

Basic Llama Care ... Revisited

What you THINK you know can actually harm your llamas!

New llama owners get information from a lot of sources.
Most new owners and most “information sources” are well-intentioned.
However, “facts” about llama care are sometimes things that just get repeated a lot ... until nobody can remember hearing anything different.
When you rely on “well-known facts” that are not factual, you and your llamas can get into a heap of trouble!

Your llamas’ best defense is YOUR self-education



Evaluate information before applying it; Evaluate results every time

What someone else THINKS their vet said is often NOT what the vet actually said.
What someone else’s vet prescribed may not be appropriate for your llamas or your situation.
Veterinarians are human. They make mistakes!
Veterinarians are not all-knowledgeable on all subjects just because an animal is involved!

Experience is valuable, but it may not be accurate!
“No problems” may be true, but it can also be the result of failing to observe!
Different circumstances may mean that one person’s valid experience is not valuable in your situation.



Drugs and medications

Before administering any drug, you need to be aware of:

- possible side effects
- drug interactions
- compound actions.

Example: The avermectin class comes in many forms. If you apply Cydectin for lice, deworming at the same time with another avermectin (such as Quest, Ivomec, Dectomax, Zimectrin, Equimectrin, Eqvalan, Ivercare, or Rotecin One), whether oral or injectable, the result can be a neurological reaction. A staggering llama can’t pack for you!

External parasites

“My llamas are soooo friendly! They just love to be scratched”

If only it were true! This is an extremely common sign of external parasites or skin conditions that need treatment, not just scratching.

Lice can virtually NEVER be seen on the llama! I can cite numerous cases of multiple veterinarians pronouncing a llama “free of external parasites” when the animals actually had massive lice infestations!

To find lice, look for nits (lice eggs — li'l white things attached to the hair) on the flank area in front of your COLORED llamas' hind legs (*white eggs on white hair won't show up*).

Dusting for lice is largely ineffective

Long-acting pour-on parasitides, such as Cydectin, tend to work best. Chose those that don't bind the coat (Dectomax binds). BEWARE: pour-ons may cause temporary neurological problems!

Completely shearing a llama to the skin and spraying with a pyrethrin product will also kill lice as well as eliminating unhatched eggs. This cannot be done in some climates, in some seasons, or *ever* with some llamas.

Reinfestation occurs when treatment is ineffective or when contact occurs with infested animals.

Eliminate lice and treat all incoming (or returning and potentially exposed) llamas ... and that's all!



Internal parasites

Deworming needs to be timed by the weather *for that year*

Deworming needs to be repeated in a few weeks (usually 10-21 days) to have any lasting effect

Deworming is completely ineffective unless the parasite species are diagnosed and treatment targets their vulnerabilities and life cycles specifically! Do fecal analyses!!!

There's absolutely no proof that “natural” dewormers have efficacy, and there's a lot of evidence against adequacy!

Diatomaceous earth must be dry to be effective; internal application is useless.

Extremely low margin between safety and toxicity for all known natural remedies

Even in the species they were designed for (cattle), all pour-ons have limited efficacy. Llamas absorb substances through the skin more readily than cattle and it is not uncommon to see neurological reactions to pour-ons on llamas.

pour-ons should be limited to necessity and used only for external parasites

Bringing in a new llama

Llamas, especially adults, can handle physical separation from other llamas quite well. Visual separation is much more stressful. However, treating all your llamas or even losing some to parasites the new llama brought in is the most stressful to all.

Quarantine all newcomers!

For llamas with no recent preventative care:

Treatment with too many drugs can actually kill llamas!

Even a normal dose of a single dewormer can kill a heavily parasitized llama!

Inoculations (whether initial or boosters) can be ineffectual in compromised llamas.

Best strategy for neglected llamas:

- Collect a fecal sample for analysis
- Use a pour-on avermectin dewormer for lice and to begin the deworming process
- WAIT at least a week
- Administer a half-dose of a ***NON-ivermectin*** dewormer each day for three days (fenbendazole is usually the best choice)
- WAIT at least another week
- Do a second fecal; treat remaining parasites
- Give tetanus booster before any other injections; otherwise wait until the llama is healthy before updating or starting inoculations.

When in doubt, consult people who have extensive experience with neglect and rescue



Feeding and Weight Control

Fat ***does*** integrate into llamas' thigh muscling — you cannot determine the amount of fat or muscle visually!

Fat ***does not*** “turn into” muscle with conditioning!

Assessment of the back can be useful, but can also be deceptive — llamas who have been quite underweight in the past will lose back fat and thereafter will always “seem thin” even if they are not.

To accurately determine condition, assess the area immediately above the sternum.

Just because the llama isn't distressed does not mean s/he is “fine” at that weight!

