

That summer itch

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Spring has sprung, and the annual migration to the beaches, forest preserves, and backyard barbecues will soon commence. Yet in the rush to enjoy the great outdoors, many of us forget that nature can be an intolerant hostess. Sunburn, poison ivy, and insect bites serve as a gentle reminder that the elements are not to be taken lightly. This article will explore the minor dermatologic conditions of good ole' summertime.



Sunburn

During Victorian times, only laborers who toiled in the midday sun sported a tan. Today, bronzed skin is a pursuit of the leisure classes. It is now clear that our great-grandparents had the right idea!

All sunlight contains potentially damaging radiation. Fortunately, a blanket of ozone absorbs all the wavelengths of radiation that are incompatible with human life. The rays that manage to evade this "environmental sunscreen" include the so-called sunburn rays of ultraviolet light. A sought-after tan is actually a defensive mechanism of the skin against these rays. When sunlight strikes the skin, the cells produce a protective pigment called melanin, causing a chemical reaction and darkening.

Within a few hours of overexposure to the sun, the skin begins to turn red, swollen, itchy, and

painful. Blisters may develop. The pain peaks in 12 to 24 hours and is followed by the inevitable peeling of dead skin cells. Over the years, this continuous assault leaves the skin leathery, wrinkled, and prone to skin cancer. To relieve the immediate pain of sunburn, apply compresses of cool water from the faucet (not ice water!). Or, take a lukewarm bath that is laced with oatmeal, or cornstarch and baking soda. Aspirin and lotions can reduce pain and inflammation.

The extent of sun damage depends on many factors, including an individual's skin type. Fair-skinned, green- or blue-eyed blondes and redheads are more likely to burn than dark-complexioned individuals. Environmental factors also play a role. The ozone layer does not offer even protection; the layer (and hence the level of protection) is thinnest at the equator and thickest at the poles, and is strong in late winter and weak in late summer. Higher altitudes pose a greater risk. Four to 5 percent more radiation pierces the layer every 1,000 feet above sea level. The amount of radiation reaching the earth varies with time of day; 80% of rays strike the surface between 9 a.m. and 3 p.m. Also, the beam of sunlight can bounce off reflective surfaces. Persons sitting on concrete, sand, and snow get a double dose of ultraviolet radiation.

Persons must therefore take action to augment the variable shelter offered by Mother Nature. There are two routes of protection. *Physical barriers* include loose-weave cotton clothing, brimmed hats, and beach umbrellas. *Chemical sunscreens* are protection in a tube. Opaque sunscreens, such as zinc oxide, are effective but cosmetically unappealing. Clear lotions and oils disappear in seconds, and come in a wide range of protection levels. The key is to locate the sun protection factor (SPF) number displayed prominently on the bottle. The higher the number, the greater the protection. The number is actually a ratio of the time it takes for a burn to develop in protected versus un-

protected skin. For example, factor 15 (recommended by the Skin Cancer Foundation) allows the sunbather to stay safely in the sun 15 times longer than someone who is not wearing lotion.

Everyone should wear a sunscreen when they are outdoors. Outdoor workers, young children, and persons who have already had skin cancer are in special need of protection. Sunscreens should be reapplied liberally and frequently, especially after swimming or excessive sweating. Don't forget the tops of ears or bald scalps.

Photosensitivity

Sometimes, a little sun can do a lot of damage. *Phototoxicity* occurs when chemicals react aggressively with sunshine to cause an exaggerated sunburn. The reaction occurs immediately and on first exposure to the sun. Theoretically, the reaction will occur in anyone taking these drugs if they are exposed to a sufficient amount of light. A pharmacist will give a verbal and written warning to stay in the shade if the medication to be applied on the skin or taken internally reacts with sunlight. Common phototoxic medications include tetracycline and sulfonamide (antibiotics), some oral antidiabetic medications, thiazide (a diuretic), and antihistamines, certain dyes, and coal tar derivatives.

