Chapter 6
Herd Management and Diseases

A healthy herd is a content herd. Keeping your herd of goats healthy requires not only a good nutrition and breeding program, but also programs to prevent diseases and injury, to use medications and drugs properly, and to keep detailed records.

Maintaining animal and herd health is important in keeping your animals at their best performance. Financial and economic losses accumulate if animals are sick or poorly managed. Your veterinarian can be a valuable resource to you in planning a herd health program that is specific to your farm and helping you maintain healthy animals that get maximum performance.

This chapter outlines general management issues, health issues, and diseases and their prevention.

Kid Management

For the future success of your herd, getting newborn kids off to the right start is very important. Raising newborn kids requires many tasks. Some of these management tasks should be spaced over time to prevent undue stress. Too much stress on a young kid can cause a disease or infection unnecessarily. You will learn more about these tasks later in this section.

All does should kid in a clean, dry pen or out on pasture in good weather. All kids should have their navels dipped in 7 percent iodine after they are born to prevent navel-ill. Dipping the navel in iodine prevents bacteria and germs from entering the navel.

Iodine also helps the umbilical cord to dry at a faster rate.

As mentioned in Chapter 5, kids should receive good quality colostrum in the first hour after birth. This occurs either by feeding the kid the appropriate amount of colostrum or by making sure that the kids nurse the dam soon after birth and get a significant amount of colostrum. Colostrum should be fed at about 10 percent of the kid’s body weight within 24 hours after birth. Caprine arthritis encephalitis (CAE) is a disease that can be transferred to the kid via colostrum and milk, so it is important to know that the dam (mother) is free of this disease. It is a good idea to keep a reserve of colostrum in the freezer in case of emergency. Make sure that the kids stay warm and dry because cold kids do not absorb the immunoglobulins from the colostrum as efficiently and may even have trouble suckling from the dam.

An additional practice at birth that enhances newborn health is giving the kid injections of iron dextran, vitamin A, and vitamin D. Selenium and vitamin E injections also may be beneficial. Talk to your veterinarian about proper doses for newborn kids.

Dehorning (Disbudding)

Most goats grow horns; however, some goats are naturally hornless or polled. Unless your goats are polled, they should be dehorned. Some breeds, such as Boer
and Kiko, have horns as a breed standard. Despite breed standards, Boer or Kiko goats in commercial operations are likely to be dehorned for safety reasons. The reason for dehorning is that, like many other animals, goats establish a “pecking order” and will head-butt and push each other around. Horns can rip up udders and frequently get caught in fences. For the dairy breeds, horns are not allowed, so animals must be dehorned to show. Horns can also be hazardous to humans.

Kids are usually dehorned when they are 7 to 10 days old. As they get older, dehorning becomes more difficult. To minimize the occurrence of horn regrowth and scurs, it is best to dehorn at a very young age. Unlike a doe, a goat’s horns are actually made of living tissue with a nerve and large blood supply. Therefore, sawing the horns off after the animal is grown and the horns are large can be detrimental to a goat’s health and should be done only under the care of a veterinarian.

To find out whether the kid is horned or polled:

1. Check the growth pattern of the hair over the horn bumps on the forehead. Horned goats have a swirl pattern over those bumps. Polled ones have a straight pattern over the bumps and a swirl pattern in the center of the head.

2. Move the skin over the bumps back and forth. The skin is tight over the area if the kid has horns. A free movement of the skin over the bumps indicates that the kid is polled.

If your goat is horned and you have never dehorned before, have an experienced person help you and show you how to do it. It is always a good idea to ask for help when dehorning your kids.

Main Methods Used to Dehorn a Goat

Caustic Paste

Caustic paste can be used to disbud. Be very careful not to get the paste on yourself or in the kid’s eyes. You need to apply enough paste to cause the horn to fall off, but not enough to make the paste run down into the kid’s eyes. A ring of petroleum jelly around the horn bud can prevent the paste from running into the eyes; however, problems can still arise if one kid rubs on another.

