

Animal and human bites

Introduction

Animal bites (such as dog bites) and human bites are a relatively common type of injury.

In most cases, the wound that results from an animal bite is minor and can be treated with simple first aid.

This includes:

cleaning the wound immediately and thoroughly by running it under warm water for a couple of minutes

encouraging the wound to bleed by gently squeezing it, unless it is already bleeding freely

using painkillers, such as ibuprofen or paracetamol, to help relieve the pain and inflammation

More severe bites will require hospital treatment to clean out the wound and remove any damaged tissue.

See your doctor for advice even if the bite is minor, as there is a risk of animal and human bites becoming infected.

Complications

The most common complication of an animal or human bite is the bite becoming infected by bacteria.

The saliva of any mammal contains hundreds of million bacteria from many different species, many of which can cause an infection.

Signs that a bite has become infected include the following:

redness and swelling around the wound

the wound becomes more painful

fluid or pus is leaking from the wound

Read about the symptoms of an infected dog bite.

If you think a bite has become infected, seek immediate medical advice.

Although uncommon, infected animal and human bites can lead to more serious secondary infections. These can include the following:

blood poisoning (sepsis)

infection of the outer layers of the brain (meningitis)
infection of the inner lining of the heart (endocarditis)
Read about the complications of animal and human bites.

Causes

The three most common causes of bites are:

dog bites, which account for around four out of five cases (80%)

cat bites, which account for around one-in-seven cases (15%)

human bites, which account for around one-in-20 cases (5%)

Bites from other animals such as mice, rats or hamsters are much rarer, occurring in around one-in-50 cases.

Dog bites

Dog bites are most common in young children, particularly boys, between five to nine years of age. It is estimated that around half of all children will be bitten by a dog at some point during their life, usually by either a family dog or a dog that belongs to a friend or neighbour.

Bites from stray dogs are rarer as they tend to be wary of humans and usually keep their distance.

Cat bites

It is estimated that the majority of cat bites involve stray, female cats.

All cats are predators, so they can react unpredictably, and this is particularly true of cats that are not used to living with people (undomesticated).

Only one-in-five cat bites are caused by a pet cat.

Human bites

Most human bites occur during a fight, usually when one person punches someone else in the teeth. This often occurs when one or both protagonists is under the influence of alcohol.

These are known as closed-fist bites or "fight bites". Men aged 16-25 years old are most likely to experience these bites as they are most likely to get into fights.

Avoiding bites

Never leave a child unsupervised with a dog, regardless of what type of dog it is, or its previous behaviour.

Many of the more serious cases of dog bites happen when a child is left alone with a dog. Other ways to avoid being bitten, include:

Respect a dog's boundaries because, like many animals, dogs have a strong sense of personal space.

Never approach a strange cat; the cat could be a stray and react aggressively.

Avoid binge drinking; most people who end up in fights were previously drinking heavily.

How common are bites?

It is hard to estimate how common bites are as records are usually only kept of bites that were serious enough to require hospital treatment; which in England is around 6,000 cases of dog bites and 2,500 cases due to other bites, including human.

Reports of serious dog attacks resulting in fatalities, usually involving young children, receive a lot of media coverage. However, such cases are very rare in England: in 2010, there were two deaths as a result of dog bites.

Symptoms of bites

Dog bites

Dog bites typically cause a narrow and deep hole in the skin (puncture wound). They can also cause a jagged wound or cut (laceration) and a scraped area of skin (abrasion).

This is because dogs use their front teeth to "pin" their victim, and their other teeth to bite and pull at the surrounding skin.

In adults, most animal bites are to their hands, arms, legs or feet. Due to children's smaller size, most bites are to their face and usually involve their lips, nose or cheek.

Cat bites

A cat bite is not as strong as a dog's, but their teeth are sharper and often cause very deep puncture wounds. A cat bite is capable of penetrating bones and joints. Lacerations and abrasions are less common, occurring in one-in-five cases.

In adults, most cat bites are to their upper limbs, particularly the fingers and hands. In children, as well as the upper limbs, the face and neck can also be bitten.

Human bites

Most human bites are the result of a closed-fist injury, where one person punches another person in the teeth and cuts their hand. Typical symptoms include small cuts to the hand, and red, swollen and painful skin.