Photoallergy is a less common disorder. It occurs only in hypersensitive individuals who have an allergic reaction to a specific chemical. This reaction is triggered by sunlight, but only after repeated combinations of sun and drug. Even then, the severe itching and raw skin erupts 1 to 2 days after sun exposure. Common triggers include antibacterial cosmetics and soaps, perfumes, and even sunscreens. A dermatologist can identify the offending substance by placing a small amount on the skin and waiting for a reaction to occur. The only way to prevent the reaction is to remove the offending agent—or stay out of the sun.

Sunlight can also aggravate or initiate eruptions of certain disorders. (*Herpes simplex* is the virus responsible for unsightly cold sores on the lips and gums. The virus can lie dormant for years, but may flare up during times of stress—or after exposure to sun and wind.) *Lupus erythematosus* is an inflammatory disease of the connective tissues that causes fever, joint pain, and arthritis. Over 40% of all lupus patients are photosensitive, and break into a "butterfly rash" over the nose and cheeks after sun exposure. Light opaque clothing and broad-brimmed hats are mandatory summer garb for these patients.

Prickly heat

Babies are not the only ones to suffer the acute itching episodes of prickly heat. It occurs whenever blocked sweat glands trap perspiration in the skin. The resulting irritation (prickling) of the skin causes an itching, burning, pinhead-sized rash. The condition is usually seen in warm, humid weather, but can occur in cool weather if the patient is overdressed. (Many first-time parents inflict this dermatitis on their youngsters by bundling them tightly under layers of clothes and blankets.) Treatment involves cooling and drying the afflicted areas, and avoiding activities that induce sweating. Air conditioning and loose-fitting clothing are also helpful.

Poison plants

Poison ivy, oak, and sumac have a potent method for keeping intruders at bay. The plants exude a milky sap that causes an itchy, oozing rash in all but 15% of the population.

The plants are harmless if the noxious chemicals remain locked in the stems, leaves, berries, or roots. Bruising or breaking the greenery releases the demons. Contact with the offensive plants can be direct (touching the vine) or indirect (brushing up against a dog that has run through the foliage). People have even broken into a severe rash by breathing in the smoke of the burning weed. Poisonings are more common in the spring when leaves are tender and easily injured. The leathery leaves of summer are more immune to damage. In autumn, the foliage become less toxic as it falls to the ground. Yet the naked stalks of winter still contain the blackened, treacherous sap.

Treatment of *Rhus* dermatitis (named for the plant family) is to wash the afflicted area with water and mild soap. Do not scrub with a harsh detergent or take a hot shower, because this will only make matters worse. Scratching is taboo. This will only invite infection and spread the rash to other areas of the body. Instead, apply soothing calamine lotion. Antihistamine drugs will also relieve itching and help the victim sleep.

Recognition of the plant is the first step toward prevention of the itchy outbreak. *Poison ivy* is found throughout the United States, especially in the northeast. *Poison oak* is confined to the Pacific coast. These two plants sport 3 shiny leaflets on a stem, which gives rise to the folk warning, "Leaves three, let me be!" The plants complicate identification because they can grow as a plant, bush, or vine. *Poison sumac* grows on a bush in the swamps of the southern U.S., and has two rows of opposing leaflets topped by a single leaflet. Woodland

common sense will help prevent rhus dermatitis. When bashing about the woods, wear slacks and long-sleeved shirts.

Insects

Bugs have a more direct way of deterring unwanted guests—they bite. The most common backyard pests belong to the order *Hymenoptera*. These venomous flying insects include the honeybees, bumblebees, wasps, hornets, yellow jackets, and ants. These retiring insects attack en masse only if their nest is disturbed. A lone marauder will strike in self-defense. Leave them alone, and they will leave you alone. To reduce the likelihood of a chance meeting, avoid attractants such as ripe fruit, syrupy foods, and some perfumes.