Electric Iron

![Figure 6.1. Electric iron.](Image)

The easiest and most common dehorning method is to use an electric iron. An electric dehorning iron can be purchased from any equipment supply business. The iron is heated until the end is cherry-red and extremely hot. While you are waiting for the iron to heat, you may want to clip the hair from around the horns. Clipping the hair is not required; however, the smell of burning hair is unpleasant. After the iron is hot enough, center it on the horn bud, and apply a circular motion and light pressure for 6 to 10 seconds. A copper colored ring or disk should be around the horn bud; if not, reapply the iron again for another 3 to 4 seconds. Once the kid is successfully dehorned, place the kid back with its dam or give it a bottle of milk. This makes the event less stressful. Using a kid box helps keep the kid from moving around too much and makes the process quicker and easier.
If you are unable to purchase an electric disbudding iron and cannot find someone who can help you, take your kid to an experienced goat veterinarian. He or she can do it for you or show you how to do it yourself.

**Castration Guidelines**

Castration of the male or buck kids usually occurs between 1 to 3 weeks of age. Castration within the first 24 hours can disrupt how the kid bonds with its mother. Angora goats are sometimes castrated at an older age (6 to 12 months) so that they can develop bigger horns, which are common in the Angora breed. All males not kept for breeding purposes should be castrated. Castration is the removal of the testicles, and a castrated goat is called a wether.

There are three methods used in castrating:

1. Elastrator bands
2. Emasculator (Burdizzo)
3. Surgical or knife

**Elastrator**

The use of an elastrator band is the most common method and is very safe. The steps
for using an elastrator to castrate male kids are as follows:

**Step 1:** Have someone hold the kid.

**Step 2:** Place the elastrator band onto the elastrator by sliding the band over the closed prongs to the base of the prongs.

**Step 3:** Squeeze the handles of the elastrator to stretch the band until it is large enough to pass the scrotum through.

**Step 4:** Keeping the band stretched, pull the testicles through until the band is against the body wall. Make sure that the rudimentary teats are not in the band and that both testicles are entirely below the band.

**Step 5:** Release the elastrator handles and allow the prongs to close, making sure that both testicles are still below the band.

**Step 6:** Roll the band off the prongs and onto the scrotum with your finger.
Step 7: The scrotum and band should fall off in 7 to 10 days. If this method is used during fly season, be sure to check the animal often for maggot invasion of the scrotal tissue.

Step 8: After the scrotum falls off, be sure to check that both testicles were removed and the animal is truly a wether.

Emausclatome
The emasuclatome is a heavy, long-handed, cord-crushing instrument. It is placed above each testicle, but below the rudimentary teats. Crush each cord separately and leave the instrument on for about 10 to 15 seconds. Do the second cord below the first one. The scrotum remains on the animal but the testicles atrophy because the blood supply can no longer get to them.

Surgical or Knife
If you use a knife, first sanitize it and the lower one-third of the scrotum with a mild disinfectant. Remove the lower one-third of the scrotum with the knife and expose the two testicles. With disinfected hands, remove each testicle including the cord. Following surgery, be sure to disinfect the area. In warm weather, check the area daily to make sure that there is not a fly infestation.

If you are unsure of performing one of these procedures, someone who has experience with one of these methods should be present to help.

Identification
Identification of your animals is very important. Kids should be identified at least temporarily within the first 24 hours after birth, with permanent identification occurring later. Identification can be done several ways, with the majority of registry associations requiring some sort of permanent identification, such as a tattoo and/or ear tag.

Permanent identification helps you with quality assurance, record keeping, and health care. Permanent identification is especially important with the federal requirements for scrapie in goats and sheep. For the most current regulation information on scrapie, visit the USDA website: [http://www.aphis.usda.gov/vs/nahps/scrapie/](http://www.aphis.usda.gov/vs/nahps/scrapie/).

