

Pet Rabbit Facts

- In 2006, 6.2 million pet rabbits were owned by 1.6% of US households. Rabbits are the most common small mammal kept as pets in the US other than dogs and cats.
- There are approximately 50 species of rabbits and hares in the family Leporidae (order Lagomorpha), but the **European Rabbit** (*Oryctolagus cuniculus*) is the only domesticated species, which has been selectively bred to produce the wide variety of pet rabbit breeds that are currently available.
- Dwarf rabbits may weigh less than 1 kg, whereas giant breeds may weigh over 10 kg.
- A pet rabbit can live for approximately ten years with proper care, but life expectancy varies by breed.
- Female rabbits are called does, male rabbits are called bucks. Baby rabbits are sometimes called kits or kittens.
- Rabbits can be excellent, entertaining pets, but proper care is essential to keeping your rabbit happy and healthy.
- In general, rabbits are a low-risk pet when it comes to transmitting disease to people. However, it is still important to be aware of the diseases rabbits can carry. Proper care is important for your rabbit's health, and yours too!



Getting a Rabbit

- As for dogs and cats, rabbits can be purchased from pet stores or directly from breeders, or adopted from rabbit rescue groups or shelters.
- The stress of transportation, contact with many other animals and sometimes crowded living conditions in pet stores can increase the risk of disease in store-bought rabbits.
- When selecting a rabbit, it's important to pick one that appears bright and active, with clean fur and no signs of diarrhea on its rump, and no discharge

from the eyes, nose or mouth. Because rabbits often have thick or fluffy coats, you need to feel for the rabbit's ribs and hip bones to tell if it is too skinny or too fat. Any other rabbits in the same enclosure should also look healthy.

Bunny Basics – Taking Care Of Your Rabbit

Behavior

- Rabbits are typically **sociable animals**. They need "play time" and things to do so they don't get bored.
- Rabbits produce two kinds of stool – soft pellets and hard pellets. **It is normal for rabbits to eat their soft stool pellets** (a behavior known as **coprophagy**) because they contain extra nutrients that the colon did not absorb the "first time" the rabbit's feed was digested. Hard stool pellets are mostly undigestible fibre.
- Rabbits should be allowed to **exercise** in a safe enclosure or area of the house **several times a week**, or even daily. Ensure there is nothing in the area that the rabbit could chew (particularly electrical cables), and provide rabbit-safe distractions like chew toys, woven straw mats or even paper towel rolls/toilet paper rolls.

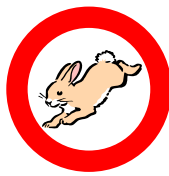
Feeding

- The most important part of a rabbit's diet is **long fibre found in hay**. **Pellet feeds** are usually well balanced, but only contain short fibre, so the rabbit should not be allowed to eat too much pellet. Some **fresh greens and vegetables** should also be fed. Do NOT feed a rabbit ANY fatty or sugary foods.
- Always provide **fresh water** in a sipper-tube bottle or bowl. Avoid adding anything to the water (e.g. vitamins), because your rabbit may not like the taste.



Housing:

- Rabbits can be kept outdoors, but it is recommended that **pet rabbits be kept indoors** to protect them from attack and disease transmission from wildlife.
- Rabbits are extremely **heat sensitive**. Ventilation and temperature control of the rabbit's environment are very important at all times.
- **Wire cages** provide better ventilation than glass aquariums, which helps prevent build up of toxic fumes from urine. The cage should be at least three times the size of the rabbit stretched out.
- Bedding in **solid-bottomed cages** must be changed frequently to keep the skin on the rabbit's feet clean and healthy. Some rabbits can be trained to use a litter box. **Wire-bottomed cages** allow stool and urine to drop through, but a solid platform (e.g. a piece of wood or cardboard) should be provided to give the rabbit a **resting area** where it does not need to stand on the wire.
- Bedding should consist of paper, straw, hay, or pelleted products. Corncob, clay and clumping litters can cause intestinal obstruction if ingested. Woodchips and shavings have been associated with breathing, skin and liver problems.