Obesity shortens life

Obesity increases heat-related problems

Obesity decreases performance

Obesity destroys important tendons and ligaments, notably pasterns

YOU are 100% responsible for your llamas' intake!

YOU are 100% responsible for obesity!

YOU are 100% responsible for geldings and nonbreeding females being fatter and more broken down than intact males and breeding females!

Use a performance-based weight-for-height chart as a starting point.

Dieting your llamas

- “Fill”, accounting for 15-20 pounds of nonbody weight, is lost in the first week or two of dieting. ***This is normal, safe, and desirable!***
- Thereafter, weight loss up to 2% of true body weight is acceptable; a target of 5 pounds per week gives a wide margin of safety.
- Always weigh at the same time of day and under the same conditions.
- Weigh the hay!
- Restrict or temporarily eliminate pasture access
- Feed based on 1.2% of the ***target*** body weight
- Hay is a ***supplemental*** feed for when pasture is unavailable or inadequate
- Unlimited access to hay when llamas are bored produces obese bored llamas!

Non-hay supplements

- Average adult llamas don't need grain and will become fat(ter) if fed grain
- Lactating, gestating, and pre-breeding females, hard-working llamas, and aging llamas, ***IF they have difficulty maintaining appropriate weight on forage alone***, can and should be supplemented with concentrates
- Llamas can choke on grain, hay, and tall pasture as well as pellets
- Pellets are most dangerous if choked on because they swell and delay or prevent esophageal clearance
- Choking is a socially-rooted problem: Nervous, fast-eating llamas are the ones that choke.

Manage your llamas at feeding time to minimize the risk of choke

Copper

- Llamas NEED copper! They are less tolerant of toxicity than horses and cattle, but they still require more copper than sheep.
- Virtually all national, commercially-manufactured lama supplements are not only copper deficient, but also have higher amounts of other minerals (such as zinc) that further limit copper absorption.
- Copper needs are determined by region, not species. (The PNW is copper deficient.)

Probiotics

- Lama (or at least ruminant) probiotics are worth trying for compromised llamas
- Probiotics after deworming has not proven advantageous
- DO NOT feed equine probiotics to llamas! Equines digest in the hindgut; equine probiotics just give llamas gas.

Grooming

Shearing and combing

All **FLEECED** llamas should be shorn, never combed (because they don't shed).

Classic (shedding, coated, nonfleeced) llamas cannot grow back adequate protection before fall packing or winter! NEVER shear Classic llamas unless long neglect makes combing impossible AND you are able to provide substantial weather protection all winter.

Distinguish between coated and fleeced llamas, and treat them accordingly!

Nail trimming

- Toenails grow at individual rates, and wear at individual rates depending on the llama and the season
- Some llamas never need trimming at all; some llamas need trimming every 6-8 weeks; some llamas fall in between.



Teeth

Did you know ... ?

- Llamas have baby teeth and permanent teeth
- Permanent teeth initially look “dirty”
- Llamas’ permanent teeth erupt on a very predictable schedule
- Permanent central incisors begin erupting at 25-26 months
- Upper canines erupt at 28 months in intact males

Did you know ... ?

- If males are left intact, their canines will need to be cut and re-cut many times between age 30 months and five years
- If males were not castrated until after their fighting teeth began erupting, their canines will also need to be cut and re-cut many times between age 30 months and five years

Did you know ... ?

- Fighting teeth can cause extreme damage to other llamas, including
 - Castration or functional sterilization
 - Ear damage or removal
 - Disabling leg wounds
 - Abscesses
- Fighting teeth can cause serious injury to humans, even if it is unintentional!

Maturity issues

Llamas reach full height between 30 and 42 months

Llamas complete their dentition between 36 and 48 months

Llamas' last growth plates are closed between 36 and 48 months

As with other species, llamas' mental maturity is later than physical maturity

Packing

Exercise is beneficial for growing llamas

Weightbearing is detrimental to growth!

Weightbearing is especially detrimental to maturing tendons and ligaments

Immature llamas place security above self-expression — pain and fear will not be noticed until extreme

Reproduction

Reproduction requires significant energy resources that a growing body can't always spare.

Cria from immature females (bred before 4 years) are born stunted and remain stunted.

Females bred too young will also be permanently smaller.

Females bred extremely young also suffer skeletal damage

Castration

It is true that castration before 12 months carries significant risks for llamas, namely excessive long bone growth (*this is true of several other species as well*).

