

# School Health Guide

Common Animal & Arthropod-borne Diseases



Maricopa County  
Public Health  
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# Animal Bites

## Background:

Most wild animals tend to avoid humans, but they can bite if they feel threatened, are protecting their young or territory, are injured or ill, or if people attempt to approach or feed them. Although bites by wild animals can be more dangerous, bites by domestic animals are far more common. Animals' saliva can be heavily populated with harmful bacteria and secondary infections of wounds often occur. In addition, animals can transmit zoonotic infections such as rabies (**See: [Bats and Rabies for more Rabies Information](#)**), tetanus, hantavirus, etc. Children are more likely to be bitten by animals and can sometimes sustain severe injuries because of their love of animals and inherent curiosity. In a school setting, bites most frequently involve classroom pets; however, bites can also occur from stray pets or wild animals on campus, especially bats, or an animal being brought to school by a student.

### Common Classroom Pets

- Rodents (hamsters, rats, gerbils, mice)
- Reptiles (lizards, snakes, turtles)
- Amphibians (frogs, toads)
- Rabbits
- Fish

None of these caged animals pose any rabies risk. The likelihood of a cat or a dog being infected with rabies in Maricopa County is low- the last known rabid dog was documented in 1978. However, if any animal is displaying the possible neurological signs of Rabies (*See: [Signs and Symptoms](#)*) it's important to call the MCDPH 24/7 Rabies Hotline (**602 747-7111**) to receive a risk assessment.

## Disease Risk:

Bacterial infection at the wound site is the most common complication that can occur from a bite. Therefore, it is important to practice proper wound care in addition to ensuring Tetanus vaccinations are up-to-date. For other potential disease risks involved with wild animals see [Appendix C](#).

## Transmission:

### Possible Bite Scenarios

There are multiple ways that a student can be experience an animal bite, with a few common examples being:

- Picking up or trying to "rescue" a sick or wounded animal
- Trying to interact with wild or stray animals on their way to/from school or on campus grounds
- Bringing an animal from home onto school grounds
- Improperly handling or hurting classroom pets

<b>Incubation Period:</b>	Due to the wide variety of complications and infections that can result from an animal bite, symptoms can occur immediately or several months after the bite.
<b>Signs and Symptoms:</b>	<p>If a <b>cat</b> or a <b>dog</b> is exhibiting any of the following symptoms and bites a student, it's important to get a rabies risk assessment from MCDPH's 24/7 Rabies Reporting Hotline <b>**(602) 747-7500**</b>, in addition to reporting the bite to the appropriate Animal Control Office (<i>See Reporting Requirements</i>).</p> <p><b>Possible Neurological Symptoms</b></p> <ul style="list-style-type: none"><li>• Change in behavior</li><li>• Lethargy</li><li>• Jaw paralysis</li><li>• Uncontrollable behavior</li><li>• Extremely mean &amp; aggressive (ex. Biting at objects)</li></ul> <p><b>Rodents</b> (hamsters, rats, gerbils, mice) are extremely unlikely to host the rabies virus. However they are capable of transmitting other harmful viral and bacterial agents through their bite. As such, it is important to practice proper wound care and sanitation (<i>See Prevention</i>).</p> <p>Any <b>wild animal</b> (coyote, javelin, skunk, fox) is capable of being hosts for rabies, so if a student comes in direct contact with one and the animal is unable to be tested, it is recommended to contact MCDPH's 24/7 Rabies Reporting Hotline.</p>
<b>Prevention:</b>	<p>The most important prevention for animal bites is educating the students on the following topics:</p> <ul style="list-style-type: none"><li>• Avoiding contact with wild animals or animals they are unfamiliar with</li><li>• Avoid trying to "rescue" smaller wild animals</li><li>• Avoid provoking or scaring dogs or cats</li><li>• If a student encounters a wild animal on campus, notify a teacher immediately</li></ul> <p>In addition to education, students should be under constant supervision when handling a classroom pet in order to protect themselves from provoking the animal to bite, but also so that they can avoid a potential <i>Salmonella</i> exposure (<i>See Salmonellosis: Classroom Pets</i>). Students' vaccinations should also be up to date.</p>

## Reporting Requirements:

Report **any** dog or cat bites to the appropriate municipal animal control office:

