



## Ask Dr. Sue your health and safety questions

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# Ringworm

by Susan S. Aronson, M.D.

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Ringworm is a common infection that tends to spread in child care settings. The cause is not a worm at all, but a family of fungal infections. Each member of the family is fairly specific for the place on the body it likes to grow.

The fungus that grows on the scalp does not grow on the body. The one that grows across broad areas in the very top layers of the skin is different from the one that makes ring-like structures where the skin has only fine body hair. Another type grows between the toes and is the cause of athlete's foot. (This kind seems to need the mature tissue environment of a post-puberty person. Kids get cracking, blistering, and peeling skin rashes on their feet from other causes, but they do not usually get the fungus that causes the condition known as athlete's foot.) Finally, there is the fungus that grows in the moist warm areas around the genitalia, mostly in adolescent and adult males. That one causes a condition commonly called "jock itch."

All the types of fungus that cause these conditions spread by direct contact with an infected person or by contact with a surface touched by an infected person. The reproductive part of the fungus is a

spore. When these come in contact with a favorable environment, they start a new infection. Covering infected spots (with clothing), laundering clothing after one wearing, and disinfecting surfaces will get rid of these spores and stop the spread of ringworm.

### Ringworm of the Scalp

The fungus that infects the scalp grows in the part of the hair follicle that is deep in the skin. Since infected hair follicles do not grow healthy hair, the hairs break off at the surface of the scalp. Sometimes this gives the appearance of a bald spot with hair-colored dots. Some people do not have the broken hairs or noticeable bald spots. Instead, they have patches of flaky scalp that look like dandruff or little areas that look like small pimples.

Ringworm of the scalp is tinea capitis (tinea is ringworm; capitis means "of the head"). Sometimes a case follows a trip to the barber. More often, spread occurs from sharing of combs, brushes, hats, pillows, or other articles that touch the head. By avoiding sharing of dress-up hats and bike helmets in child care, providers can prevent the spread of this infection. Tinea capitis is most common between

the ages of three and nine and among black children.

Ringworm of the scalp is too deep in the hair follicles for any medicine put on the surface to reach it. After confirming the diagnosis (sometimes by doing a special laboratory test), a physician will prescribe an oral medication. Often the physician will suggest using a dandruff shampoo to lift and wash off the spores of the fungus as well. This stops the spread of the infection.

Once the child begins the oral medicine, the release of spores stops. That's why children may return to child care 24 hours after treatment begins. However, they must keep taking the medicine until the infected hair grows out of the scalp. Since this process takes six to eight weeks, the child must take the medicine every day for the entire period.

Occasionally a child who has ringworm of the scalp develops a severe allergic reaction to the infection. This reaction makes the scalp swell; it becomes tender, red, and boggy. This condition is called a kerion. Although a kerion poses no danger to others, it looks so nasty that doctors who have not seen this condition before sometimes wonder

whether something else is happening.

### **Ringworm of the Body**

The ring-like fungal infection of the less hairy areas of the face, trunk, and extremities is tinea corporis. Usually the rash forms a ring consisting of a red, scaly edge and a more pale central area. It is often itchy. As with other types of ringworm, this fungus spreads by direct contact or contact with surfaces that contain the spores of the fungus.

Usually ringworm of the body responds well to application of anti-fungal creams for a period of two to four weeks. After 24 hours of treatment, the child can return to child care. However, treatment must continue until the infection is cured.

### **Ringworm of the Upper Surface of the Skin**

In the hot, humid months, you might notice some lighter or darker scaly, flat, oval, or lacy areas on the chest, back, or face of a child or adult. Since the infection affects the production of pigment by the skin, it's easier to see this condition in more pigmented people. This type of fungal infection is called tinea versicolor. With increased humidity and sweating, the fungus grows in the top fatty layers of the skin. As with other types of ringworm, this

infection spreads by personal contact. It is more common in teens and young adults, but kids can become infected, too.

After confirming the diagnosis, a physician will prescribe treatment with a lotion or an anti-fungal cream. The lotion is easiest to use. After 30 minutes of contact with the lotion, the surface layer that contains the fungus can be washed away. The treatment is repeated monthly for several months. Some people use anti-fungal creams for several weeks as another type of treatment. As with the other types of fungal infections, the day after treatment begins with either method the infected individual can return to child care.

### **Measures to Prevent the Spread of Ringworm**

Intimate contact in child care helps spread many types of infections. In child care, providers can offer valuable learning experiences without spreading infection. In dress-up corners, have children wear disposable outfits or have only one child wear an outfit before putting the clothing through the laundry. Treat bike helmets, hats, combs, brushes, barrettes, and clothing as personal articles that only one person should wear. Although ringworm is not highly contagious, a group of chil-

dren and adults can spread the fungus to one another easily.

Make sure that a doctor checks suspicious skin conditions, especially if they persist. Since ringworm can look like eczema or dandruff, even very experienced doctors may miss the diagnosis the first time. If a doctor diagnoses and treats a rash as something else but the rash continues to spread, ask for a reevaluation. Failure to respond to treatment is a diagnostic clue that doctors use to work out the cause of a rash.

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#### **Bloodborne Pathogens Sample Exposure Control Plan**

Several readers have described a problem obtaining the Bloodborne Pathogens Sample Exposure Control Plan (ECP) from their regional OSHA offices. If your local OSHA office cannot provide you with a copy, call the Region III OSHA office in Philadelphia at (215) 596-1201 and make a publication request.