

# Common Dermatological Conditions in Sports: A Review of Environmental, Traumatic, and Infectious Causes

MARK J. LESKI, MD • University of South Carolina

## Key Points

▶ Most dermatological conditions in sports can be prevented with good hygiene and properly fitted equipment and clothing.

▶ Dermatological conditions with contraindications for participation in contact sports include active herpes infection and molluscum contagiosum.

▶ Athletes training in the sun should wear a good sports sunscreen containing both UVA and UVB protection.

▶ Blisters should be left intact when possible because the roof provides a protective barrier to the environment and bacteria.

▶ Any athlete with a dermatological condition that appears infectious should be referred to a physician.

▶ Key Words: dermatology, skin, sunburn, dermatitis, herpes, warts, impetigo, athlete's foot, frostbite, acne

Athletic participation can be rewarding both mentally and physically, and it should be an enjoyable activity. Oftentimes, however, there are setbacks in participation as a result of injuries and illnesses. Some of these conditions present themselves in the form of dermatological disorders. Dermatological problems in sports result from several causes including environmental, traumatic, and infectious factors. In this article, some of the more common dermatological entities in sports and their treatments are discussed. When specific invasive procedures or prescription medications are indicated, the patient should be referred to a physician.

## Environmental Lesions

### Sun-Related Disorders

There are several skin disorders related to sun exposure. The most common are sunburn and drug-induced photosensitivity. Both can be very painful and prevent athletic participation because of pain or interference with heat-dissipating mechanisms resulting from fever. Sunburn can also be disfiguring. It is usually caused by exposure to UVB rays during their greatest intensity from 10 a.m. to 3 p.m. Burns can range from first-degree erythema to third-degree with blisters and ulcerations. Systemic symptoms might include fever, chills, nausea, and prostration. The best prevention is by liberal application of a waterproof sunscreen of SPF 15 or greater that screens both UVA and UVB, avoiding sun exposure during peak hours, and taking 300 mg aspirin 1–2 hr before exposure (Batts, 1995). If burns do occur, treat with cool compresses and topical anesthetic/steroid sprays and lotions. Nonsteroidal anti-inflammatory drugs can be helpful if used immediately after sun exposure. Athletes with third-degree sunburns should be referred to a physician for evaluation and treatment with an antibacterial cream, such as Silvadene, and bandaged.

Drug-induced photosensitivity is a skin reaction to the sun resulting from prescription

medications such as tetracycline, sulfonyleureas, and thiazides (Fitzpatrick, Johnson, Wolff, & Suurmond, 1997). They might present as severe sunburn with variable pruritus, or they might be urticarial (wheals) or maculopapular (flat plaques with bumps). Most reactions are caused by UVA exposure. Therefore, applying a sunscreen that provides UVA protection is necessary to prevent these reactions while one is taking sensitizing medications. Treatment consists of using topical or oral corticosteroids, eliminating the offending agent, and avoiding sun exposure (Fitzpatrick et al.).

### Cholinergic Urticaria

Cholinergic urticaria is an acetylcholine-mediated response induced by heat, emotion, and exertion. It presents with 1- to 2-mm urticarial wheals surrounded by a red flare (Figure 1). Symptoms can include sweating, abdominal cramps, bradycardia, dizziness, and wheezing. There is no cure, and therefore, athletes with this condition often give up training for indefinite periods. Antihistamines and H<sub>2</sub> blockers might relieve symptoms.

### Exercise-Induced Urticaria

This entity can be a variant of cholinergic urticaria. It presents with giant wheals and angioedema. Other symptoms might include wheezing and hypotension. The treatment of choice is subcutaneous administration of epinephrine. Inhaled cromolyn sodium, 20 mg, three to four times a day can be beneficial in preventing recurrence. Antihistamines and H<sub>2</sub> blockers can also be helpful in prevention (Landry, 1999).

### Miliaria (Prickly Heat)

Miliaria is caused by retained sweat that is extravasated into different levels in the skin and usually develops during activity in hot, humid environments. It presents as a red bumpy rash that might be painful or itchy. There is no treatment, but avoiding occlusive topical ointment and close-fitting, poorly absorbent fabrics can aid in prevention.

### Frostnip

Frostnip is the most common superficial cold-induced injury. It is caused by prolonged exposure to below-

or near-freezing temperatures with significant wind-chill. The most common areas affected are the face and ears. It presents as painful, erythematous areas of exposed skin that might be numb and eventually form blisters. An athlete with frostnip should return to a warm environment and quickly rewarm the affected area (Batts, 1995). Shaving and bathing should be delayed until the end of the day's outdoor activities. Application of sunscreen can be helpful in prevention.

### Frostbite

Frostbite is actual freezing of the epidermis, dermis, and subcutaneous tissues (Figure 2). On freezing, the extracellular ice crystals denature cell proteins and enzymes. Affected areas have a waxy appearance, and blisters develop 24–36 hr after skin damage. Treatment consists of rewarming in a 38 °C bath and transfer to a facility experienced in frostbite management (Batts, 1995). Analgesics are helpful for pain control. One should never rub ice or snow on affected areas, and thawing should be avoided if refreezing is likely.

### Cold Urticaria

Cold urticaria is the most common acquired urticaria in athletes. It results from nonallergic release of histamine from mast cells in response to cold exposure and presents as localized or generalized urticarial wheals. The cold exposure might be environmental or result from local treatments involving ice therapy. Cyproheptadine and small doses of oral corticosteroids have been found helpful in the treatment of this problem.

### Raynaud's Phenomenon

Raynaud's phenomenon can be either an idiopathic cold hypersensitivity or secondary to a systemic connective-tissue disease such as lupus. It presents as vascular spasm with pallor and cyanosis that can be painful. Gangrene of the affected digits can result in severe cases. Treatment is primarily with calcium-channel blockers. Proper protection of the hands and feet with battery-heated gloves and boots is paramount in prevention. Smoking is absolutely prohibited because of the associated vasoconstriction and relative hypoxia (Fitzpatrick et al., 1997).