Avondale Animal Control – **(602) 506-7387**

Mesa Animal Control – **(480) 644-62268**

Peoria PD/AC – **(623) 773-8311**

Surprise PD/AC- **(623) 222-4000**

Wickenburg – **(928) 684-5411**

All other dog or cat bites not covered by one of the cities listed above:

Maricopa County Animal Care and Control (MCACC) – **(602) 506-7387**

For **horse** or **livestock** issues:

Arizona Department of Agriculture, State Veterinarian's Office – **(602) 542-4923**

For **venomous** animal bites:

Banner Poison Control Center – **(602) 253-3334**

National Poison Control Hotline – **(800) 222-1222**

For any **wildlife** animal issues:

Arizona Game and Fish, Phoenix Office – **(602) 942-3000**

**If a student is bitten by a wild animal, or a domestic animal that is exhibiting neurological signs of rabies, call MCDPH's Rabies Hotline**

**\*\* (602) 747-7500 \*\***

## Resources:

**Helpful websites/documents:**

- [MCACC Online Reporting](#)
- [Animal Bite Prevention for Kids](#)
- [CDC - Healthy Pets](#)

# Bats and Rabies

## Background:

**Rabies** is a preventable viral disease that is most often transmitted to humans through the bite of a rabid animal. The rabies virus infects the central nervous system of mammals, traveling to the brain and eventually causing death. In humans, once we start to show neurological signs of the disease, death occurs within a few days. Fortunately, rabies surveillance and prompt preventative treatment has been drastically improved. The number of rabies-related human deaths in the United States has decreased from 100+ annually in 1900, to now only around 2-3 each year.

In Arizona, the principal rabies hosts are bats, skunks and foxes. Of the 118 animals that tested positive for rabies from 2003-2013 in Maricopa County, 105 (89%) were bats. Fortunately, it's estimated that less than 1% of free-flying bats in the United States are actually infected with the rabies virus. Bats are normally docile, nocturnal mammals, and rabies exposures usually happen when people try to pick up or handle sick or dead bats. A bat that is grounded and unable to fly or is active during the day can be signs of a possible rabies infection.

Bat exposure incidents on school campuses occur frequently as bats may roost around buildings, grounded bats may be found on campuses, or live or dead bats may be brought by students for show and tell.

When a bat is found or brought to a campus, it poses a serious health threat and all bat related incidents must be dealt with carefully. It's important to understand safe handling protocol and who to contact when a student or faculty is exposed to a bat.

## Disease Risk:

If a human becomes **infected** with the rabies virus, and does **not** receive timely and proper treatment, once they start to develop symptoms, the outcome is almost always fatal.

## Transmission:

The rabies virus is transmitted to humans when we come in contact with the **saliva, brain or nervous tissue** of a rabid animal. This kind of exposure may include:

- Bite
- Touching the animal's mouth or head
- Mucous membranes (eyes, nose, mouth)
- Open wounds
- Scratch

The most common way a person is exposed to the rabies virus is from the **bite** of a rabid animal. Since rabies

<b>Transmission:</b>	is a neurotropic (nervous tissue “loving”) virus, contact to the <b>blood, urine or feces</b> is not considered an exposure. A bat bite may go undetected therefore handling of the bat’s mouth or head with bare hands should be assessed by the MCDPH 24/7 Rabies Hotline ( <b>602-747-7111</b> )
<b>Incubation Period:</b>	In humans, the rabies virus has a variable incubation period, ranging from weeks to months. Once the symptoms start, the outcome is almost always fatal.
<b>Signs and Symptoms:</b>	Due to the neural effects of the rabies virus, rabid bats are prone to irregular activities (being grounded, displaying activity during the day time, clinging to a wall, etc.). However, they can appear normal but still be infected with the rabies virus.
<p><b>Prevention:</b></p> <p>Rabies can be easily prevented by educating students on avoiding contact with bats and knowing the protocol of bat reporting. Every year, there are reports of students finding bats on school grounds and bringing bats in for show-and-tell. Thus, it is essential that students understand the risk that this can pose.</p> <p><b>Educate students</b></p> <ul style="list-style-type: none"> <li>• Instruct students to avoid all contact with wild animals or bats and explain the risk that rabies can pose, even if the animal appears ill and may need to be “rescued”</li> <li>• Advise them to report any wild or strange animals to a teacher</li> </ul> <p><b>Bat in a Classroom</b></p> <ul style="list-style-type: none"> <li>• Safely remove students from the area, taking notes of each so that they can be individually assessed and interviewed</li> <li>• Notify proper school authorities to capture the bat (see below for instructions)</li> </ul> <p><b>Grounded Bat on Campus</b></p> <ul style="list-style-type: none"> <li>• Safely remove students from the area. Interview the students to see if they, or anyone else, may have had any contact with the bat- assure them that it is not intended as punishment but rather for their safety. <b>**See Note**</b></li> <li>• Notify proper school authorities to capture the bat (see below for instructions)</li> </ul> <p><b>Roosting Bats on Campus</b></p> <ul style="list-style-type: none"> <li>• If bats are found roosting in an area that a large number of students have access to, notify Arizona Game and Fish Department at (602) 942-3000</li> </ul> <p>If a bat is found and captured on the campus, it is vital that you notify MCDPH so that the bat is sent to the <b>Arizona State Public Health Laboratory (ASPHL)</b> for rabies testing.</p> <p><b>**Note:</b> It is not unusual for exposed students to deny any bat contact, especially if it might mean getting rabies shots. It is best to not mention anything about rabies shots when interviewing students.</p>	

