

Insect bites and stings

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Insect bites and stings



Aedes aegypti, the yellow fever mosquito, biting

Classification and external resources

Specialty emergency medicine

ICD-10 T14.1
(<http://apps.who.int/classifications/icd10/browse/2016/en#/T14.1>),
X23-X25, W57

ICD-9-CM 919.4 (<http://www.icd9data.com/getICD9Code.ashx?icd9=919.4>),
989.5 (<http://www.icd9data.com/getICD9Code.ashx?icd9=989.5>),
E905.3 (<http://www.icd9data.com/getICD9Code.ashx?icd9=E905.3>), E905.5
(<http://www.icd9data.com/getICD9Code.ashx?icd9=E905.5>),
E906.4 (<http://www.icd9data.com/getICD9Code.ashx?icd9=E906.4>)

MedlinePlus 000033 (<https://medlineplus.gov/ency/article/000033.htm>)

MeSH D007299 (https://www.nlm.nih.gov/cgi/mesh/2017/MB_cgi?field=uid&term=D007299)

Insect bites and stings occur when an insect is agitated and seeks to defend itself through its natural defense mechanisms, or when an insect seeks to feed off the bitten person. Some insects inject formic acid, which can cause an immediate skin reaction often resulting in redness and swelling in the injured area. Stings from fire ants, bees, wasps and hornets are usually painful, and may stimulate a dangerous allergic reaction called anaphylaxis for at-risk patients, and some wasps can also have a powerful bite along with a sting. Bites from mosquitoes and fleas are more likely to cause itching than pain.

The skin reaction to insect bites and stings usually lasts for up to a few days. However, in some cases the local reaction can last for up to two years. These bites are sometimes misdiagnosed as other types of benign or cancerous lesions.^[1]

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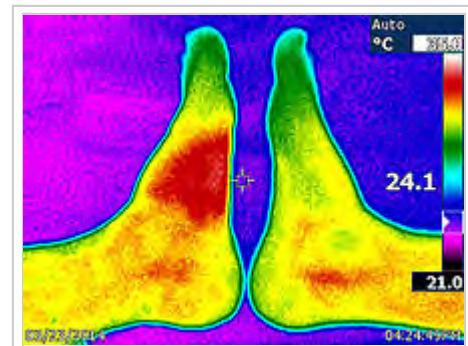
Signs and symptoms

The reaction to a sting is of three types. The normal reaction involves the area around the bite with redness, itchiness, and pain. A large local reaction occurs when the area of swelling is greater than 5 cm. Systemic reactions are when symptoms occur in areas besides that of the bites.^[2]

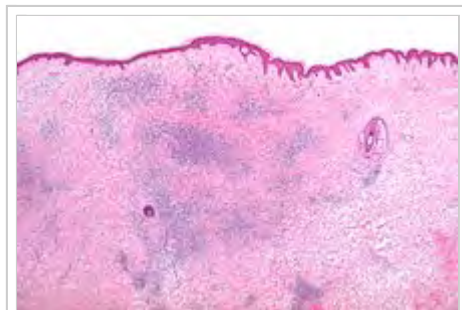
With insect stings a large local reaction may occur (an area of skin redness greater than 10 cm in size).^[3] It can last one to two days.^[3] It occurs in about 10% of those bitten.^[4]

Feeding bites

Feeding bites have characteristic patterns and symptoms, a function of the feeding habits of the offending pest and the chemistry of its saliva.



The left side of the image is showing the temperature increase caused by an insect bite after about 28 hours.



Low-magnification micrograph showing wedge-shaped perivascular inflammation (superficial dermal perivascular lymphoeosinophilic infiltrate), the histomorphologic appearance of an insect bite (H&E stain).

Pest	Preferred body part	Felt at time of bite	Reaction
mosquitoes	exposed appendages	often	Low raised welt, itches several hours.
midges and no-see-ums	exposed appendages	usually	Itches several hours.
fleas	prefer ankles and bare feet	usually	May make red itchy welt; several days. Later bites are less severe.
biting flies (Tabanidae)	any exposed skin	painful and immediate	Painful welt, several hours.
bed bugs	appendages, neck, exposed skin	usually not	Low red itchy welts, usually several together resembling rash, slow to develop and can last weeks.
lice	pubic area or scalp	usually not	Infested area intensely itchy, with red welts at bite sites.
larval ticks	Anywhere on body, but prefer covered skin, crevices.	Usually not; may be scratched off before they are seen.	Intensely itchy red welts lasting over a week.
adult ticks	covered skin, crevices, entire body	usually not	Itchy welt, several days. May transmit diseases

Microscopic appearance

The histomorphologic appearance of insect bites is usually characterized by a wedge-shaped superficial dermal perivascular infiltrate consisting of abundant lymphocytes and scattered eosinophils. This appearance is non-specific, i.e. it may be seen in a number of conditions including:^[5]

- Drug reactions,
- Urticarial reactions,
- Prevesicular early stage of bullous pemphigoid, and
- HIV related dermatoses.

See also

- List of biting or stinging arthropods
- Spider bite
- Insect bite relief stick
- Schmidt Sting Pain Index
- Bee sting
- Allergy

References

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4. Maynard, Robert J. Flanagan, Alison L. Jones ; with a section on antidotes and chemical warfare by Timothy C. Marrs and Robert L. (2003). *Antidotes*. London: Taylor & Francis. p. 118. ISBN 9780203485071. Retrieved 7 June 2016.
5. Alsaad, KO.; Ghazarian, D. (Dec 2005). "My approach to superficial inflammatory dermatoses.". *J Clin Pathol*. **58** (12): 1233–41. doi:10.1136/jcp.2005.027151. PMC 1770784 [g](#). PMID 16311340.

External links

- **Venomous Arthropods**
(http://entomology.ifas.ufl.edu/fasulo/vector/chapter_07.htm) chapter in United States Environmental Protection Agency and University of Florida/Institute of Food and Agricultural Sciences National Public Health Pesticide Applicator Training Manual

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