12 hours of the time of injury, and the infection rate is far lower if they are closed within 4 hours.)
- There is any dirt in the wound that you can't get out.
- The cut looks infected (yellow pus, spreading redness, red streaks).

#### **During regular hours if:**

- Your child hasn't had a tetanus booster in more than 10 years (5 years for dirty cuts).
- The wound doesn't heal by 10 days.
- You have other questions or concerns.

## 2. SCRAPES (ABRASIONS)

### DEFINITION

An abrasion is an area of superficial skin that has been scraped off during a fall (e.g., a floor burn or skinned knee).

### HOME CARE

**Cleaning the Scrape.** First, wash your hands. Then wash the wound vigorously for at least 5 minutes with warm water and liquid soap. The area will probably need to be scrubbed several times with a wet piece of gauze to get out all the dirt. You may have to remove some dirt particles (e.g., gravel) with a pair of tweezers. If there is tar in the wound, it can often be removed by rubbing it with petroleum jelly, followed by soap and water again. Pieces of loose skin should be cut off with sterile scissors, especially if the pieces of skin are dirty. Rinse the wound well.

#### Antibiotic Ointments and Dressing

- Apply an antibiotic ointment and cover the scrape with a Band-Aid or gauze dressing. This is especially important for scrapes over joints (such as the elbow, knee, or hand) that are always being stretched. Cracking and reopening at these sites can be prevented with an antibiotic ointment, which keeps the crust soft (no prescription is needed).
- Cleanse the area once a day with warm water and then reapply the ointment and dressing until the scrape is healed.

**Pain Relief.** Because abrasions can hurt badly, give Acetaminophen or Ibuprofen for the first day.



**CALL OUR OFFICE**

#### **IMMEDIATELY if:**

- There is any dirt or grime in the wound that you can't get out.
- Skin loss involves a very large area.
- The scrape looks infected (yellow pus, spreading redness, red streaks).

#### **During regular hours if:**

- Your child hasn't had a tetanus booster in over 10 years.
- The scrape doesn't heal by 2 weeks.
- You have other questions or concerns.

### 3. PUNCTURE WOUNDS

#### DEFINITION

The skin has been completely punctured by an object that is narrow and sharp, such as a nail. The wound is not wide enough to need sutures. Since puncture wounds usually seal over quickly, there is a greater chance of wound infection with this type of skin injury. Puncture wounds of the upper eyelid are especially dangerous and can lead to a brain abscess. A deep infection of the foot can begin with swelling of the top of the foot 1-2 weeks after the puncture. Another risk is tetanus if your child is not immunized.

#### HOME CARE

**Cleansing.** Soak the wound in warm water and soap for 15 minutes. Scrub the wound with a washcloth to remove any debris. If the wound rebleeds a little, that may help remove germs.

**Trimming.** Cut off any flaps of loose skin that cover the wound and interfere with drainage or removing debris. Use a fine scissors after cleaning them with rubbing alcohol.

**Antibiotic Ointment.** Apply an antibiotic ointment and a Band-Aid to reduce the risk of infection. Resoak the area and reapply antibiotic ointment every 12 hours for 2 days.

**Pain Relief.** Give Acetaminophen or Ibuprofen for any pain.



#### CALL OUR OFFICE

##### **IMMEDIATELY if:**

- Dirt in the wound remains after you have soaked the wound.
- The tip of the object could have broken off in the wound.
- The sharp object or place where the injury occurred was very dirty (e.g., a barnyard).
- The wound looks infected (yellow pus, spreading redness, red streaks).

##### **During regular hours if:**

- It has been at least 5 years since your child last had a tetanus booster.
- Pain, redness, or swelling increases after 48 hours.
- You have other questions or concerns.

### 4. BRUISES

#### DEFINITION

Bleeding into the skin from damaged blood vessels gives a black and blue mark. Since the skin is not broken, there is no risk of infection. Bruises usually follow injury caused by blunt objects. Unexplained bruises can indicate a bleeding tendency. (**Exception:** "Unexplained" bruises overlying the shins are usually not a sign of a bleeding tendency; children often bump this area and then forget about it.)

#### HOME CARE

**Bruises.** Apply ice for 20-30 minutes. No other treatment should be necessary. Give Acetaminophen or Ibuprofen for pain. Avoid aspirin because it may prolong the bleeding. After 48 hours, apply a warm washcloth for 10 minutes, 3 times a day to help the skin reabsorb the blood. Bruises clear in about 2 weeks.