<b>Reporting Requirements:</b>	Since any bat can potentially be a reservoir or host for the rabies virus, its essential that any contact a student has with a bat be reported immediately to MCDPH at <b>(602) 747-7500</b>	
<b>Comments:</b>	<p><b>How to Capture a Grounded Bat</b></p> <p>If a bat is found on campus and it is unknown if any exposures occurred, it is important to capture it safely.</p> <ol style="list-style-type: none"> <li>1. Cover up any exposed skin on your hands by wearing large leather gloves.</li> <li>2. Use a box/trash bin and place over the bat, preventing it from escaping.</li> <li>3. Slide a piece of cardboard underneath the box/bin so that it does not escape when the bin is lifted.</li> <li>4. Call MCDPH at <b>(602) 747-7500</b> so that we can arrange for a pick up, and get the bat submitted to ASPHL.</li> </ol>	
<b>Resources:</b>	<p><b>Helpful Websites:</b></p> <p><a href="#">MCDPH Rabies Resources</a>  <a href="#">Bats in Schools</a></p> <p><b>Educational Material:</b></p> <p><a href="#">ADHS- Bats on School Resources</a>  <a href="#">ADHS – Bats on School Video</a></p>	<p><b>Contact Information</b></p> <p>Rabies Reporting - (602) 747-7500</p>

# Salmonella

## *Classroom Pets*

<p><b>Background:</b></p>	<p><b>Salmonellosis</b> is a bacterial disease which usually manifests as enterocolitis – an inflammation of the digestive tract. In some cases, the infection can spread to the bloodstream where it can cause further infections if not properly treated. While the majority of <i>Salmonella</i> infections occur from improperly prepared food, pocket pets and reptiles can also be a potential exposure risk. Every year, Salmonella is estimated to cause 1.4 million illnesses in the U.S. of which approximately 400 are fatal. Approximately 6% of Salmonellosis cases are estimated to be acquired from reptile or amphibian contact.</p> <p>Pocket pets (hamsters, gerbils, mice, rats, hedgehogs), reptiles (lizard, turtle, snakes) and poultry (chicks, ducks) can be potential hosts for <i>Salmonella</i> bacteria, and can be actively shedding the bacteria through their feces/urine without showing any symptoms of infection. It is estimated that more than 85% of reptiles carry <i>Salmonella</i> in their intestinal tract. Anything that the pet comes in contact with can also be a source of contamination. This can include, but is not limited to: the cage itself, food/water bowl, pet toys, cage decorations, the area the pet is bathed, etc. <i>Salmonella</i> bacteria can live on objects for months, it's important to practice proper sanitation techniques (<i>See Prevention</i>).</p> <p>Due to the <b>high</b> likelihood that a reptile is shedding <i>Salmonella</i>, it is recommended that they not be used as classroom pets, except in properly equipped classrooms and under supervised conditions. Reptiles are not recommended in any in a classroom with students who are less than 5 years of age, as young children are more susceptible to severe <i>Salmonella</i> infections.</p>
<p><b>Transmission:</b></p>	<p>Ingestion of <i>Salmonella</i> bacteria in raw or undercooked food, food or food preparation areas that become contaminated from animal sources, or through ingestion after handling animals that commonly carry and shed Salmonella.</p>
<p><b>Incubation Period:</b></p>	<p>Can range anywhere from 6 – 72 hours, but typically 12 – 36 hours after exposure.</p>
<p><b>Signs and Symptoms:</b></p>	<p>Sudden onset of abdominal pain, headache, fever, diarrhea, nausea and sometimes vomiting. Illness commonly lasts 4-7 days, and most persons recover without treatment. Small children (&lt;5 years) are more prone to dehydration, and suffer more severe symptoms if infected.</p>
<p><b>Prevention:</b></p>	<p>Due to the high risk for <i>Salmonella</i> contamination that reptiles and pocket pets pose to students, it's important to practice safe handling techniques, and to understand risk factors associated with owning a pocket pet.</p>

