

Black Widow Spider Bites

Black widow spiders (*Lactrodectus mactans*) inhabit much of the United States, including Maryland. Each year, the Maryland Poison Center is consulted on 10-20 black widow spider bites, many of which are treated at home.

Black widow spiders are nocturnal, non-aggressive, and are often found in plants, debris piles, woodpiles and under rocks. They are easily identified; the adult female spider is shiny black with a red (sometimes yellow or orange) hourglass marking on the underside of her globose abdomen. The body is about 0.5 inches long with a spread (including legs) of 1.5 inches. The adult male is half the size of the female and has red or yellow bands or spots on its back. Only bites from females result in toxic effects.



Although the venom is very potent, bites from black widow spiders are not deadly because only a minute amount of toxin is delivered. The venom consists of several proteins and enzymes that cause neurologic and autonomic effects. Cation channels (including calcium channels) open presynaptically causing an increase in the release and depletion of neurotransmitters. As a result, excess stimulation of motor endplates occurs. There is little or no pain initially. Muscle pain and cramps begin near the site within 30-120 minutes, then spread to large muscle groups including the abdomen, back, thigh, and chest. Fasciculations and rigidity often occur. Mild tachycardia and hypertension are often present, as well as weakness, hyperreflexia, headache, nausea, diaphoresis, excessive salivation and difficulty breathing.

Many patients are treated at home with local wound care, analgesics (opioids) and muscle relaxants (benzodiazepines). Antivenin (*Lactrodectus mactans*) is available but reserved for patients with life-threatening effects (usually children, the elderly or those with medical conditions such as cardiac disease) or symptoms not relieved by opiates or muscle relaxants.

DID YOU KNOW THAT... Black widow spiders have been found in grapes?

Black widow spiders are sometimes found in vineyards and have made their way into grapes sold in supermarkets. There have been incidents of black widow spiders found in grapes sold in Seattle (2005) and Massachusetts (2004). In August 2006, a resident of Baltimore County was bitten by a black widow spider that was found in a bag of grapes purchased at a local grocery store.



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