**Blood Blisters.** Do not open blisters; it will only increase the possibility of infection. They will dry up and peel off in 1-2 weeks.



#### CALL OUR OFFICE

##### **IMMEDIATELY if:**

- Bruises are unexplained and several in number.

# SUNBURN

## DEFINITION

Sunburn is due to overexposure of the skin to the ultraviolet rays of the sun or a sunlamp. Most people have been sunburned many times. Vacations can quickly turn into painful experiences when the power of the sun is overlooked. Unfortunately, the symptoms of sunburn do not begin until 2-4 hours after the sun's damage has been done. The peak reaction of redness, pain, and swelling is not seen for 24 hours. Minor sunburn is a first-degree burn that turns the skin pink or red. Prolonged sun exposure can cause blistering and a second-degree burn. Sunburn never causes a third-degree burn or scarring.

Increased leisure time can lead to increased sun damage. Repeated sun exposure and suntans cause premature aging of the skin (wrinkling, sagging, and brown sunspots). Repeated sunburns increase the risk of skin cancer in the damaged area. Each blistering sunburn doubles the risk of developing malignant melanoma, which is the most serious type of skin cancer.

## HOME CARE

**Pain Relief.** The sensation of pain and heat will probably last for 48 hours.

- Ibuprofen products started early and continued for 2 days can reduce the discomfort.
- Nonprescription 1% hydrocortisone cream or moisturizing creams applied 3 times each day may also cut down on swelling and pain, but only if used early. (Avoid petroleum jelly or other ointments because they keep heat and sweat from escaping.)
- The symptoms can also be helped by cool baths or wet compresses several times daily.
- Showers are usually too painful.
- Peeling will usually occur in about a week. Apply a moisturizing cream.
- Offer extra water to replace the fluid lost into the swelling of sunburned skin and to prevent dehydration and dizziness.
- For broken blisters, trim off the dead skin with a small scissors and apply an antibiotic ointment. Wash off and reapply the antibiotic ointment twice daily for 3 days.

## Common Mistakes in Treatment of Sunburn.

Avoid applying ointments or butter to a sunburn; they are painful to remove and not helpful. Don't buy any first aid creams or sprays for burns. They often contain benzocaine that can cause an allergic rash. Don't confuse sunscreens that block the sun's burning rays with suntan lotions or oils that mainly lubricate the skin.

## PREVENTION OF SUNBURNS

The best way to prevent skin cancer is to prevent sunburn. Although skin cancer occurs in adults, it is caused by the sun exposure and sunburns that occurred during childhood. Every time you apply sunscreen to your child, you are preventing skin cancer in their future.

- **Apply sunscreen anytime your child is going to be outside for more than 30 minutes per day.**
- For teenagers who are determined to acquire a suntan, **teach them the limits of sun exposure without a sunscreen.**
- **After 1 hour of sun exposure, always apply a sunscreen.**
- **Protect high-risk children.** About 15% of white people have skin that never tans but only burns. These fair-skinned children need to be extremely careful about the sun throughout their lives. The big risk factors for sunburn are red hair, blond hair, blue eyes, green eyes, freckles, or excessive moles. These children are also at increased risk for skin cancer. They need to be instructed repeatedly to use a sunscreen throughout the summer even for brief exposure and to avoid the sun whenever possible.
- **Protect infants.** The skin of infants is thinner and more sensitive to the sun. Therefore, babies under 6 months of age should be kept out of direct sunlight. Keep them in the shade whenever possible. If sun exposure must occur, sunscreens, longer clothing, and a hat with a brim are essential. Don't apply sunscreen to areas where the infant may lick it off.
- **Try to keep sun exposure to small amounts early in the season until a tan builds up.** (Caution: Although people with a suntan can tolerate a little more sun, they can still get a serious sunburn.) Start with 15 or 20 minutes per day and increase by 5 minutes per day. Decrease daily exposure time if the skin becomes reddened. Because of the 2- to 4-hour delay before sunburn starts, don't expect symptoms to tell you when it's time to get out of the sun.
- **Avoid the hours of 10:00 AM to 3:00 PM, when the sun's rays are most intense.** Even if it's not hot outside, avoid the mid-day sun. Find other activities for your children during these hours.
- **Don't let overcast days give you a false sense of security.** Over 70% of the sun's rays still get through the clouds. Over 30% of the sun's rays can also penetrate loosely woven fabrics (for instance, a T-shirt).