	<ul style="list-style-type: none"> <li>• Teachers should supervise animal handling and care activities, especially for younger students. Pets that commonly carry <i>Salmonella</i> bacteria are not appropriate pets for kids &lt; 5 years and are not appropriate for any person who is immunocompromised.</li> <li>• Avoid kissing or bringing the pet near to one’s mouth.</li> <li>• Wash hands immediately after any contact with animals, cages and pet accessories.</li> <li>• Sinks with running water and soap should be accessible in the room. Hand sanitizer is also an option.</li> <li>• Do not allow pets to roam freely around the room.</li> <li>• Do not allow food and drink in the pet care areas. Similarly, do not allow pets in rooms where food and drink are prepared and served.</li> <li>• Keep pets and cages clean and free of parasites. Frequently change and dispose of pet bedding.</li> <li>• Wet disinfect all surfaces that may be contaminated by pet contact, urine or feces.</li> <li>• Keep pets healthy and obtain appropriate veterinary care if needed. Relocate (out of classrooms) any pets that show signs of illness.</li> </ul>
<p><b>Reporting Requirements:</b></p>	<p>Cases of Salmonellosis are reportable to public health entities. Outbreaks of salmonella are investigated by public health and environmental services officials to identify sources of infection. The disease reporting line for Maricopa County Department of Public Health is <b>(602) 506-6767</b>.</p>
<p><b>Comments:</b></p>	<p>Salmonella is not the only infection that can be acquired from classroom pets. Other disease risks include (<a href="#">See Appendix C</a>)</p>
<p><b>Resources:</b></p>	<p><a href="#">CDC - Guide to Pocket Pets</a> <a href="#">CDC - Guide to Reptiles</a></p>

# Bed Bugs

<b>Background:</b>	<p>Bed bugs are blood feeding insects that were nearly eradicated in the U.S. many decades ago through the use of effective pesticides. They are now making a dramatic comeback due to loss of effective pesticides, pesticide resistance and changes in pest control methods. Bed bug infestations are being reported in a wide variety of settings, including homes, apartment complexes, hotels and schools. Bed bugs are small (~1/4 inch), brown, flat and oval in shape. They usually feed at night, hiding in cracks and crevices such as joints of bed frames, box springs, mattress seams, furniture, behind headboards and pictures, wall sockets, edges of carpets, etc. Bed bugs travel to new locations via infested suit cases, backpacks, used mattresses and furniture, and even in clothing. In a school setting, bed bugs are often brought in students' backpacks and in their clothes. This can occur repeatedly for students coming from badly infested homes. With the exception of dormitories and boarding schools, severe infestations of bed bugs usually do not occur at public schools since people do not stay overnight. However, monitoring and pest control are still necessary to prevent a bed bug problem from spreading.</p>
<b>Transmission:</b>	<p>Bed bugs are usually transported from place to place in luggage, bedding, and furniture. Most people are unaware of this as they are small, flat and can fit into tight spaces. Bed bugs cannot jump or fly and are <b>not</b> known to transmit diseases.</p>
<b>Incubation Period:</b>	<p>Female bed bugs lay eggs every day that will hatch in about a week. Under the right conditions, the amount of bed bugs can double in 16 days. Adults can live up to a year without feeding.</p>
<b>Signs and Symptoms:</b>	<p>In some cases, bed bug bites cause <b>*no reaction</b> at all, however:</p> <ul style="list-style-type: none"> <li>• Some bites can be red, itchy welts similar to mosquito bites</li> <li>• Scratching the bites can result in secondary infections</li> <li>• Difficulty sleeping</li> <li>• Stress and anxiety</li> <li>• In rare cases, bed bug bites can cause allergic reactions that require medical treatment</li> </ul> <p><i>*It is important to note that levels of reaction to bed bugs may change over time</i></p>
<b>Prevention:</b>	<p>Infestations are easier to control if they are discovered early. Possible signs of bed bug infestation include seeing the bugs in cracks and crevices, dark blood spots (excreted digested blood), cast skins from molting bugs, sweet musty odor (in cases of severe infestations), and unexplained bug bites on exposed skin. Getting rid of bed bugs requires Integrated Pest Management (IPM). IPM includes intensive inspection to find the hiding places, sealing of cracks and crevices, placing mattresses and box springs inside mattress covers, removal and bagging of infested articles, thorough vacuuming, washing and drying dirty clothes, and linens</p>