Basic Veterinary Care

- There are no vaccines licensed for use in rabbits in North America, although vaccination for myxomatosis and viral hemorrhagic disease is common in parts of Europe and Australia.
- The intestinal bacteria of rabbits are very sensitive to many antibiotics. Misuse of antibiotics in rabbits can cause very severe, often fatal, intestinal infection. Only give your rabbit medication that has been prescribed by your veterinarian.
- Rabbits should be spayed or neutered at 4-6 months of age. This tends to make rabbits less territorial and less aggressive. Female rabbits that are not spayed by two years of age are at extremely high risk of cancer of the reproductive tract and mammary tissues.
- A dental examination should be performed by your veterinarian as part of every general physical examination, because it can be very difficult to check your rabbit's back teeth without special equipment.



Handling Rabbits

It is very important that rabbits are handled and held properly. A rabbit's hind legs are so powerful that if the animal kicks when it is not properly supported, the force can actually break its back! If your rabbit feels safe, it will also be less likely to scratch or bite.

- Rabbits can be picked up in a similar manner to cats, placing one hand between the forelegs and the other hand under the rabbit's rump, which supports most of the rabbit's weight. The rabbit should be held firmly but gently, and close to the chest. If a rabbit is held too loosely or too tightly, it may begin to struggle or try to get away.
- Never use the ears or scruff to pick up a rabbit.** Always support your rabbit's weight from beneath its rump and/or chest (see picture right).
- Do not try to restrain the forelegs or especially the hind legs of a rabbit, in order to reduce the risk of a powerful kick causing a fracture of the spine.
- A rabbit should always be placed in a cage or pet carrier hind end first, so that it does not try to jump out of the hands of the handler.



Rabbit Bites

- All rabbits may bite.** Bite wounds from rabbits may be small, but they can create deep **puncture wounds**.
- All bite wounds should immediately be cleaned vigorously with large volumes of soap and water, and watched closely for signs of infection. Infection is usually caused by bacteria from the skin of the person bitten or the rabbit's mouth, including *Pasteurella multocida*, which can cause particularly serious infection.
- Medical attention should be sought for any bite over a joint, hand, tendon sheath, prosthesis, implant or genital area, and for any bite to an immunocompromised individual (e.g. HIV/AIDS, transplant and cancer patients).

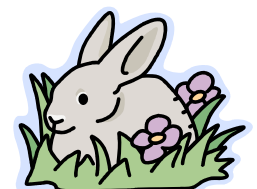
Is My Rabbit Sick?

- The most common signs of illness in a rabbit are likely lethargy and decreased appetite. Other things that may indicate your rabbit is sick include:
 - Bloating, or changes in the colour or consistency or amount of stool
 - Not moving around normally, especially problems with the hind legs
 - A significant change in behavior, such as becoming very aggressive
 - Drooling or teeth-grinding
 - Difficulty urinating
- Rabbits fed diets with insufficient long fibre (hay) may develop diarrhea or constipation, and frequently **chew hair**.
- If you notice any of these signs or if you have any other concerns about your rabbit, contact your veterinarian as soon as possible. Veterinary care may seem expensive compared to the cost of a rabbit, but it is very important to rule out **infectious diseases**, especially if there is a high-risk person on the household, such as a young child or a person with a weakened immune system. It is also very important not to let the rabbit suffer as it gets more sick. Illnesses in rabbits may also be due to **feeding or housing problems**.



Can My Rabbit Make *ME* Sick?

Rabbits are not frequently involved in transmission of disease to people. Nonetheless, each of the following diseases or pathogens may on occasion be carried by rabbits and potentially be transmitted to humans. Please refer to specific disease information sheets for more details.



Salmonella sp., *Escherichia coli*, *Clostridium difficile*:

- These bacteria have all been associated with intestinal infections and diarrhea in rabbits, and can potentially be transmitted to humans by stool contamination of food or water, or contamination of hands followed by transfer to



the mouth. *Salmonella* carriage occurs in even healthy animals of many species, and can likely occur in healthy rabbits as well, so it is prudent to take precautions (see below) when handling rabbit stool and soiled bedding in particular. Intestinal infection or diarrhea of any kind in rabbits can be very serious, and requires prompt attention.

Dermatophytosis (ringworm):

- ▶ A fungal skin infection caused by one of several species of *Microsporum* or *Trichophyton*. Humans may develop well-delineated areas of red, raised, itchy skin that are often lighter in the centre and therefore appear as a “ring.” The fungi are transmitted by contact with the skin, fur or dander of an infected animal, particularly if the person’s skin is damaged or moist. Signs of dermatophytosis in rabbits can range from none at all, to patches of hair loss and red, dry, scaly skin that are often itchy.