Temporary Identification
The most common type of temporary identification is a neck chain or collar with a number. When dealing with some breeds where all the kids look alike, this can be especially helpful. Care must be taken so that the neck chains do not get caught on anything.

Permanent Identification
Tattooing
All goats should be tattooed, whether they are to be registered or not. This is a form of permanent identification that is easy to do and easy to read. Most breeds are tattooed in their ears; however, the LaMancha is tattooed in the web of the tail because of its small ear size. Instructions on how to tattoo and on which ear or tail web to tattoo may be obtained from the respective registry associations. All animals registered or recorded with ADGA must have tattoos.

If you are not sure how to tattoo or would like some help, check with a veterinarian, a goat breeder, or your project leader for help and advice. These individuals can help you locate the equipment you need and show you how to do the job correctly. These are the steps to follow:

Step 1: Insert the correct letters and numbers into your tattoo pliers. Verify the
correct order of the numbers by clamping through a plain sheet of paper.

Step 2: Have someone hold the animal, and select an area for inserting the tattoo between prominent veins in the cartilage of the ear.

Step 3: Clean the selected area inside the ear with a cotton ball or clean rag soaked in alcohol.

Step 4: Use your finger to spread a small amount of tattoo ink over the area inside the ear where the tattoo is to be placed.

Step 6: Work additional ink into the tattoo holes with your fingers or a soft brush.

Step 7: Use a dry rag or paper towel to wipe away any excess ink around the tattoo. Do not wipe directly over the tattoo holes.

Ear Tagging

Ear tagging is more commonly done in commercial meat and fiber operations than in dairy goat operations. Goats can be safely tagged with either a plastic tag or a metal clip tag. Tag the ear approximately 1 inch from the base of the ear so that it is less likely to get caught on something. When ear tagging, disinfect the equipment between each animal and disinfect the ear before tagging to prevent infection.
Herd Management and Care

Vaccination
To keep your goat herd healthy, it is important to give vaccinations. Vaccinations are used to prevent disease. An example of a generally recommended vaccination schedule is provided in table 6.1. Work with your veterinarian to plan the appropriate vaccination schedule and the vaccination needs for your goats. Vaccination needs may vary by geographical region.

Hoof Trimming
Like your own fingernails, the hooves of goats need to be trimmed regularly. It is important to keep your animal’s feet neatly trimmed. Overgrown hooves can cause bone malformation, an incorrect walk, and even lameness. Usually hooves need to be trimmed every two or three months, depending on housing conditions and on how fast the feet are growing.

The idea is to trim excess growth from the toes and to make the sole of the foot flat so your goat can stand straight on its feet with

Table 6.1. Vaccination schedule for goats.

<table>
<thead>
<tr>
<th>Period</th>
<th>Time to Vaccinate</th>
<th>Disease</th>
<th>Booster</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kids (Dairy)</td>
<td>2, 4, and 8 weeks</td>
<td>Clostridium perfringens C&amp;D</td>
<td>Annual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clostridium tetani-toxoid</td>
<td></td>
</tr>
<tr>
<td>Kids (Meat &amp; Fiber)</td>
<td>4 and 8 weeks</td>
<td>Clostridium perfringens C&amp;D</td>
<td>Annual</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Clostridium tetani-toxoid</td>
<td></td>
</tr>
<tr>
<td>Kids</td>
<td>4 to 6 weeks</td>
<td>Contagious erythema</td>
<td>Annual before the show season</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(if a herd problem)</td>
<td></td>
</tr>
<tr>
<td>Kids</td>
<td>8 and 12 weeks (optional)</td>
<td>Caseous lymphadenitis</td>
<td>Annual</td>
</tr>
</tbody>
</table>

