Caterpillar dermatitis
A chest radiograph is reasonable if the patient has significant respiratory symptoms.

Lab findings including restlessness, lymphangitis, lymphadenopathy, muscle spasms, and wheezing are seen. Opochalrane vesicles, bulla, and pseudoparalysis of the extremity are caused by pain. Following retinochoroiditis, Intracranial bleeding and acute renal failure are possible complications. Coagulopathy can last 8-72 h and bleeding from any of a number of sites (e.g., gingival bleeding, hematuria) may occur within 2 hours. These complaints include headache, dizziness, restlessness, nausea, and vomiting. Exceptional cases, altered mental status. Systemic symptoms usually resolve in 24 hours. (pseudoparalysis). Redness and swelling with slight bruising may occur at the site. Over the first hour, redness. Visual acuity can be reduced as inflammation progresses. In the skin, diffuse vascular dilatation occurs, with subsequent edema formation in the superficial dermis and ballooning of keratinocytes within the epidermis that can lead to vesiculation. In the eye, hairs have a remarkable penetrating capacity and may work their way directly or following aerosolization. Diaz classifies the diseases caused by caterpillars into 5 groups: erucism, lepidopterism, arachnism, dermatitis caused by spiders, and ornithosis.

Laboratory Studies

Laboratory studies are generally not required for caterpillar stings unless evidence of coagulopathy is present.

- CBC count
- Coagulation studies
- Prothrombin time (PT)
- Activated partial thromboplastin time (aPTT)
- Fibrinogen level
- Fibrin degradation products
- D-dimer assay
- Urine bedside test for blood

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Prehospital Care

- The involved skin should be immediately washed with soap and water, and dried without contacting the skin (eg, use a hair dryer).
- Local cooling measures can be applied to reduce pain. This may be enhanced by applying topical isopropyl alcohol or ammonia.
- Following ocular exposure, the eyes should be irrigated immediately with copious water.
- Following dermal exposure to irritant or toxic hairs or setae of caterpillars or moths, sticky tape (especially duct tape) can be applied to the site in an effort to remove retained setae. Alternative effective methods of removal include use of rubber cement, clear fingernail polish, or facial peels (each applied, allowed to dry, then peeled away).
- If acute symptoms follow respiratory exposure, supportive care is in order as necessary, including oxygen, antihistamines, and beta-agonist inhalers, if available.
- Anaphylaxis should be treated in standard fashion.
- Following caterpillar stings, the extremity should be splinted and elevated, and ice should be applied to reduce pain.
- Any potentially constrictive jewelry should be removed before swelling progresses.

Emergency Department Care

- Wash the skin with soap and water as mentioned above if this has not already been done in the field.
- Ensure appropriate tetanus immunization status.
- Treat skin exposure as follows:
  - Apply sticky adhesive tape (especially duct tape) to the site to remove all remaining hairs or spines possible. Other measures of removal as described previously for prehospital care can also be tried.
  - Acute dermatitis can be treated with antihistamines (H1 and/or H2 blockers), although their efficacy is controversial. Additionally, topical steroids may be employed. Systemic steroids may be necessary in patients with severe or persistent cutaneous symptoms. Application of antipruritic products containing menthol may be soothing.
  - Prostaglandin-synthetase inhibitors, such as aspirin or indomethacin, have been reported to reduce associated discomfort, but should be avoided if any evidence of coagulopathy is present.

- Treat respiratory exposure as follows:
- Symptoms can be managed with antihistamines (H1 and/or H2 blockers) and beta agonist
aerosols/inhalers if wheezing is present.
- If significant symptoms occur, supplemental oxygen administration may be needed, and systemic steroids may be useful.

- Treat ocular exposure as follows:
  - Instill a topical anesthetic and irrigate the eyes immediately with copious saline.
  - Perform a slit lamp examination with fluorescein. The patient should receive close ophthalmologic follow-up care to rule out retained setae or hairs.
  - Eye complications resulting from a retained migrating hair can be severe, and surgical removal may be necessary.

- Treat stings as follows:
  - Management is primarily symptomatic and supportive. Splint and elevate the involved extremity; ice can be applied to reduce pain and swelling. Efforts, as outlined above, should be instituted to remove any retained spines or hairs.
  - Narcotic analgesics may be required for pain relief. Anecdotal reports exist of the successful use of calcium gluconate (eg, 10 mL of a 10% solution by slow intravenous [IV] administration) to relieve muscle pain following *M. opercularis* stings. Antihistamines (H1 and/or H2 blockers) may reduce concomitant pruritus.

- Treat rare cases of caterpillar or moth-related anaphylaxis in standard, aggressive fashion, including airway management, epinephrine, oxygen, antihistamines, steroids, IV fluids, and vasopressors as needed.

Epinephrine and systemic antihistamines (eg, diphenhydramine, cimetidine), topical or systemic steroids, menthol-containing creams, and prostaglandin-synthetase inhibitors, such as aspirin and indomethacin, all may be beneficial in treating dermatitis. Rhinitis resulting from respiratory exposure may respond to antihistamines and systemic steroids. These are also useful for lower respiratory symptoms. Beta-agonist aerosols or inhalers (eg, albuterol) may be beneficial for wheezing. Analgesics may be required for caterpillar stings. The choice of agent should depend on the severity of symptoms. Mild cases may be treated adequately with oral opiates such as hydrocodone or oxycodone, while more severe pain initially may require parenteral agents such as morphine sulfate.

Stings by the South American *Lononmia* species, which can cause consumptive coagulopathy with hemorrhagic diathesis and acute renal failure, may be treated with antifibrinolytics. If blood products are required, they must be given cautiously to avoid feeding fuel to an on-going consumptive coagulopathy. An antivenom against this species has been produced in Brazil.