	<p>(hot cycle), bagging un-washable items that can't be chemically treated or washed, and appropriate targeted and repeated pesticide treatments.</p> <p>Bed bugs are indoor pests and do not like temperature extremes. Some bug infested items can be treated by sealing it inside plastic bags and putting outside in the summer sun/heat. Pesticide treatments should <b>only</b> be done by trained professionals. In a school setting, crawling bugs may be found in student's packs, purses, other carried items and even in their clothes. School nurses and/or administration staff should keep a supply of plastic garbage bags on hand to bag and seal infested packs, etc. To reduce the chance for introductions of bed bugs from students coming from infested homes, school officials can advise parents to:</p> <ol style="list-style-type: none"> <li>1. Provide a spare set of clean clothes sealed in a bag to be stored at the school office for the children to change into if needed.</li> <li>2. Hang-up cleaned clothes on hangers, store clean clothes in a place away from bedrooms, or seal clean clothes inside bags after washing and drying to prevent bug infestation.</li> <li>3. Have children change into fresh clean clothes in the morning before coming to school and never have them wear clothes that the child has slept in or worn the day before.</li> <li>4. Have their children store packs, purses, lunch bags and other carried items in places at home that are off the floor (e.g. counter tops) and away from the bedrooms.</li> </ol>
<p><b>Reporting Requirements:</b></p>	<p>There is no legal requirement to report bed bug infestations. However, infestations in public settings (hotels, schools, dormitories, etc.) that are not being properly addressed can be reported to Maricopa County Environmental Services <b>(602) 506-6616</b>.</p>
<p><b>Exclusion Policy:</b></p>	<p>None</p>
<p><b>Comments:</b></p>	<p>Bed bugs are equal opportunity pests. The presence of bed bugs is not a reflection of a person's cleanliness or economic status. Bed bug problems involving students should be handled with discretion and recurring bed bug problems is not a reason to exclude a student from school. Infestations are difficult and often expensive to eradicate so early detection before the problem can spread is important.</p>
<p><b>Resources:</b></p>	<p><b>Helpful documents/websites:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">Michigan Department of Community Health – Bed Bugs</a></li> <li>• <a href="#">CDC – Bed Bugs</a></li> </ul>

# Head Lice

<p><b>Background:</b></p>	<p>Lice are parasitic, blood-feeding insects that can live on the surface of the body, most commonly in the hair of your head (scalp, behind the ears and near the neckline on the back of the head). Head lice are found throughout all areas of the world and are very common among children 3-12 years of age. Head lice infestations are not an environmental problem; they do not infest classrooms or homes. It is not a sign of poor hygiene or uncleanliness in the home or school nor a reason to exclude a child from attending class. Refer the child for treatment at the end of the day if close head-to-head contact and sharing of clothing, linens, pillows, hats, helmets, barrettes, etc., can be avoided. The student may return when the initial treatment has been completed. As many nits as possible should be removed with a fine-tooth comb.</p> <p>Head lice are <b>not</b> known to transmit any diseases. Head lice have three forms: the egg (nit), the nymph (immature louse) and the adult. It is important to be able to identify/differentiate live eggs from empty egg cases or bits of dandruff/dirt as many cases of head lice are misdiagnosed. A person should only be treated if an active infestation is diagnosed by finding nits within ¼ inch of the scalp.</p>
<p><b>Transmission:</b></p>	<p>Lice cannot fly or jump- head lice crawl from one person to another. This happens from direct contact with an infested head or, less commonly, from sharing items such as combs, hats or helmets.</p>
<p><b>Incubation Period:</b></p>	<p>Adult lice can live up to 30 days on a person’s head. During this time, the louse can lay eggs that mature into adults in about 2 weeks. Without a host, the louse will die off within 1-2 days.</p>
<p><b>Signs and Symptoms:</b></p>	<ul style="list-style-type: none"> <li>• “Tickling” feeling of something moving in the hair</li> <li>• Itching of the scalp</li> <li>• Irritability</li> <li>• A rash or sore may develop from scratching</li> </ul>
<p><b>Prevention:</b></p>	<p>It is difficult to prevent head lice infestations. The best method of prevention is through surveillance, i.e. conducting routine classroom head checks when “head scratchers” are observed, and providing education to both students and parents about the signs.</p> <p>Provide parents with control instructions if their child becomes infested. Reinforce education with students; teach children not to share personal items. During outbreaks, minimize close contact games or sports.</p> <ul style="list-style-type: none"> <li>• It is important to be aware of the signs and symptoms of active head lice so those infested can be identified and treated promptly in order to minimize spread.</li> </ul>