Prebreeding

| Doe             | 30 days prior to breeding | Chlamydia (abortions) | Annual (Optional) |
|                 |                           | Leptospirosis (abortions) |                             |
|                 |                           | Clostridium perfringens C&D |                             |
|                 |                           | Clostridium tetani-toxoid | Annual                      |

| Bucks           | 30 days prior to breeding | Chlamydia (abortions) | Annual (Optional) |
|                 |                           | Leptospirosis (abortions) |                             |
|                 |                           | Clostridium perfringens C&D |                             |
|                 |                           | Clostridium tetani-toxoid | Annual                      |

Gestation

| Doe             | 30 days prior to kidding | Clostridium perfringens C&D | Annual |
|                 |                           | Clostridium tetani-toxoid |                              |
the hooves in the proper position. You do not want to trim too much of the pad off of the back of the heel, as this cushions the foot when the animal walks. The best tool to use is a pair of hoof trimmers available from any farm supply store and/or a small sharp knife.

If possible, put your animal against a fence or wall or on a milking stand. If you are right-handed, stand on the right side of the goat to trim the front feet. When working on the left hoof, reach across the animal and brace its body against yours. If you are left-handed, stand on the left side and use the same procedure. Work on one toe at a time. Always cut from heel to toe and trim the bottom of the hoof so that it is parallel with the top. With the first cut, remove the outer wall of the hoof. Then level the heel and pad to make the hoof level. It is seldom necessary to remove much of the pad; however, if it is necessary, trim in thin slices and stop when the pad turns a pinkish color—if you do not, you may draw blood. When you finish the first toe, begin on the other. Be careful to trim both toes so that when the foot is placed on the ground, the toes are the same length. When you trim the rear feet, stand to the rear. Bring the goat’s leg through your legs and brace it against your knee. Trim in the same manner as the front feet.

Some hoof trimming positions are illustrated in figure 6.15.

Figure 6.15. Hoof trimming.

Ohio State University Extension.
Goat Hoof Trimming

Anatomy
- Toe
- Wall
- Sole
- Heel

Tools
- Foot Rot Shears
- Pruning Shears

Overgrown Hoof
Cut from Heel to Toe
Properly Trimmed Hoof Bottom View
Properly Trimmed Hoof

GOAT LEARNING LABORATORY KIT
Exploratory Learning: Educational Program
This component adapted from materials of the American Dairy Goat Association

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Diseases and Ailments

Pneumonia
The term “pneumonia” is very broad and includes many lower respiratory tract diseases. Pneumonia can be caused by a number of bacteria, viruses, parasites, and allergies. Some of the problematic bacteria include Pasteurella multocida, P. hemolytica, and various Mycoplasma species. Symptoms of pneumonia include cough, runny eyes and nose, fever, loss of appetite, rapid breaths, and death in severe cases. Pneumonia usually occurs after the animal has been stressed in some way. Sources of stress include weaning, long distance hauling, sudden temperature changes, poorly ventilated housing, overcrowding, malnutrition, feed changes, or worming.

Most cases of pneumonia can be prevented with adequate ventilation. It is best to provide dry, draft-free housing for your goats. You should not warm the barn or shelter for your goats, as warming increases the humidity and dampness of the environment. Avoid overcrowding and provide clean, dry bedding for your animals.

Coccidiosis
This disease is caused by a parasite. Symptoms of coccidiosis include bloody diarrhea, loss of appetite, anemia, weight loss, dehydration, decreased growth, and even death. Young kids usually pick up the organism through infected fecal material. This is why it is very important to have clean and dry facilities for your animals. Older animals can carry the organism but not show symptoms due to their stronger immune systems. The disease is diagnosed by looking at feces under a microscope and observing the parasite. To treat coccidia, an approved drug for goats must be given. Check with your veterinarian for these medications. In areas where coccidia is a problem, it may be helpful to feed an ionophore (for example, monensin; see Chapter 5) or decoquinate (Decocox®, Alpharma, Inc., Fort Lee, NJ). These medications act as coccidiostats and prevent the disease from occurring.