A close encounter with these insects usually poses no serious risk. A single sting causes immediate pain, an angry red spot, and swelling. Multiple stings may induce itching, fever, hives, nausea, and wheezing. Remove the stinger with a knife blade or fingernail. Do not use forceps or tweezers because it forces more venom into the skin. Wash with soap and water, apply a cold compress, and take a few grains of aspirin to relieve pain. An antihistamine cream or lotion may help reduce itching.

In rare instances, a single sting can cause a life-threatening reaction. Within 15 minutes of being stung, persons who are allergic to hymenoptera venom may begin to cough and wheeze, swell, itch, develop stomach cramps, turn a peculiar shade of blue, and possibly lose consciousness. Victims should be taken to the hospital if symptoms worsen or if breathing becomes difficult. Persons who know that they are allergic should carry a bee sting kit of injectable epinephrine. They should also wear a tag that alerts others to their condition.

Spiders, scorpions, ticks, mites, and chiggers comprise another large group of venomous insects, the *Arachnids*. Americans need only be concerned about two members of the spider family. The *black widow* is found in every state except Alaska. It is readily identified by the red hourglass figure on the underside of the abdomen and, occasionally, 2 or 3 red marks along the midline. The predatory creature is found under stones, logs, and clumps of vegetation, but may also be found in such human niches as barns, outhouses, stone walls, and trash heaps. The initial bite is rather painless and nontraumatic. A pinprick sensation with slight redness and swelling may be noticed. Yet within 10 to 60 minutes, muscle spasms, headache, dizziness, difficulty in swallowing, nausea, vomiting, facial swelling, and drooping eyelids may develop.

Hospitalization may be required. Immediate first aid calls for local cleansing of the site, periodic application of ice packs, and a tetanus shot (if one is behind on his/her immunization schedule). Prescription narcotics may be necessary for pain control. Fortunately, most victims recover completely from the symptoms in a few days. Those in greatest danger of serious illness are young children, the elderly, and persons with hypertension.

The *brown recluse spider* is the other menace to Americans. Its original and most populous habitat is the mid-South and southern Midwest, but it has since migrated to all parts of the United States. The pale brown to reddish spider has a distinctive, dark violin-shaped marking on its abdomen. True to its name, the reclusive spider lives under stones or bark in dry environments. However, it readily adapts to human habitats. The spiders are not aggressive, but will strike if cornered. Many bites occur when reaching under rocks, or inadvertently trapping the creature behind beds, furniture, curtains, or in shoes and clothing.

A brown recluse spider bite is often so slight as to go unnoticed. This grace period does not last long. Within 1 to 4 hours, the victim will notice a painful reddish blister that soon adopts a "bull's-eye" appearance. During the next 3 to 6 days, the blister spreads and the skin deteriorates. Healing is slow and may leave a large scar. As a means of halting the spread of ulceration, some physicians recommend cutting away the diseased area if it grows to 1 centimeter in diameter. Corticosteroids may also be prescribed to control inflammation.

Despite its monstrous appearance, the *tarantula* is all bluff and bravado. Reports of this mild-tempered spider biting anyone are rare and not serious.

The *scorpion*, is more aggressive. The nocturnal creature strikes with its arching tail. Victims are often stung while putting on clothes, walking barefoot at night, or picking up objects on the ground. The incidence of stings in the Southwest peaks in May through August. The majority of stings are no more serious than that of a bee, and cause only pain and swelling. Treatment consists of immobilization of the affected area and periodic application of ice packs. Rarely, life-threatening allergic reactions may occur.