<b>Exclusion Policy:</b>	Refer the student for treatment; they may return to school after the initial treatment has been completed.
<b>Reporting Requirements</b>	<b>Non-reportable.</b> Lice do not spread disease and should not be considered a medical or public health hazard.
<b>Comments:</b>	It has been shown that routine screenings performed in schools is not an accurate way of predicting which children have or will have an infestation. Screening for live lice has not been proven to have a significant effect on the occurrence of head lice in a school. It is most helpful to provide accurate information regarding proper prevention, diagnosis and treatment of head lice to concerned parents.
<b>Resources:</b>	<p><b>Helpful websites/documents:</b></p> <ul style="list-style-type: none"> <li>• <a href="#">ADHS - Head Lice Management</a></li> <li>• <a href="#">American Academy of Pediatrics</a></li> <li>• <a href="#">CDC - Head Lice Infestation Fact Sheet</a></li> </ul>

# Scabies

<b>Background:</b>	Scabies is a contagious skin infection caused by the mite <i>Sarcoptes scabiei</i> . These microscopic mites burrow into the skin where they reside and lay eggs. Scabies occurs worldwide and is not an indicator of cleanliness or economic status. It can be spread easily among crowded conditions where close body or skin contact occurs, like child-care facilities and nursing homes.
<b>Disease Risk:</b>	Scabies can be highly contagious with close, skin-to-skin contact and can cause itching and a rash that can be painful.
<b>Transmission:</b>	Scabies is primarily transmitted through repeated and/or prolonged <b>skin-to-skin contact</b> . It is typically not spread through casual contact (e.g. shaking hands) and is rarely transmitted through objects. Exceptions may include sharing bed sheets, towels and use of floor mats for athletic events such as wrestling.
<b>Incubation Period:</b>	For first-time infections, symptoms may take up to 6 weeks to appear as it takes time for the host to become sensitized to the presence of mites, mite eggs and fecal pellets. In a person who previously had scabies, symptoms typically occur within 1-4 days. Thus it is important to remember that a person can spread scabies even before symptoms appear.
<b>Signs and Symptoms:</b>	<ul style="list-style-type: none"> <li>• Intense itching, especially at night</li> <li>• Rash lesions that appear as patches or rows of small, pimple-like bumps that are often concentrated around crevices of the body</li> <li>• Commonly affected areas include: webs of fingers and toes, wrists, armpits, waist, knees, and genital areas</li> <li>• If left untreated, the mite burrows may become exposed as dead layers of skin slough off leaving wavy lines</li> <li>• In cases of crusted scabies (Norwegian scabies) the person can develop severe infestations characterized by patches of scaly rashes with thick crusts of scabs that contain a large number of mites</li> </ul>
<b>Prevention:</b>	Suspected scabies cases should be diagnosed by a physician. Persons diagnosed with scabies should not return to school until 24 hours after treatment and should be excluded from <b>all</b> physical activities involving direct contact until treatment has been completed. Treatment is also indicated for household members and other potentially exposed persons to prevent reinfestations. Bedding and clothing worn or used next to the skin anytime during the 3 days before treatment should be machine washed and dried on the hot cycle. Items can also be disinfested by storing in a closed plastic bag for several days as scabies mites generally do not survive more than 2 to 3 days away from human skin. It is important to note that itching will continue after treatment and is not an indication that the treatment has failed. Talk to your healthcare provider if itching continues for more than 2 weeks after treatment.

