

Bulletin No. 17
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Spider Bites in Alaska

Every year the Section of Epidemiology hears about a small (generally five or fewer) number of Alaska residents who believe they have been bitten by spiders. Nearly all are from Anchorage, the Kenai Peninsula, or the Mat-Su Valley. Most bites have been relatively minor and resolved without any specific treatment. A few of the reports have been of more serious problems such as necrotic lesions requiring skin grafting. The purpose of this *Bulletin* is to summarize what is known about spiders in Alaska and spider bites.

Spiders are not inherently aggressive but will bite when threatened, for example, if trapped between clothing and a person's skin. Spider bites are rarely witnessed. Most often a skin lesion is discovered with an appearance that is compatible with a spider bite (as well as other arthropod bites or minor skin irritations). While a bite from any spider might cause a localized inflammatory reaction with some tissue damage, for the most part, the resulting lesion is not extensive (1). Often lesions diagnosed as spider bites result from another cause and conversely, lesions actually caused by spider bites could be misclassified. Therefore, very little accurate data exist on the incidence or outcomes of spider bites. In most cases, confirming the diagnosis and identifying the biting spider are not necessary, because the majority of spider bites require only symptomatic treatment.

Nearly all spiders possess venom of some sort, and therefore could be considered "venomous." In this *Bulletin*, "venomous" spiders refer to those possessing venom capable of causing medical problems for humans.

Naturally occurring spiders in Alaska

Multiple families of spiders naturally occur in Alaska. The most common biting spiders in Southeastern Alaska are from the genus *Callobius*. Bites from these spiders cause immediate pain and swelling which generally subsides within a few hours. **Seriously venomous spiders do not occur in Alaska: these include those from the *Loxosceles* (recluse) and *Latrodectus* (widow) genera which can cause severe local as well as systemic effects.**

The Hobo spider

The only major venomous spider possibly found in Alaska is the hobo spider, *Tegenaria agrestis*, which was introduced from Europe to the Pacific Northwest in the 1930s. While the range of the hobo spider could extend into the Alaska panhandle (2), the hobo spider has never been positively identified anywhere in Alaska.

Sexually mature hobo spiders are common mid-summer through fall, at which time males wander in search of females who usually remain near their webs. Hobo spiders are rarely found above ground or basement level. Males are more venomous than females (3). Although both sexes will bite, males are more often implicated in bites as they are more active and therefore more likely to come into contact with humans.

Hobo spider bites can cause serious tissue necrosis and, in rare instances, severe and even fatal sequelae. Venom is injected in only about 50% of bites. Bites from these spiders are usually painless and initially form an expanding erythematous ring that may reach up to 15 cm in diameter. Blisters form around the lesion within 15-35 hours, and subsequently rupture producing a serous exudate that crusts around the crater wound. Underlying necrosis and sloughing of affected skin usually causes significant scarring with most wounds healing by 45 days. Bites can induce systemic symptoms, ranging from a persistent headache (the most common) to severe blood dyscrasias.

No consensus treatment protocols exist. Generally, treatment of hobo spider bites involves local wound care, monitoring for systemic effects, and review of tetanus vaccination status (4). Antibiotics may be indicated should secondary infection arise. Serial photographs of extensive lesions should be taken to record changes over time. Bites inducing systemic effects might necessitate the use of systemic corticosteroids as well as transfusions of blood products.

Pet spiders

State regulations prohibit persons from possessing, importing, releasing, exporting or assisting with any of these activities of spiders without an appropriate permit (5 AAC 92.029).

Preventive measures

Measures to reduce exposure to spiders are the most efficient and effective methods of avoiding spider bites. Personal protection includes using gloves or other protective clothing that covers skin while working in crawl spaces and similar locations, and when retrieving firewood or objects stored in potentially infested areas. Prior to use, shaking out clothes, shoes, and other items that have been stored is also prudent. Screens on basement and ground-floor windows and insulation strips under doors may reduce the risk for spider infestation. To prevent spiders from gaining access to beds, bedspreads should be kept at least 4 inches above the floor.

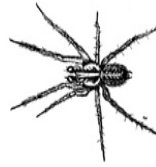
Further information about spider-proofing homes is available from the Alaska Co-operative Extension at 907-786-6300.

Summary

Necrotic lesions with a history compatible with that of a spider bite should prompt health care providers to:

- 1) Contact Poison Control at 261-3193 (in Anchorage or 1-800-478-3193 outside the city); or Dr. Michael Callahan, Envenomation Consult Service, mica@rescuemedicine.com for assistance in treating spider bites;
- 2) If the suspected spider is available (place in alcohol if possible), contact Alaska Co-operative Extension at 907-786-6300; or Rod Crawford at the Burke Museum in Seattle, WA at 206-543-9853 or tiso@u.washington.edu for assistance in identifying the spider. Accurate identification of spiders is difficult and requires microscopic examination of various anatomic parts by an expert. Color or body markings alone cannot be used to definitively identify the species of a spider.

Tegenaria agrestis, the hobo spider, actual size approximately 2-4 cm. Numerous other species of spider share this appearance. Drawing by Amy Ransom Arnold, courtesy of Burke Museum of Natural History and Culture, (c) 1988.



References

1. Blackman JR. Spider bites. J Am Board Fam Prac. 1995;8(4):288-94.
2. CDC. Necrotic arachnidism - Pacific Northwest, 1988-1996. MMWR 1996;45(21): 433-36.
3. www.hobospider.org
4. Koh WL. When to worry about spider bites. Postgrad Med. 1998;103(4):235-44; 249-50.

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