Parasites

External Parasites
The majority of external parasites, such as flies and ticks, affect goats in warm weather. Lice affect goats more during the winter months. There are many products on the market to treat and control external parasites. Make sure the product works in your facility and that it controls your specific pest. Make sure the product is safe for lactating and young animals, since some products will have restrictions. Always follow the directions carefully and ask a professional if you have any questions. Do not let the products come into contact with feed or water. Wash your hands thoroughly after using insecticides. Do not spray the insecticides on your goats if they are thin or sick.

While sprays, dips, and pour-on medications are helpful in controlling an external parasite problem, the most important prevention method is to keep your housing clean and dry and discourage pests from breeding.

Internal Parasites
A heavy parasite infection causes poor health and sometimes death. The eggs of parasites are passed out of the goat’s body with the feces and can survive for many months in the barn or pasture. As long as they survive, infection can occur. Exposure
to dry air and sunlight helps destroy parasite eggs.

Young and poorly nourished animals are affected the most by parasite infestations. Also, when does are kidding, the stress can cause the eggs to develop. The common internal parasites include lungworms, stomach worms, tapeworms, and coccidia.

These are ways you can help control the development of internal parasites:

1. Maintain a good level of nutrition.
2. Treat the goats a couple of days before moving them from one pasture to another. This avoids contamination of the "clean" environment that you are moving them into. July 1 is a good time to treat animals and move them to a new pasture. If they are on one permanent pasture, three to four treatments at three-week intervals are beneficial to prevent pasture contamination build-up and infection in the goats. Consult your veterinarian or county Extension office for the best methods to use.
3. Prevent manure from getting into the feed and water. Place all feeders and water buckets high enough to prevent such contamination. Try to find feeders and hay racks that prevent goats from climbing in. Confine the goats about a day after deworming to allow the adult worms to be killed and stop laying eggs.
4. Watch young animals at times of stress. You may need to deworm the kids before weaning them.

The best time to treat pregnant does is just before kidding or within a day or two after kidding. Check with your veterinarian for help in identifying parasites that are causing trouble. They are able to advise you on effective deworming strategies and approved medications.

**Foot Rot**

Foot rot is caused by an infection that destroys tissue. The germ that causes foot rot grows in wet, dark places, such as mud, where there is no air. The germ enters the tissues of the feet through small cuts or bruises and multiplies under the skin and in the outer tissue. The goat becomes lame and suffers pain, which keeps it from moving around for food. As a result, the animal usually loses weight and/or milk production falls off. Check the feet carefully. A watery fluid may ooze from the infected area. As the tissues rot away, there is a grayish, cheesy discharge and a foul odor.

To treat the problem, carefully trim away the decayed part with a sharp knife or pruning shears. Treat the infected parts with an antiseptic. Several good ointments are available. Check with your Extension educator, 4-H leader, or veterinarian. The best treatment, though, is prevention. To prevent foot rot, keep your goats in dry pens and clean barns. Drain any wet or muddy areas. Trim hooves regularly. Foot rot is contagious, so try not to visit places where animals have foot rot, because you can carry it back to your goats on your shoes and clothes.

**Enterotoxemia**

Enterotoxemia is caused by the organism *Clostridium perfringens* type C or D. This bacteria is usually present in the intestine and environment in small amounts. Under certain conditions, these bacteria grow out of control and produce a toxin that makes the animal sick. Eating large amounts of starch or grain, extremely lush pasture, or large amounts of milk, when the intestine is unaccustomed to it, causes enterotoxemia. This is why it is commonly called "overeating disease." This disease
can cause sudden death in animals due to the absorption of the toxin. Clinical signs include diarrhea, abdominal pain, and bloating. Mortality or death is very high if animals get this disease.

Vaccination, along with making feeding changes gradually, help prevent this disease. Vaccinate adults twice, 4 to 6 weeks apart, and pregnant does in the last month of pregnancy. Vaccinate kids at 2 to 3 weeks old and again at 4 to 6 weeks of age. Vaccinate on a yearly basis.