Unlike other arachnids, *ticks* and *chiggers* actively seek their human prey. These parasites must obtain a blood meal to graduate from one developmental stage to another. *Chiggers* are blood-sucking mites that lurk in grasses, shrubs, and vines of the Southern and Midwestern states. The tiny insects (only 1/100 of an inch) attach onto damp

places where clothing is tight, such as the beltline, ankle, and groin. Here they remain for 1 to 4 days until, satiated and engorged, they drop back into the bush. The bite causes a skin reaction that varies from person to person; some people will break into angry red hives while most others will develop an itchy, pimple-like lump. Medications include antihistamines to relieve itching and steroid creams to reduce irritation. Keeping the lawn trim and tidy also reduces the incidence of backyard bites.

Ticks are especially dangerous parasites. They can transmit viruses and bacteria that cause Rocky Mountain spotted fever, encephalitis, tick paralysis, or Lyme disease (a form of arthritis). The hard- or soft-bodied tick burrows its head and sucking mouthpiece into the skin, where it can remain for days unless removed. Favorite sites include the nape of the neck, the genitals, and the ankles. Traditional tick-removal methods include smothering the tick with petroleum jelly, fingernail polish, or 70% isopropyl (rubbing) alcohol, or inducing it to back off by holding a still-warm match stick or a cigarette to its back. However, a more reliable method seems to be steady, even pressure of tweezers or protected fingernails. Grasp the tick as close to the skin surface as possible and pull upward in a nonjerking manner. Do not squeeze the body because this will inject toxic stomach contents into the skin. After removal, wash the skin thoroughly with soap and water. Dispose of the tick by dousing it with rubbing alcohol or flushing it down the toilet. Hikers and campers should wear buttoned collars and long-sleeved shirts, and apply an arthropod repellent (diethyltoluamide or "DEET") to cuffs and exposed skin.

Swimming

The permanent residents of American waterways can cause trouble for human interlopers. *Swimmer's itch* is caused by a parasitic fluke of ducks and geese. Humans who wade or swim in shallow, sandy lakes in June and July serve as a handy substitute host for the water fowl. The red, itchy eruptions develop on skin that was submerged; areas covered by swimsuits are usually spared. Treatment consists of applying corticosteroid and antihistamine lotions. All swimmers should shower or rinse off the skin after a dip to help prevent the flukes from penetrating the skin.

The seas offer encounters with more venomous inhabitants. Portuguese man-of-wars are stinging jellyfish that patrol the semitropical Atlantic Ocean. Contact with the trailing, poisonous tenta-

cle causes stinging, burning, and itching in a whip-like pattern. The wound should be immediately rinsed in sea—not fresh—water. Liberal amounts of rubbing alcohol should then be poured over the area. Large tentacles can be removed by tweezers, while smaller stingers can be extracted by soothing on shaving cream and gently scraping with a razor.

Coral, sea anemones, sea urchins, and sting rays are other sea creatures that can inflict painful damage. The rule of the sea is to look, but don't touch!

The hallmarks of summer are sunshine, mild breezes, and wonderful trips. Yet, in excess, these same elements can cause sunburn, windburn, and prickly heat. Seasonal treks into the wilderness can also lead to itchy encounters with plants and insects.

Fortunately, many of these summertime complaints can be treated with simple at-home first-aid. Serious bites—or those that occur in allergic individuals—should be brought to the attention of your physician.

Do not let minor injuries spoil your summer. A healthy respect for the outdoors—plants, animals, and the elements—may stem injuries before they occur.

(All material in the Patient Health Guide is reviewed by JAOA referees.)

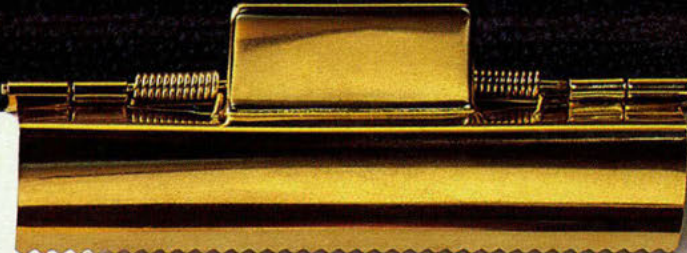
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Safety Highlights

from new research with h.s. dosing

Outstanding CNS safety profile

Based on a large U.S. study with h.s. dosing^{1,2*}

Less potential for theophylline interaction

Based on a pharmacokinetic study with normal subjects receiving Theo-Dur[®] 300 mg. b.i.d. and 'Tagamet' 800 mg. h.s. vs. 'Tagamet' 300 mg. q.i.d.³

Documentation of safety in older patients

Before prescribing, see complete prescribing information in SK&F LAB CO. literature or PDR. The following is a brief summary.