<b>Exclusion Policy:</b>	Students with infections should be excluded from school; they may return one day after treatment is initiated.
<b>Reporting Requirements:</b>	Scabies is only reportable in cases of outbreaks (2 or more cases that do not live in the same household). Please call the Maricopa County Disease Reporting Line in the event of a scabies outbreak <b>(602) 506-6767</b> .
<b>Comments:</b>	Animals cannot spread human scabies. Scabicides marketed for veterinary or agricultural use should <b>never</b> be used on humans. Treatment can cause drying and itching so this may not be signs of infection after treatment but instead an after effect of the treatment.
<b>Resources:</b>	<b>Helpful websites:</b> <ul style="list-style-type: none"><li>• <a href="#">MCDPH - Scabies Fact Sheet</a></li><li>• <a href="#">CDC – Scabies Information</a></li></ul>

# West Nile Virus

<b>Background:</b>	West Nile virus (WNV) is a mosquito-borne virus that was first detected in Arizona in 2003. Since its first occurrence, over 1,300 human cases have been reported within the state. Approximately 6% of these cases had fatal outcomes. WNV transmission season typically occurs from May through October with peak activity occurring July through September.
<b>Disease Risk:</b>	Neuroinvasive complications (although extremely rare in school-age children) that can arise from a WNV infection includes: encephalitis, meningitis.
<b>Transmission:</b>	WNV is transmitted primarily by <i>Culex</i> mosquitoes which bite at night from dusk to dawn.
<b>Incubation Period:</b>	3 - 14 days
<b>Signs and Symptoms:</b>	Most (~80%) WNV infections produce no symptoms. Approximately 20% of infections cause “West Nile fever” which can vary from mild short term illness to lengthy life changing illnesses lasting weeks to months. Fever cases are usually characterized by fever, headache, body aches, swollen glands and sometimes rash. Approximately 1% of infections can involve the brain and/or spinal cord and can present as meningitis (high fever, severe headache, neck stiffness), encephalitis (altered mental status, confusion, disorientation, coma) and/or paralysis. Central nervous system infections often result in long term disability and sometimes death. Persons in higher age groups are at greater risk for severe disease. However, persons at all ages are at risk for serious illness.
<b>Prevention:</b>	Prevent mosquito bites – especially between dusk and dawn – by limiting outdoor activity at night, using insect repellents according to label, and wearing long sleeves and long pants to cover exposed skin. School campuses should be maintained so as to prevent mosquito breeding by eliminating standing water, emptying containers that collect water (e.g. buckets, tires, garbage cans, pots, etc.) and removing un-necessary containers and clutter. During outdoor nighttime events (e.g. football games, fairs, fund raisers, etc.) students, faculty, and guests should be encouraged to take the precautions listed above. WNV is not a communicable disease and cannot be spread person to person.
<b>Reporting Requirements:</b>	WNV cases are reportable to health officials. Local mosquito breeding problems should be reported to Maricopa County Environmental Services at (602) 506-6616.

**Comments:**

WNV is a serious public health threat that should be taken seriously by people of all ages. Although WNV activity in mosquitoes is monitored closely by local vector control personnel, the intensity and occurrence of WNV activity cannot be predicted.

**Resources:**

[Maricopa County Department of Environmental Services](#)

[Maricopa County Vector Control \(MCVC\)](#)

(602) 506-6616

### Important Contact Numbers

Maricopa County Dept. of Public Health Disease Reporting	(602) 506-6767
Maricopa County Dept. of Public Health Disease Prevention/Epidemiology	(602) 372-2605
Maricopa County Environmental Services	(602) 506-6616

### Animal Bite Reporting Contact Numbers

Report bites from **dogs** and **cats** to:

Maricopa County Animal Care and Control	(602) 506-7387
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For **horse** and **livestock** bites:

AZ Department of Agriculture, State Veterinarian's Office	(602) 542-4293
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For **venomous** animal bites:

Banner Poison Control Center	(602) 253-3334
National Poison Control Hotline	(800) 222-1222

For any **wildlife** animal bites:

