

Southern Weyr's

Dragon Injuries: Weyrlings

Introduction

The life of a dragon, from Weyrling to full adult, is a difficult one. They begin as frightened, creeling dragonets, and finish as one half of a highly trained fighting force. Barely past the point of impression they are scarcely capable of locomotion, yet they have but 18 months to become a part of a Fighting Wing. Obviously, the Weyrlingmaster is the one that trains the Weyrling, but the Dragonhealer plays an important part in administering to the accidents that occur throughout Weyrlinghood.

Here, in this section, we try to explain the role a Dragonhealer may have in treating a dragon, from Weyrlinghood through to adult life. Please remember that a lot of this is hypothetical, we can't determine everything about a dragon other than what Anne has written.

The following is a summary of some of the problems that may arise in Weyrlinghood. It is by no means comprehensive: many things can happen in the extensive period of Weyrling training.

<u>AGE PERIOD:</u>	<u>PROBLEM:</u>
Newly hatched:	Wounds from tripping/falling. Overeating. Itchy hide from quick growth.
Early Weyrlinghood:	Constipation from overeating. Stomach complaints from overeating. Itching hide from growth. Wounds from general accidents. Muscle injuries from overexertion.
Mid weyrlinghood:	Skin complaints from straps. Tongue bites. Stomach complaints from firestone digestion. Muscle injuries from overexertion. Wounds from landings/take off. Talon loss from landings/take off, hunting etc.
Late Weyrling to adulthood:	Stomach complaints from firestone digestion. Skin complaints from straps. Muscle injuries Wounds from landings/take off. Talon loss from landings/take off, hunting etc. Threadscores.

Constipation

Dragon's tails are forked, almost arrowhead in nature, and where their sphincters are located. Excreta may be stored for several days, before being expelled *between* by adult dragons. Weyrlings are not able to go *between* and need to have their rider muck out their couch. Additionally, dragon's genitalia are concealed behind pouch-like flaps of hide under the junction of tail and body. However, they are only revealed during mating.

If a dragon is allowed to overeat repeatedly, he or she will become constipated, complaining about their stomach being in pain, and occasionally even complaining about their genitals being in pain. The most visible sign will be a thickening of their tail, as the excreta is stored, and begins to compact. This is a common complaint in Weyrling dragons.

Assessment:

Has the dragon been overeating?

Determination:

Is tail will thickened with stored excreta?

Treatment:

1. The dragon must be made to consume at least a gallon of linseed oil, or aloe juice. Purge sticks are something the Weyrlingmaster's use to frighten Weyrlings into taking care of their lifemates properly, they don't have any purpose other than this.
2. Several hours, to a day, later, the dragon will need to be restricted to gentle activities. During, and after this time, the bowels will loosen, and the stored excreta will be expelled.

Recovery:

The dragon may need a day or two to recover. Riders should clean up after their lifemate. This generally serves as a reminder to watch what their dragon eats.

Muscle Injuries

Dragon muscles are, on the whole, silvery-grey in colour, though where the ichor supply is rich, for example in the wings, or legs, then the grey darkens, and may even be tinted with green from the ichor.

They are heavily muscled, particularly in regards to their back legs; this allows them to leap far off the ground when they take off.

Injuries that seem to affect the muscles may also include the tendons and ligaments. Sprains happen when ligaments at, or near to, a joint are stretched, or damaged. A strain is a partial tearing of the muscle, often near the junction where the muscle and tendons anchor to the bone. Muscle may also be ruptured, where there is complete tearing of the muscle; this may occur in the fleshy part of the muscle, or in the tendon. Finally, there is always the association of deep bruising that can be extensive in large bulky muscles, such as the hind legs. Sprains, strains and deep bruising are very common and may occur from a wrenching, a sudden or violent, movement that tears at surrounding tissues, or from overstretching muscle groups.

Injuries of this nature can occur to wings, forelimbs, hindlimbs, necks and even tails (from mating flights!) In young dragons it can be prevented through the use of muscle exercises, especially utilizing the water to develop muscle groups before they can be used as the water will cushion any deleterious effects.