Castration at 12 months or later results in growth plates closing after a normal height is achieved

Castration at 28 months or later cause fighting teeth to erupt completely, necessitating multiple cuttings that eventually invade the deeper tooth structures; castration before 27 months result in minimal fighting tooth eruption, requiring only one shallow cut per tooth

Castration and pasterns

Despite the number of people who have decided that castration is the sole (or primary) cause of lax pasterns, ***NO link has been scientifically established.***

- Pastern laxity is found in intact males and females as well as castrates
- Pastern laxity has a genetic component
- Pastern laxity has a nutritional component
- Pastern laxity is commonly found in obese llamas

Castration and patellar luxation

Despite the number of people who have decided that castration is the sole (or primary) cause of patellar luxations, ***NO link has been scientifically established.***

- Patellar luxations occur in neonates, intact male, and females as well as in castrates
- Patellar luxations have a genetic component, but this is not easily traceable
 - . The environmental component (stress) necessary for patellar weaknesses to be diagnosed does not occur in all llamas
 - . Some conformational traits compensate for patellar flaws

Herd management

Did you know ... ?

- Llamas castrated after reaching a particular stage of puberty somehow acquire sexual desire and the drive to fill that desire, even after castration!
- The age of sexual drive acquisition can be between 8-20 months, but is most often between 15-18 months in the “old pack stock” gene pool

Did you know ... ?

- “Casual sex” in llamas is dangerous to the female
- Female llamas are adapted to having intercourse 6-8 times in their entire lives (pregnancy prevents additional encounters) ... not 6-8 times every three weeks!
- Females can suffer infections, rectovaginal fistulas, urinary tract infections and damage, reproductive tract scarring, sterility, injury ...

and death!

Did you know ... ?

- “Casual sex” in llamas can result in dangerous behavior developing in geldings!
- Geldings may resist leaving home and be unable to concentrate on their “job”, whether it be packing, performing at a show, or just behaving well at a publicity outing
- Some geldings may become territorial (just like a normal wild male) and direct aggression (from subtle to blatant) at other gelded pasturemates, uncooperative females, and humans

Did you know ... ?

- “Casual sex” in llamas goes almost entirely unnoticed unless you know what to look for and work hard at catching them in the act!
- Llamas prefer privacy, too (it’s a survival adaptation). They avoid sex during daylight and times when they anticipate human interruption.

Signs of sexual activity

- Cyclical behavior changes toward you from the female (attentive, then aloof, and back again)
- Matted fiber on the female’s rump or back
- When appointment-bred (“hand-bred”), female is not receptive on a normal schedule
- Gelding makes a point of standing between you and “his” female(s)

**If you aren’t sure (or don’t have a lot of time), the safest policy is:
Keep geldings and females separate!**

Irreparable harm to females from “casual sex” is a long-term process. Just because you have seen geldings and females kept together on other farms does not mean you have all the information about what is going on and what internal damage has occurred.

Llama weight chart

| Height at withers OR shoulder-to-hip | Optimum working weight | Pre-breeding weight | Term pregnancy weight |
|---|---------------------------|------------------------|--------------------------|
| 40 | 235 (225-245) | 255 | 305 |
| 41 | 250 (240-260) | 270 | 320 |
| 42 | 265 (255-275) | 285 | 335 |
| 43 | 280 (270-290) | 300 | 350 |
| 44 | 295 (285-305) | 315 | 365 |
| 45 | 310 (300-320) | 330 | 380 |
| 46 | 325 (315-335) | 345 | 395 |
| 47 | 340 (330-350) | 360 | 410 |
| 48 | 355 (345-365) | 375 | 425 |

Pre-breeding weight is 20lbs over working weight

Term pregnancy weight target is 70 pounds over working weight

Llamas with light bone, minimal muscling, or short bodies will be at the low end of the range

Llamas with heavy bone, heavy muscling, or long bodies will be at the high end of the range

Because females tend to carry a somewhat higher body fat percentage, male and female llamas of the same size will weigh similar amounts.

Very few llamas have massive bone and massive muscling. These llamas may legitimately weigh more than the high end of the given range.

Llamas bred before physical maturity may be stunted. If the llama's height is less than the llama's length, assume the llama should have been taller and should weigh more.

Llamas castrated before 12 months may be disproportionately tall. If the llama's height exceeds the llama's length, assume the llama should have been shorter and should weigh less.

Target weights for mid to late pregnancy (normal llamas)

| Height | 7 mo | 8 mo | 9 mo | 10 mo | 11 mo |
|--------|------|------|------|-------|-------|
| 42 | 285 | 295 | 305 | 320 | 335 |
| 43 | 300 | 310 | 320 | 335 | 350 |
| 44 | 315 | 325 | 335 | 350 | 365 |
| 45 | 330 | 340 | 350 | 365 | 380 |
| 46 | 345 | 355 | 365 | 380 | 395 |

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This chart is provided based on our experiences at our own farm. Because each situation is unique and scales may be calibrated differently, users assume all risks when using this information.