**Urinary Calculi (Urolithiasis, Waterbelly)**

Goats are known to be susceptible to urinary calculi or urinary stones, especially wethers and bucks. This condition is caused when a bladder/kidney stone blocks the urinary tract and the animal has trouble urinating or cannot urinate at all. This blockage, if not caught in time, can cause the bladder to rupture. Death of the animal can occur.

Urinary calculi happen when there is a mineral imbalance between calcium and phosphorus in the ration, or there are high levels of phosphorus in the diet. Males are more prone than females due to the structure of their urethra. In the female, the urethra is short and wide and the calculi can pass. In the male, the urethra is long and has several curves in it. The calculi usually get caught in the curves and cause the blockage and damage to the urethra.

Clinical signs of urinary calculi include straining to urinate, dribbling of urine, and kicking at the belly. If the bladder has ruptured, the belly is distended or there is a condition known as “water belly.”

To prevent this condition, provide plenty of clean, fresh water; keep the calcium to phosphorus ratio at 1.5 to 2:1; and feed a high roughage diet. If it becomes a problem in the herd, ammonium chloride can be added to the ration at 1% of the DM. Once symptoms occur, immediate veterinary care is necessary.

**Contagious Ecthyma (Soremouth)**

This viral disease is caused by a parapox virus, and it causes sores and scabs on the lips and skin around the mouth. Soremouth is often seen in a new crop of kids and yearlings, making nursing and eating difficult. The disease begins as small pustules that burst and form scabs.

This disease is very serious, especially for those kids that are still nursing. Sores around the mouth make it hard, if not impossible, to nurse. Also, infected kids may transfer virus to the udder of the dam. If a doe’s teats become affected, she may not let the kid nurse or may even abandon the kid. Whole kid-crops can be affected, and a large percentage may die.

There is no treatment for this disease—only supportive care. Vaccination is possible if the herd is considered at high risk; however, it is usually not recommended because it is a live virus and the disease is actually introduced into the herd, if not previously there. This zoonotic disease is highly contagious to goats and humans. In humans, the disease is called orf. Wear gloves and protective clothing when handling goats with soremouth. Always isolate new animals for 2 to 3 weeks before mingling them with the rest of the herd.

**Tetanus (Lockjaw)**

Tetanus is caused by a bacterium called *Clostridium tetani*, which is commonly found in the environment. Skin wounds (dehorning and castration) and fresh navels
are a few pathways of infection. Symptoms of tetanus include muscle stiffness, lack of coordination, and being unable to eat or drink (lockjaw). Tetanus is usually fatal once the symptoms appear, so prevention is very important. Keep the facilities clean of any sharp, protruding objects, such as nails or old boards. Cleanliness is extremely important when dehorning, castrating, giving injections, and tattooing. Vaccinations for tetanus are available and are fairly affordable.

Caseous Lymphadenitis (Abscesses, CLA, CL)

The bacterium responsible for causing CLA is called Corynebacterium ovis or C. pseudotuberculosis. This disease causes abscesses to form in the lymph nodes, usually near the head and neck. Abscesses can also be internal, and animals with internal abscesses are usually unthrifty. Treatment with antibiotics is usually not effective. Once abscesses appear in the herd, CLA is very difficult to eradicate. Chronically infected animals should be culled from the herd. Cleanliness is very important in the prevention of this disease. Do not buy animals from a herd that has problems with abscesses, even if you think you are getting an animal that is free of disease. If an abscess is noted on an animal, it should be isolated from the herd and the abscess should be carefully lanced and cleaned. The abscess should not be allowed to burst on its own because it will contaminate the area and possibly put the rest of the herd at risk for infection.

Abscesses can become an economic problem for the herd. Some parts of the United States have major problems with CLA. It appears to be more prevalent in dairy breeds than in meat breeds, but this may be due to different housing types.