Assessment:

If the dragon is in pain, then ask a Gold to 'dampen' that and still the movement. Involve the rider in this, and ask them for details of the injury. If this is the result of a mating flight, then the Dragonhealer needs to make sure that they start handing the rider skins of wine. Take control of the situation, but never forget to ask a rider first for permission to approach their lifemate: big dragon, in pain, a dangerous combination.

Determination:

Is the dragon favouring one limb/wing etc over another?

Is there any swelling?

Local pain in the area, eased on elevation?

Treatment:

1. Numb the area with numbweed.
2. In severe cases it may become necessary to splint the injury, and allow it to rest properly. Splint with tree trunks, branches or other materials that have been prepared beforehand. Supplies of these should be kept in every dragon infirmary.
3. The site of injury should be rested and immobilized; with the dragon restricted from flying if there is an ankle, leg, or wing injury. If it's a neck or tail injury, only gentle flying should be allowed, and they should be restricted from mating flights (the dragon should not want to participate if they aren't feeling well!)

Recovery:

Recovery time depends on the severity of the injury. This could be anything from a day or two, to several sevendays. Muscle injuries often benefit from immersion in salt water, and gentle exercise in the water. Both rider and dragon should be cautioned about returning to duty too soon as the area may remain prone to similar injuries for some time.

Skin Complaints

Dragon hide is soft to the touch and hairless. It is not metallic in nature and doesn't have scales. It is extremely resilient to most abrasive injuries and provides, like human skin, a barrier to infection. However, absorption of topical substances, such as numbweed and oil, is possible, though it can take some time to penetrate the thick epidermis to reach the germative layer.

Dragon hide should show no fluctuation in colouration unless there is a problem that has not been treated. Some may deepen with age, or turn grey at the muzzle, but on the whole they do not deviate from

their base colour. If their hide appears dull, patchy, or grey, then a Dragonhealer is needed.

There are three main areas of neglect that will affect a dragon's hide. The first problem lies in the fact that dragon hide needs to be oiled regularly. If it is not, then first dry patches, then later cracks, appear, which can be fatal when going *between*. This can be a particular problem in young dragons that grow so rapidly, but older dragons are not exempt. In Weyrling dragons, oiling is a daily necessity, the benefit in this is that the rider's hands end up incredibly soft. The second is the problem of ill-fitting straps. Straps that are not flexible, or that are cracked and damaged, can chafe a dragon's hide. These areas can become hypersensitive and crack, leading to problems going *between*. The third, and final, problem is that of dull, lackluster and grey hide. If this is the diagnosis then the immediate thought should be dehydration, followed by investigation of some injury that has not been treated correctly.

Dry or Cracked hide:

Assessment:

Ask the rider when they last oiled/bathed their lifemate.

Determination:

Is the skin itchy?

Do there appear to be dry areas?

Is one part of the hide paler than the other?

Is the hide flaking?

Treatment:

1. Instruct rider to bathe the dragon, paying particular attention to the problematical region. Use copious amounts of sand, and scrub dead hide away.
2. The dragon should be thoroughly oiled, with particular attention paid to the problematical region.

3. Numbweed may be applied at Dragonhealer's discretion if applicable.

Recovery:

Dragon should not *between* when there is a risk of the dry hide cracking. Once treated, the problem should clear up in a day or two. Riders should be instructed to pay closer attention to their lifemates and in particular to that region.

Chafed Hide:

Assessment:

Are there patches that appear discolored, as if rubbed raw? Dry areas? Hide flaking?

Determination:

Are the straps ill-fitting?

Are the straps broken, twisted?

Are the straps not flexible?

Does the problem develop when the straps are put on?

Or does it develop when they are laying in their couch?

Is it more painful, than itchy?

Treatment:

1. Instruct rider to bathe the dragon, paying particular attention to the problematical region. Copious amounts of sand should be used to scrub dead hide away.
2. The dragon should be thoroughly oiled, particular attention paid to the problematical region.
3. Numbweed may be applied at Dragonhealer's discretion if applicable.

4. Riding straps will need to be corrected, but if this does not seem to be the problem, the Dragonhealer should start checking couches etc for stones or lips that might irritate the hide.