Toddlers often bite each other when playing together, but the resulting injuries are usually minor and do not usually pose a serious risk to their health.

Infection

The signs and symptoms that suggest that a bite wound has become infected include:

redness and swelling around the wound

the wound becomes more painful

liquid or pus leaks from wound

swollen lymph glands (nodes)

a high temperature (fever) of 38C (100.4F) or above

shivers

When to seek medical advice

Seek immediate medical attention for all but minor dog bites. Even some minor-looking cat bites can penetrate deeply and become infected.

Human bites have a much higher chance of causing infection, so always seek immediate medical attention before waiting for any symptoms of infection to appear.

Always seek immediate medical attention if you or your child receives a bite to the following areas:

the hands

the feet

a joint, tendon, or ligament

the scalp or face

the genitals

the ears or nose

It's also important to seek immediate medical attention if you have a pre-existing condition that increases your chances of infection, such as diabetes, liver disease or HIV, or you are undergoing medical treatment that is known to weaken the immune system, such as chemotherapy.

For most bites, you should be able to receive treatment from your GP, walk-in centre or your local minor injuries unit.

However, if the bite wound is more severe or involves bones, joints or tendons, you should visit your local accident and emergency (A&E) department.

Causes of bites

Dog bites

The majority of dog bites are unprovoked, usually by a family dog or a dog that belongs to a friend or neighbour.

Dogs are territorial creatures. Many innocent actions will be perceived by a dog as an invasion of its territory, and may be interpreted as a hostile act, resulting in a bite. This can include:

disturbing a dog when it is sleeping

disturbing a dog when it is eating
disturbing a dog when it is caring for its puppies
people running, screaming, or shouting in the presence of a dog
being petted by somebody they do not know (always let a dog smell your hand before you stroke it)

Some dogs, particularly young ones, can get over-excited when playing, and they may accidentally give a friendly nip. Dogs that are sick or in pain can also react unpredictably.

The dog breeds that are most likely to cause more severe bites are the larger and stronger dogs. These include:

German shepherds

Alsatians

pit bulls

rottweilers

dobermans

chows

However, any breed of dog should be regarded as being potentially dangerous, and smaller dogs such as Jack Russells, dachshunds and chihuahuas are often more aggressive than larger dogs.

Cat bites

It is estimated that the majority of cat bites come from stray, female cats. All cats are predators, so they can react unpredictably, and this is particularly true of cats that are not used to living in a house with people (undomesticated).

Around one-in-five cat bites are from a person's own cat. There are four key reasons why your pet cat might bite:

Your cat mistakes a sudden action for an aggressive act.

Like dogs, cats or kittens can get excited when they are playing, and can jump at and bite any moving object, such as your hand.

If your cat cannot attack its intended target, such as another cat, it may lash out at the nearest target.

For reasons that are unclear, an apparently content cat can suddenly bite their owner after being petted for a few minutes.

Human bites

The majority of human bites happen when one person punches another person in the teeth (fight-bites). This is usually in young men who have been drinking alcohol.

Intentional bites can be common in very young children and in people with severe learning difficulties, as they are often unaware that such behaviour is socially unacceptable.

Accidental bites can happen during contact sports, such as rugby and football, when a person accidentally knocks into another person's teeth.

Accidental bites can also occur during vigorous sexual activity, particularly oral sex. Although you may feel embarrassed, always seek medical treatment for an accidental bite that has happened in this way, because this type of bite has a high risk of becoming infected.

Other causes of human bites include:

domestic violence or sexual assault

accidentally biting your tongue during a seizure (fit)

self-inflicted biting, which can sometimes occur in people who are emotionally disturbed or are mentally disabled

Treating bites

If you have been bitten by an animal or human, it's important to clean the wound immediately.

Remove anything from the bite, such as teeth, and clean the wound thoroughly by running warm tap water over it for a couple of minutes.

Encourage the wound to bleed by gently squeezing it, unless it is already bleeding freely. If you require pain relief, take over-the-counter (OTC) painkillers such as ibuprofen or paracetamol.

Children under 16 should not take aspirin.