Pinkeye

Pinkeye is an infectious disease usually carried from goat to goat, especially during hot, windy, and dusty weather. It is also spread at gatherings such as fairs. If a goat's eyes begin to water excessively, cloud over, or become red, separate it from the herd and treat as suggested by a veterinarian. Animals with pinkeye are not allowed to show at the fair.

Ringworm

Like many other animals, goats can get ringworm. Ringworm is caused by a fungus and results in scaly or hairless patches on the head, ears, neck, and sometimes the udder. If an animal gets ringworm, it can be treated by scrubbing the area with soapy water and then coating it with iodine or a fungicide (being careful to avoid the eyes). Ringworm is contagious, so other animals can get ringworm from an infected goat. Ringworm is also a zoonotic disease, meaning it can be spread to humans, so be sure to wash your hands after handling an infected animal.

Ketosis (Pregnancy Disease, Pregnancy Toxemia)

Ketosis is a pregnancy-related disease that usually occurs shortly before or after kidding. Overweight does or does being fed rations with insufficient energy are more susceptible to ketosis. The following factors contribute to ketosis: (1) does with two or more kids, and (2) stress, such as transport, sudden feed changes, extreme weather changes, and other disease conditions. Ketosis is more common in first pregnancies. The main symptoms are lack of appetite, listlessness, depression, and an odd, sweet smell on the breath. Ketosis is caused by inadequate energy in the ration or by the
Milk fever can be treated with oral calcium gels or by intravenous (IV) injection of calcium gluconate. Contact your veterinarian for directions with the gels or to give an IV treatment. Severe milk fever may result in death if not treated quickly.

Caprine Arthritis Encephalitis (CAE)

Caprine arthritis encephalitis is caused by a retro virus and can lead to chronic arthritis of the joints and cause encephalitis, or inflammation of the brain, in kids under 6 months. Changes to the mammary gland and pneumonia have also been noted. Not all animals that test positive for the virus develop symptoms, but they are able to transmit the virus to other animals.

There are two forms of the disease. The most common form is arthritis. Arthritis and swelling typically occur in the front knees and can make movement difficult. There is a large variation in how the disease progresses and in the severity of the symptoms. Some animals have mild arthritis for years, while others have a rapid onset of severe, debilitating arthritis.

The second, less common form is neurological. This is how the disease was actually first described. Encephalitis causes lack of coordination. In kids, weakness usually begins in the hindquarters, which progresses until there are problems getting up and down, and then not being able to get up at all. In older goats, symptoms include circling and a head tilt. There is no treatment and animals are usually euthanized.

Caprine arthritis encephalitis is usually transmitted to kids through the colostrum and/or milk of infected does. There is no evidence of transmission to the kids while
the doe is pregnant or during the actual birth.

Does should be tested for CAE before milk or colostrum is fed to kids. Colostrum and milk should be pasteurized to prevent CAE transmission. Colostrum needs to be pasteurized at 133 to 138 degrees F for one hour. Heating colostrum at higher temperatures destroys the antibodies needed to transfer immunity to the kid.

To start an eradication program in your herd, all animals should initially be tested twice a year and then once a year thereafter. Negative CAE animals should be housed separately from positive animals if possible. Does that are positive should be milked last. Care should be taken when dehorning, tattooing, and giving vaccinations. Equipment should be disinfected between each animal to prevent transmission.

Scrapie

Scrapie is the neurodegenerative disease that affects sheep and goats. It is classified as a transmissible spongiform encephalopathy (TSE). In dairy does, a similar disease is known as bovine spongiform encephalopathy (BSE). In goats and sheep, scrapie is spread most commonly from females to offspring and to other animals through contact, primarily through oral exposure to the placenta or placental fluids. Scrapie is a very serious disease, and the United States Department of Agriculture has a scrapie eradication program in place to help eliminate the disease from the United States. Under this program, all sheep and goats must be identified and tracked throughout their lives. Animal movement must be recorded and records should be kept for at least five years. For more information about scrapie, visit the USDA web site: http://www.aphis.usda.gov/vs/nahps/scrapie/.