Encephalitozoonosis:

- ▶ An infection caused by microscopic parasites of the genus *Encephalitozoon*. Encephalitozoonosis is rare in people with normal immune systems, but is quite common in people with weakened immune systems (e.g. HIV/AIDS, cancer or transplant patients). The species *E. cuniculi* can be found in many animal species, including rodents, dogs, cats, horses, pigs and particularly rabbits. “Spores” of the parasite are typically found in the urine of infected rabbits, and can cause infection if they are swallowed. In most rabbits there are no signs of infection, but the parasite can affect the brain and kidneys of people and rabbits. No human cases have been directly linked to contact with an infected rabbit, but due to the severity of disease caused by the parasite, caution is warranted.

Mange due to *Cheyletiella parasitivorax*:

- ▶ *Cheyletiella parasitivorax* is a common mite of domestic rabbits that can also infect cats and dogs. It can also temporarily infest humans, causing mild skin inflammation. Infection in rabbits often causes no clinical signs or partial hair loss with only mild skin inflammation.



Rabies:

- ▶ A viral infection of the nervous system which is almost always fatal once clinical signs appear. Transmission occurs when the saliva of an infected animal comes in contact with a wound (such as a bite or scratch) or mucous membrane (e.g. eyes, nose, mouth). Rabbits are usually killed if they are bitten by a rabid animal, but rabbits can be infected by bats. Rabbits can also survive attack by larger rabid animals (and become infected) if they are partially protected in an enclosure. Confirmed cases of rabid rabbits biting humans have not been reported, but post-exposure prophylaxis has been recommended in some cases following non-bite contact with rabid rabbits in the USA.

Tularemia (“rabbit fever”):

- ▶ A bacterial infection caused by *Francisella tularensis*. It is most commonly found in wild animals such as rabbits, hares, and rodents. The major reservoir host in North America is the cottontail rabbit (*Sylvilagus floridanus*). The majority of infections in the USA likely occur due to insect bites (e.g. ticks, flies), or handling infected wildlife/game. Infection in people and animals may cause no signs, flu-like signs, very swollen lymph nodes, severe diarrhea or pneumonia. The bacteria themselves are highly infectious (it only takes 10-50 bacteria to infect a person).

Other “Zoonotic” Diseases of Rabbits

Rabbits can occasionally be infected with *Giardia duodenalis* and *Cryptosporidium* spp., which can potentially infect humans, but transmission of these pathogens from rabbits to people has not been reported. Rabbits can also be infected with *Toxoplasma gondii* and larvae of *Baylisascaris procyonis* (raccoon roundworms), but they **cannot** transmit these parasites. There are also no reports of human infestation with *Sarcoptes scabiei* (which causes sarcoptic mange) acquired from rabbits. Rabbit ear mites (*Psoroptes cuniculi*) are not known to infest humans.



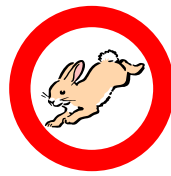
Pasteurella multocida is a common cause of upper respiratory disease (“snuffles”) in rabbits. This pathogen can cause respiratory infections in humans, and could theoretically be transmitted from an infected rabbit, but people are much more likely to develop **pasteurellosis from a rabbit** in the form of an **infected bite wound**.

Infection Control



Although rabbits are generally low-risk in terms of their potential to transmit disease to humans, there is always some risk. The risk of illness in a rabbit and transmission of zoonotic pathogens to people can be reduced by proper handling, good management, personal hygiene and routine healthcare. A rabbit that is not stressed and is well cared for is less likely to be susceptible to infection, and therefore less likely to transmit infection to a person.

- Prolonged close contact with a rabbit, such as allowing the animal to sleep in the same bed as a child, should not be permitted. Anyone handling a rabbit, especially children, should be taught how to do so correctly and as safely as possible.