Based on a large U.S. study with h.s. dosing¹

Indications: 'Tagamet' (brand of cimetidine) is indicated in the short-term treatment of active duodenal ulcer, in maintenance therapy after healing of active duodenal ulcers; in the short-term treatment of active benign gastric ulcer, and in the treatment of pathological hypersecretory disorders (i.e., Zollinger-Ellison Syndrome, systemic mastocytosis and multiple endocrine adenomas).

'Tagamet' HCl (brand of cimetidine hydrochloride) may be administered parenterally to hospitalized patients with pathological hypersecretory conditions or intractable ulcers, or to patients who are unable to take oral medication.

Clinical studies have indicated that suppression of nocturnal acid is the most important factor in duodenal ulcer healing. 'Tagamet' 800 mg. h.s. is the regimen of choice for most patients for acute duodenal ulcer therapy, as it provides a high healing rate, maximal pain relief, a decreased potential for drug interactions, and maximal patient convenience. Other 'Tagamet' regimens in the U.S. shown to be effective are: 300 mg. q.i.d., with meals and at bedtime; and 400 mg. b.i.d., morning and bedtime.

In active duodenal ulcer, concomitant antacids should be given as needed for relief of pain; however, simultaneous administration is not recommended.

Contraindications: There are no known contraindications to the use of 'Tagamet'.

Precautions: While a weak antiandrogenic effect has been demonstrated in animals, 'Tagamet' has been shown to have no effect on spermatogenesis, sperm count, motility, morphology or in vitro fertilizing capacity in humans.

In a 24-month toxicity study in rats at dose levels approximately 9 to 56 times the recommended human dose, benign Leydig cell tumors were seen. These were common in both the treated and control groups, and the incidence became significantly higher only in the aged rats receiving 'Tagamet'.

Rare instances of cardiac arrhythmias and hypotension have been reported following the rapid administration of 'Tagamet' HCl (brand of cimetidine hydrochloride) injection by intravenous bolus.

Symptomatic response to 'Tagamet' therapy does not preclude the presence of a gastric malignancy. There have been rare reports of transient healing of gastric ulcers despite subsequently documented malignancy. Reversible confusional states have been reported on occasion, predominantly in severely ill patients.

'Tagamet' has been reported to reduce the hepatic metabolism of warfarin-type anticoagulants, phenytoin, propranolol, chlordiazepoxide, diazepam, lidocaine, theophylline and metronidazole. Clinically significant effects have been reported with the warfarin anticoagulants; therefore, close monitoring of prothrombin time is recommended, and adjustment of the anticoagulant dose may be necessary when 'Tagamet' is administered concomitantly. Interaction with phenytoin, lidocaine and theophylline has also been reported to produce adverse clinical effects.

However, a crossover study in healthy subjects receiving either 'Tagamet' 300 mg. q.i.d. or 800 mg. h.s. concomitantly with a 300 mg. b.i.d. dosage of theophylline (Theo-Dur[®], Key Pharmaceuticals, Inc.), demonstrated less alteration in steady-state theophylline peak serum levels with the 800 mg. h.s. regimen, particularly in subjects aged 54 years and older. Data beyond ten days are not available. (Note: All patients receiving theophylline should be monitored appropriately, regardless of concomitant drug therapy.)