If the bite is serious, or a body part such as a finger or ear has been bitten off, wash the body part with tap water and place it in a plastic bag or a sealed container. Put the container into a tub of iced water (but not frozen) to keep it cool, so that it can be transported to hospital. It may be possible to re-attach the body part using reconstructive surgery.

Medical treatment

Severe bites needing medical treatment will be cleaned and any damaged or dead tissue will be removed (debridement).

If there is a risk of infection, the wound will be left open. This makes it easy to keep the wound clean. If the risk of infection is thought to be low, the wound can be stitched up.

To prevent blood loss, wounds that bleed excessively are closed, despite the risk of infection.

Antibiotics

Antibiotics are given as a precaution when it is thought that there is an increased risk of infection.

Antibiotics are usually recommended for:

all cases of cat bites

all cases of human bites

animal bites to the hands, feet, or face

any bites that have caused puncture wounds

wounds that required closure due to excessive bleeding

wounds that required debridement

wounds that involve joints, ligaments or tendons

people with prosthetic (artificial) joints or valves

people with a weakened immune system (immunosuppression) due to a health condition such as diabetes or HIV, or as a side effect of treatments such as chemotherapy

In most cases, a seven-day course of an antibiotic called co-amoxiclav is recommended as this type of medication is effective against a wide range of different bacteria (a broad-spectrum antibiotic). Co-amoxiclav is available in tablet form or as a liquid you can drink.

Side effects of co-amoxiclav include:

being sick

feeling sick

diarrhoea

Co-amoxiclav belongs to the penicillin family of antibiotics, so it will not be suitable for you if you have a previous history of penicillin allergy (which affects around 1 in 15 people).

If this is the case, you should tell the doctor in charge of your care as alternative antibiotics are available, such as metronidazole.

Additional treatment

Additional treatment may be required if:

You received a deep puncture wound that may have damaged bones, joints, muscles, tendons or nerves.

You received a facial wound.

You received a bite where a foreign body, such as a tooth, may be embedded in the wound.

You received a wound to areas of your body that have a reduced blood supply, such your nose or ears (wounds to these areas could take longer to heal and have a higher risk of infection).

You have an infected wound that does not respond to treatment.

Further reconstructive surgery may be required for serious or complex wounds. Serious infections, or infections that do not respond to oral antibiotics, can be treated with injections of antibiotics (intravenous antibiotics).

Complications of bites

Infection is the main complication that arises from animal bites and bites from humans. Infected bites rarely cause serious problems, as long as they are promptly treated using antibiotics.

However, infected animal bites can lead to more serious secondary infections, including:

blood poisoning (sepsis)

meningitis (infection of the outer layers of the brain)

endocarditis (infection of the inner lining of the heart)

Signs of a serious secondary infection include having a high temperature (fever) of or above 38C (100.4F) or feeling unwell.

Immediately contact your doctor if you think that you may be developing a more serious secondary infection.

Post-traumatic stress disorder (PTSD)

It is estimated that around one-in-four children who require hospital treatment for a severe dog bite (and one-in-10 who require treatment for a moderate dog bite) will develop post-traumatic stress disorder (PTSD). PTSD is a psychological condition where a person relives a past traumatic event. In children, this usually takes the form of repeated nightmares and becoming very nervous and frightened around dogs.

Other symptoms of PTSD in children may include:

refusing to go outside unless accompanied

becoming unusually shy with friends and family or becoming unusually aggressive

a lack of interest in games or school activities

fear of the dark

fear of being left alone

PTSD may resolve within a couple of months. However, if the symptoms persist or worsen, your child may require treatment.

Treatment options for PTSD in children include cognitive behavioural therapy (CBT), a type of talking therapy that aims to change patterns of negative thinking or behaviours.

CBT for PTSD often focuses on helping the child realise that while fear and distress are very real and upsetting emotions, it is possible to take control of fear and distress.

Never force your child to be in close contact with a dog in an attempt to overcome their fears if they are in obvious distress. This could make their symptoms worse and prolong treatment.

Read more about the treatment of post-traumatic stress disorder.

Tetanus

It is possible to catch tetanus from an animal or human bite. Tetanus is a potentially fatal infection of the muscles and nervous system.

The bite itself does not cause tetanus but it allows a break into the skin that can provide the tetanus bacteria ("Clostridium tetani") with a way to enter the body.