Hand Hygiene

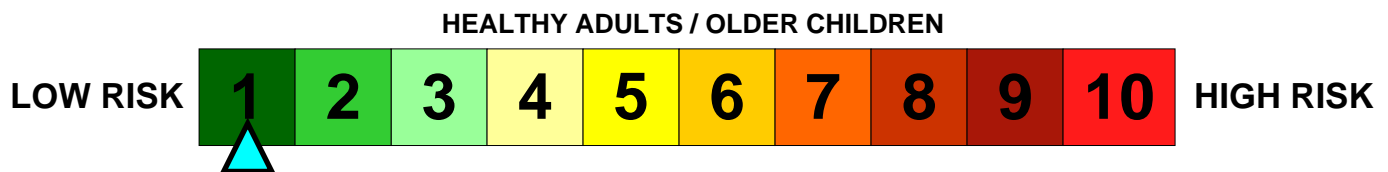
- Hands should be thoroughly washed with soap and running water, or an alcohol-based hand sanitizer should be used, after handling a rabbit, cleaning a rabbit's cage, or coming into contact with rabbit bedding, stool or urine.
- Children should be supervised by an adult to ensure that this is done properly.

Cleaning Up

- A rabbit's enclosure should be checked daily for build up of stool and urine in the bedding. Stool should be scooped out **daily or every other day**, even if the rabbit uses a litterbox.
- The entire enclosure should periodically be thoroughly cleaned, including removal of all bedding and disinfection of the cage itself. Some rabbits may need to have their cages cleaned out more frequently than others.
 - ▶ All old bedding should be removed and the inside of the cage should be scrubbed with soap and water, using a stiff-bristled brush to remove any remaining excrement/debris that may be adhered to the surface.
 - ▶ Once the cage looks clean, a household disinfectant (e.g. bleach (diluted 1:9 with water)) should be applied. The disinfectant should be left in contact with all surfaces for at least 10 minutes, followed by thorough rinsing with water. Allow the cage to dry completely prior to filling it with clean bedding.
- Hands should always be washed thoroughly with soap and water after cleaning the cage. Immunocompromised individuals (e.g. HIV/AIDS, transplant or cancer patients) should try to have someone else clean their rabbit's cage for them if possible.
- **Food bowls and water bottles** should also be cleaned daily, and thoroughly washed with hot soapy water weekly, in order to prevent build up of bacteria on these objects. Any **fresh produce** that are not eaten promptly by the rabbit should be **removed** from the cage in order to prevent spoilage.



For **healthy adults and older children** (over 5 years old), the risk of contracting a disease from a pet rabbit is:



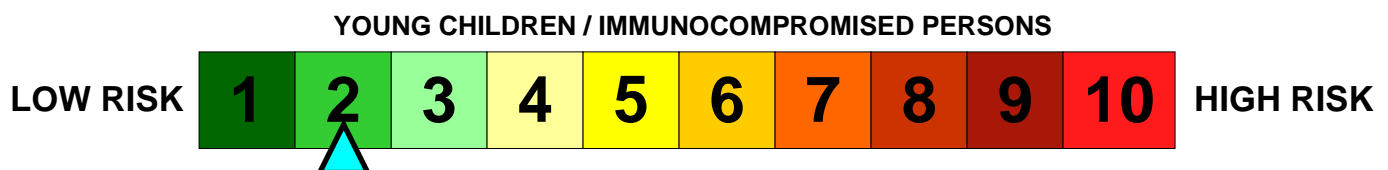
Groups at higher risk of acquiring a zoonotic disease from pets, including rabbits, are **immunocompromised individuals** (e.g. HIV/AIDS, transplant and cancer patients), infants, **young children** less than five years of age, and the elderly. Nonetheless, pet ownership can have significant emotional benefits for members of these groups. With selection of an appropriate pet and close attention to infection control measures, the risk can be significantly reduced.

For rabbits living with high-risk individuals, important points to consider include the following:

- Be diligent and thorough about **hand washing** after handling the animal or cleaning its cage.
 - ▶ High-risk individuals should try to have someone else clean the rabbit's enclosure regularly. Otherwise the person should wear rubber gloves when cleaning the enclosure and be very diligent about washing his/her hands when finished.
- Keep the rabbit **away from food** preparation areas and food meant for human consumption.
- **Know how to handle** a rabbit correctly (in a calm, gentle manner), and only handle the animal when necessary to minimize the risk of bites or scratches.
- Keep the rabbit in **good health** through proper management and veterinary care.



For these groups, the risk of contracting a disease from a pet rabbit is likely:



Additional Information:

- House Rabbit Society homepage. <http://www.rabbit.org/>