*The most commonly reported adverse events were nausea, diarrhea, and headache; incidences were similar to those for placebo. Other adverse effects have been reported with 'Tagamet' therapy. Please see prescribing information for a complete description of precautions, adverse reactions, and drug interactions.

†theophylline anhydrous sustained action tablets/ Key Pharmaceuticals, Inc.

1. Data on file, Smith Kline & French Laboratories.
2. Sabesin, S., et al.: Postgrad. Med. [special report, interim data], pp. 43-46, Nov. 1985.
3. Seaman, J.J., et al.: Postgrad. Med. [special report], pp. 47-53, Nov. 1985.

Lack of experience to date precludes recommending 'Tagamet' for use in pregnant patients, women of childbearing potential, nursing mothers or children under 16 unless anticipated benefits outweigh potential risks; generally, nursing should not be undertaken in patients taking the drug since cimetidine is secreted in human milk.

Adverse Reactions: Diarrhea, dizziness, somnolence, headache, rash, gynecomastia. Reversible arthralgia, myalgia and exacerbation of joint symptoms in patients with preexisting arthritis have been reported. Reversible confusional states (e.g., mental confusion, agitation, psychosis, depression, anxiety, hallucinations, disorientation), predominantly in severely ill patients, have been reported. Reversible impotence in patients with pathological hypersecretory disorders receiving 'Tagamet', particularly in high doses, for at least 12 months, has been reported. Reversible alopecia has been reported very rarely. Decreased white blood cell counts in 'Tagamet'-treated patients (approximately 1 per 100,000 patients), including agranulocytosis (approximately 3 per million patients), have been reported, including a few reports of recurrence on rechallenge. Most of these reports were in patients who had serious concomitant illnesses and received drugs and/or treatment known to produce neutropenia. Thrombocytopenia (approximately 3 per million patients) and a few cases of aplastic anemia have also been reported. Increased serum transaminase and creatinine, as well as rare cases of fever, interstitial nephritis, urinary retention, pancreatitis and allergic reactions, including hypersensitivity vasculitis, have been reported. Reversible adverse hepatic effects, cholestatic or mixed cholestatic-hepatocellular in nature, have been reported rarely. Because of the predominance of cholestatic features, severe parenchymal injury is considered highly unlikely. A single case of biopsy-proven periportal hepatic fibrosis in a patient receiving 'Tagamet' has been reported.

How Supplied: Tablets: 200 mg. tablets in bottles of 100; 300 mg. tablets in bottles of 100 and Single Unit Packages of 100 (intended for institutional use only); 400 mg. tablets in bottles of 60 and Single Unit Packages of 100 (intended for institutional use only); and in 800 mg. Tillab[®] tablets in bottles of 30 and Single Unit Packages of 100 (intended for institutional use only).

Liquid: 300 mg./5 mL, in 8 fl. oz. (237 mL) amber glass bottles and in single-dose units (300 mg./5 mL), in packages of 10 (intended for institutional use only).

Injection:

Vials: 300 mg./2 mL in single-dose vials, in packages of 10 and 30, and in 8 mL multiple-dose vials, in packages of 10 and 25.

Pre-filled Syringes: 300 mg./2 mL in single-dose pre-filled disposable syringes.

Plastic Containers: 300 mg. in 50 mL of 0.9% Sodium Chloride in single-dose plastic containers, in packages of 4 units. No preservative has been added.

ADD-Vantage[®] Vials: 300 mg./2 mL in single-dose ADD-Vantage[®] Vials, in packages of 25.

'Tagamet' HCl (brand of cimetidine hydrochloride) injection premixed in single-dose plastic containers is manufactured for SK&F Lab Co. by Travenol Laboratories, Inc., Deerfield, IL 60015.

*ADD-Vantage[®] is a trademark of Abbott Laboratories.

BRS-TG-L72

Date of issuance Mar. 1987

For acute duodenal ulcer
Tagamet[®]
brand of
cimetidine **800** mg
tablets **hs**