The most common symptom of tetanus is stiffness in your jaw muscles. This is sometimes known as lockjaw. It can make it difficult for you to open your mouth. Muscle stiffness and spasms can then spread to other parts of your body.

The symptoms of tetanus can develop from four to 21 days after the infection has taken place.

If you do have a bite that has a risk of being infected by tetanus then you can be given tetanus immunoglobulin (TIG).

TIG is a medication that contains antibodies that kill the tetanus bacteria. Antibodies are infection-fighting cells. TIG is given as an injection into a muscle and gives immediate, short-term protection against tetanus.

Read more about treating tetanus.

Immunisation is the best way to prevent tetanus. The complete course of the tetanus vaccination consists of five doses.

As an adult, if you are unsure about whether or not you have been fully immunised against tetanus, speak to your doctor or practice nurse. They will be able to advise you about having a booster injection.

Rabies

Rabies is a potentially fatal infection of the nervous system. It is possible to catch rabies from an animal bite and, in rare cases, the disease can be caught if you have a scratch or an abrasion, or from licking open wounds.

Most cases of rabies occur in Africa, Asia (particularly India) and central and southern America. Some cases have been reported in Europe – mostly in Eastern Europe.

You may need immunisation for rabies if you are visiting these areas or you have a job that involves coming into contact with animals that have been imported from abroad.

The same advice applies if you have received a bite from an animal while you are abroad in a country where rabies is widespread.

Treatment to prevent rabies developing is known as post-exposure prophylaxis. You will be given one dose of rabies immunoglobulin (a blood product that contains antibodies against rabies) and five doses of the rabies vaccine. If exposure to rabies is uncertain, the vaccination on its own may be considered.

Preventing bites

Dog bites

Never leave a child unsupervised with a dog, regardless of what type of dog it is, or its previous behaviour.

Dogs with no previous history of biting can sometimes bite. A dog breed's reputation, or appearance, is also no guarantee of a dog's behaviour. Family dogs such as labradors, collies and terriers are all known to have been involved in fatal attacks.

The advice outlined below will help you and your children to prevent dog bites.

Avoid making your dog too important within the family. Don't let them sleep on the furniture or beg for food. This can sometimes confuse a dog, making it think that it has a higher status within the family group. If someone, for example a young child, challenges that status, the dog may react aggressively.

Dogs love to chase things so you and your children should avoid running or screaming in the presence of a dog.

Respect a dog's boundaries because, like many animals, dogs have a sense of personal space. If you suddenly approach a dog, they can react unpredictably. Do not greet a dog with an outstretched hand. Do not suddenly interrupt a dog when it is eating, sleeping or playing with a toy. And do not pet a dog without letting it sniff you first.

Socialise your dog by allowing it to experience many different kinds of people, situations and environments. This will help stop your dog becoming frightened or nervous if it finds itself in unfamiliar circumstances or when meeting new people.

Signs that a dog is becoming aggressive and may be about to bite include:

the hairs on the dog's back rising up
the dog baring their teeth
the dog's ears moving either forward or back against their head
the dog staring directly at you
the dog's legs stiffening

If you are presented with an aggressive dog, you should stand still, with your feet together, your arms placed against your chest, and your fists folded below your neck. Avoid direct eye contact because the dog may interpret it as an aggressive act.

Don't attempt to run away from the dog. By standing still the dog should lose interest, allowing you to back away slowly.

If a dog jumps on you and knocks you to the ground, you should try to lie still, face down, with your legs together and your fists behind your neck with your forearms covering your ears. Once the dog realises that you are not moving, it should lose interest and move away.

Cat bites

As many cat bites are from strays, avoid disturbing or stroking a cat that you do not know.

If your cat is attempting to bite or jump at your hands and feet while it is playing (playful aggression), do not attempt to push them away with your hands as this can reinforce the pattern of behaviour. Instead, use a water spray to discourage them.

Using a sock or small felt toy on an end of a string that you can drag around the room is a good way of letting your cat play without encouraging bad behaviour.

Human bites

Most human bites are the result of alcohol-related violence and disorder. Therefore, the most effective way to avoid taking part in this type of incident is to moderate your alcohol consumption and avoid binge drinking.