AZ Game and Fish, Phoenix Office	(602) 942-3000
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**\*\*For Rabies risk assessments\*\***

Maricopa County Department of Public Health 24/7 Line	(602) 747-7500
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Arizona Administrative Code † Requires an Administrator of a School, Child Care Establishment, or Shelter to

## REPORT COMMUNICABLE DISEASES

to the Local Health Department

Appendix B

	Campylobacteriosis
<b>O</b>	Conjunctivitis: acute
	Cryptosporidiosis
<b>O</b>	Diarrhea, nausea, or vomiting
	Enterohemorrhagic <i>Escherichia coli</i>
	<i>Haemophilus influenzae</i> : invasive disease
	Hepatitis A
	Measles
	Meningococcal invasive disease
	Mumps
	Pertussis (whooping cough)
	Rubella (German measles)
	Salmonellosis
<b>O</b>	Scabies
	Shigellosis
<b>O</b>	Streptococcal Group A infection
	Varicella (chicken pox)
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	Submit a report within 24 hours after detecting a case or suspect case
<b>O</b>	Submit a report within 24 hours after detecting an outbreak.
	Submit a report within five working days after detecting a case or suspect case.

<http://www.azdhs.gov/phs/oids/reporting/schools.htm>

†A.A.C. R9-6-203  
Effective 04/01/2008

**Bite Injuries** – Very common, especially from pet rodents. Treatment includes wound cleaning, antiseptic and monitoring for signs of infection including: increased swelling, redness, red streaks, etc. Rodents and rabbits not pose a rabies risk.

**Hantavirus** – Hantaviruses are commonly carried by wild mice such as deer mice, cactus mice, etc. Infection can cause severe acute respiratory distress syndrome (ARDS) in person exposed usually through aerosolization and inhalation of mouse contaminated dust. For this reason, wild mice (especially Genus *Peromyscus*) are never appropriate as classroom pets.

**Lymphocytic Choriomeningitis (LCMV)** – LCMV is a virus that can be shed in the urine and saliva of infected house mice (Genus *Mus musculus*) and less commonly pet rodents. Almost all schools will experience house mouse infestations from time to time. LCMV is prevented through pest control to keep the mouse problems under control and through wet disinfection (eg. 10% bleach solutions) of mouse contaminated areas (nests, mouse droppings, dead mice, etc.) LCMV infection can cause a variety of symptoms, including aseptic meningitis, which is characterized by fever, severe headache and a stiff neck.

**Psittacosis** – Bacterial disease acquired from infected birds, especially pet birds of the Parrot order (*Psittaciformes*). The bacteria (*Chlamydochila psittaci*) are shed in the feces or nasal discharge of infected birds. Symptoms can include fever, chills, fatigue, dry cough, chest pain and pneumonia. Transmission occurs when a person inhales infected droppings or directly touches objects with dried infected particles (bird feeders, feathers, etc.) Methods of preventing transmission include wet disinfection (eg. 10% bleach solutions) of outdoor bird feeders, wearing gloves and masks when cleaning outdoor feeders and bird droppings and washing hands with warm water and soap after handling any birds or bird feeders.

**Dermatophytosis** – A ringworm-like skin infection caused by fungi (eg. *Trichophyton* sp.) that can be acquired through direct contact with infected mammals, including pocket pets (rats, hamsters, gerbils, etc.) Infected students and faculty should be referred to a dermatologist for diagnosis and treatment. The infected pet should be removed from the classroom.

**Mites** – On rare occasions, pet mammals may become infested with mites. If persons handling the pets or cleaning cages receive small “bug bites” of unknown origin, the pet and cage should be removed from the classroom. Any animal bedding should be bagged and changed, the cage cleaned, and the pet diagnosed and treated by a veterinarian. Since humans are a “dead end host” the mite bite problem will cease once the source is removed.

**Envenomation/stings** – Some popular classroom pets like tarantulas and scorpions are venomous and pose a risk for painful bites or stings. Tarantulas can also cause skin irritation when they shed urticating hairs from their legs when they feel threatened. When stings or bites occur, it is advisable to call Poison Control Center at (602) 234-3334 for professional advice. Venomous pets should be kept under lock and key, or under constant supervision when children are in the classroom. Under no circumstances should poisonous snakes or bark scorpions be kept in classrooms as pets.

For more information on communicable diseases see [ADHS Communicable Disease Resource Guide](#).