- **Sun exposure increases by 4% for each 1000 feet of elevation.** Sunburn can occur quickly when hiking above the timberline.
- **Water, sand, or snow increases sun exposure.** The shade from a hat or umbrella won't protect you from reflected rays.
- **Also protect your child's eyes.** Years of exposure to ultraviolet (UV) light increase the risk of cataracts. Buy sunglasses with UV protection.
- **Set a good example.** Did you apply your sunscreen? Are you wearing a baseball cap to protect your face?

### **Sunscreens**

There are good sunscreens on the market that prevent sunburn but still permit gradual tanning to occur. Choose a broad-spectrum sunscreen that screens out both ultraviolet A and B (UVA and UVB) rays. The sun protection factor (SPF) or filtering power of the product determines what percent of the UV rays gets through to the skin. An SPF of 15 allows only 1/15 (7%) of the sun's rays to get through and thereby extends safe sun exposure from 20 minutes to 5 hours without sunburning. There are higher SPF products available for extended exposure times. Fair-skinned whites (with red or blond hair) may need a sunscreen with an SPF of 30. The simplest approach is to use an SPF of 15 or greater on all children.

Apply the sunscreen 30 minutes before exposure to the sun to give it time to penetrate the skin. Give special attention to the areas most likely to become sunburned, such as your child's nose, ears, cheeks, and shoulders. Most products need to be reapplied every 3-4 hours, as well as immediately after swimming or profuse sweating. A "waterproof" sunscreen stays on for about 30 minutes in water. Do not towel off after swimming. Most people apply too little (the average adult requires 1 ounce of sunscreen per application).

To prevent sunburned lips, apply a lip coating that also contains para-aminobenzoic acid (PABA). If your child's nose or some other area has been repeatedly burned during the summer, protect it completely from all the sun's rays with zinc oxide ointment.



### **CALL OUR OFFICE**

#### ***IMMEDIATELY if:***

- An unexplained fever over 102°F (38.9°C) occurs.
- The sunburn looks infected (yellow pus, spreading redness, red streaks).
- Your child starts acting very sick.

#### ***During regular hours if:***

- You have other questions or concerns.

# SUTURED WOUND CARE

## DEFINITION

Most contaminated wounds that are going to become infected do so 24-72 hours after the initial injury. Keep in mind that a 2- to 3-mm rim of pinkness or redness confined to the edge of a wound can be normal, especially if the wound is sutured. However, the area of redness should not spread. Pain and tenderness also occur normally, but the pain and swelling should be greatest during the second day and should thereafter diminish.

## HOME CARE

Do not wash the area for 24 hours. Then begin gently washing it with warm water and liquid soap 1 or 2 times each day. Apply an antibiotic ointment afterward to keep a thick scab from forming over the sutures. Swimming and baths are safe after 48 hours.

## SUTURE REMOVAL

Sutures are ready for removal at different times, depending on the site of the wound. The following table can serve as a guide:

<u>Area of Body</u>	<u>Number of Days</u>
Face	3-4
Neck	5
Scalp	6
Anterior chest or abdomen	7
Arms and back of hands	7
Legs and top of feet	10
Back	10
Palms and soles	14

Have your child's stitches removed on the correct day. Stitches removed too late can leave unnecessary skin marks or even scarring. If any sutures come out too early, call your child's physician. In the meantime, reinforce the wound with tape or butterfly Band-Aids. Continue the tape until the date when the sutures would have been removed.

## Protection After Suture Removal

- Protect the wound from injury during the following month.
- Avoid sports that could reinjure the wound. If a sport is essential, apply tape before playing.

## SCARS

If your child needed sutures, he will develop a scar. The scar can be kept to a minimum by taking the sutures out at the right time, preventing wound infections, and protecting the wound from being reinjured during the following month. The healing process continues for 6 to 12 months, and only then will the scar assume its final appearance.

## Skin Glue

Special skin glue can be used to close some lacerations that do not cross a joint. The glue acts just like sutures and the care of the wound is similar to sutures. The glue takes 30 minutes to completely dry and will start to flake off about 1 week after application. Keep the area dry for 24 hours. Do not apply an antibiotic ointment and do not soak the wound in water for 1 week. Just as with sutures, your child will have a scar after a wound is glued closed.



## CALL OUR OFFICE

### **IMMEDIATELY if:**

- An unexplained fever (over 100°F or 37.8°C) occurs.
- A red streak or red area spreads from the wound.

### **Within 24 hours if:**

- The wound looks infected (pus or a pimple).
- The wound becomes more painful than it was on the second day.
- A stitch comes out early.
- You have other concerns or questions.

# TOENAIL, INGROWN

## DEFINITION

If your child has tenderness, redness, and swelling of skin surrounding the corner of the toenail on one of the big toes, proceed with this guideline. Occasionally, some pus drains from this area. Ingrown toenails are usually due to tight shoes (e.g., cowboy boots) or improper cutting of the toenails. They take several weeks to clear up.

## HOME CARE

**Soaking.** Soak the foot twice daily in warm water and an antibacterial soap for 20 minutes. While the foot is soaking, massage outward the swollen part of the cuticle.

**Antibiotic Ointment.** If your child's cuticle is just red and irritated, an antibiotic ointment is probably not needed. If the cuticle becomes swollen or oozes secretions, though, apply Neosporin ointment (no prescription needed) 5-6 times daily.

**Cutting off the Corner of the Toenail.** The pain is always caused by the corner of the toenail rubbing against the raw cuticle. Therefore, we have to cut this corner off so that the irritated tissue can quiet down and heal. We need to do this only once. The main purpose of treatment is to help the nail grow over the nail cuticle rather than get stuck in it. Therefore, try to bend the corners of the nail upward during soaks.

**Shoes.** Have your child wear sandals or go barefoot as much as possible to prevent pressure on the toenail. When she must wear closed shoes, protect the ingrown toenail as follows:

- If the inner edge is involved, tape a foam pad between the first and second toes to keep them from touching.
- If the outer edge is involved, tape a foam pad to the outside of the ball of the toe to keep the toenail from touching the side of the shoe.

## PREVENTION

Prevent recurrences by making sure that your child's shoes are not too narrow. Get rid of any pointed or tight shoes. After the cuticle is healed, cut the toenails straight across, leaving the corners. Don't cut them too short. Cut the nail weekly to prevent pressure on the end of the nail, which can drive in the corners. Also, after every shower or bath, lift up the corners of the nail.



## CALL OUR OFFICE

### *IMMEDIATELY if:*

- Fever develops.
- A red streak spreads beyond the toe.

### *During regular hours if:*

- Any pus or yellow drainage is not cleared up after 48 hours on this home treatment.
- The problem is not totally resolved in 2 weeks.
- You have other concerns or questions.

# WARTS

## DEFINITION

- Raised, round, rough-surfaced growth on the skin
- Most commonly on the hands
- Not painful unless located on the bottom of the foot (called plantar warts)
- Brown dots within the wart (unlike a callus) and a clear boundary with the normal skin

## Cause

Warts are caused by papillomaviruses.

## Expected Course

Warts are harmless. Most warts disappear without treatment in 2-3 years. With treatment they resolve in 2-3 months. There are no shortcuts in treating warts.

## HOME TREATMENT

### Wart-Removing Acids

A common wart-removing acid we use is Mediplast. Cut a patch a little larger than the size of the wart and apply it once per day, enough to cover the entire wart. Sometimes a bandaid or tape needs to be placed over the patch to keep it on.

The acid in the patch will turn the top of the wart into dead skin (it will look white). The acid will work faster if it is covered with adhesive tape or duct tape. Once each day, remove the dead wart material by paring it down with a razor blade. If that is hard for you to do, rub the dead skin off with a file or callus remover instead. The dead wart will be easier to remove if you soak the area first in warm water for 10 minutes. If the cutting causes any pain or minor bleeding, you have cut into living wart tissue. Since you are using an acid, avoid getting any near the eyes or mouth.

**Cover the wart.** It is important to cover the wart with a piece of adhesive tape or duct tape. Warts deprived of air and sun exposure sometimes die without the need for treatment with acids. Remove the tape once a week and wash the skin. After it has dried thoroughly, reapply the tape. The tape treatment may be needed for 8 weeks.

**Contagiousness.** Encourage your child not to pick at the wart because this may cause it to spread. If your child chews or sucks the wart, cover the area with a Band-Aid and change it daily. Encourage your child to give up this habit because chewing on warts can cause warts on the lips or face. Warts are not very contagious to other people.



## CALL OUR OFFICE

### *During regular hours if*

- Warts develop on the feet, genitals, or face.
- A wart becomes open and looks infected.
- New warts develop after 2 weeks of treatment.
- The warts are still present after 8 weeks of treatment.
- You have other concerns or questions.