Recovery:

Dragons should not *between* when there is a risk of the hide cracking. Once treated, the problem should clear up in a day or two. Riders should be instructed to pay closer attention to their lifemates and their straps. Straps should be inspected daily for wear and tear. If this continues to be a problem, then the Rider should think about padding out parts of the straps with strips of suede.

Stomach Complaints

Dragons have two stomachs, one is for food, and the digestion of such, the other is for Firestone, and the complex reaction that is necessary in order to generate flame. Early on dragons learn to concentrate on their second stomach when chewing Firestone. However, accidents do happen during this important phase of learning, and often chunks of Firestone end up in the food stomach. Ingestion of Firestone, and passage into the correct stomach, leads to chemical reaction, catalyzed by an acid of some nature. The exact nature of this substance is unknown, but reports from dragons during Weyrling training complaining of a burning feeling in their esophagus leads us to surmise it's an acid of some kind. Once the chemical reaction has been completed in this second stomach, then a number of flammable gases are produced, which, when belched forth, ignite on contact with air. Flames can be sustained for well over a minute in an experienced dragon, and the range can be altered from around 2 to 6 meters.

There is no secondary digestive tract for the second stomach, unlike the first, which passes to the tail. Therefore, the Firestone, which has been masticated and subsequently digested inside the second stomach to an odorous ash, is not excreted but disgorged. As Weyrlings, dragons regurgitate in ashpits near the Weyrling barracks, but once

between training is underway, dragons will disgorge the contents of their second stomach when in *between*.

Golds do not ingest Firestone. The weyrwomen therefore use Flamethrowers in Threadfall, which have as much variation in range as a dragon. However, it is probably an old aunties tale to believe that not ingesting Firestone is the reason why golds are fertile, unlike their green counterparts. Since gold firelizards ingest Firestone, flame and still bear live clutches, it is believed there is something in the genetic makeup of a green dragon that makes her sterile, and not the Firestone. Considering the frequency at which greens rise, this is somewhat of a relief to any Weyr. Additionally, no sane weyrwoman would risk the fertility of her gold when there are plenty of fighting dragons in the Weyr.

Because dragons have two stomachs it is important to determine the cause of the discomfort. Overeating generally only happens in Weyrling dragons. It can, and will, lead to constipation if left unchecked. Additionally, flying with an overfull stomach can lead to sprains and strains. Since dragons eat freshly killed meat, they do not encounter problems that some humans can have with bad meat and so the only other problem they may have is regurgitated acid from the second stomach. This burning feeling will be fleeting and often will pass after a swallow or two. When dragons begin to chew Firestone a stomach ache may result from chewing Firestone that is of a poor grade. Bad Firestone can be recognized by an uneven color, holes that vary widely in diameter, as well as tunnels that may go straight through the rock. This is why it is imperative that Weyrlings are taught to sort Firestone early on, so that when feeding their lifemates it becomes second nature to give them the right sized chunks, but also of sufficient quality to produce and sustain a good flame. However, in the case of bad Firestone, the Weyrleaders need to be informed immediately so that the stores can be checked, and the Minecraft notified.

Assessment:

Ask the rider if the dragon has eaten recently, or if they have digested Firestone? Have they regurgitated ash?

Determination:

Is the dragon complaining of an ache in their first or second stomach?

If first stomach does their stomach look distended?

If the second, is their flame unsustainable and blue?

Treatment:

Firestone:

Once eaten, the only remedy for the consumption of bad Firestone is letting the dragon cough up the ash. Dragons should not be allowed to head into Threadfall after consuming bad Firestone.

Recovery:

The problem should clear once the Firestone ash has been regurgitated.

Overeating:

The dragon's eating habits need to be controlled better by their lifemates, especially since overeating can lead to constipation. Dragons should not be allowed to fly, after overeating, in case they strain themselves.

Recovery:

Full recovery within a day.

Talon loss

Dragon talons are similar in nature to canine claws, and even our own fingernails. They are made of keratin, and grow out from a talon bed, which is situated in the foot pad. Thus, the talon itself has no nerves associated with it, and therefore no feeling, until it reaches the point where it grows from the talon bed. There it is nourished with ichor and nerves. However, that's not to say they cannot feel by association through their talons, though it is more correct to say that they feel the connection through the talon to the talon bed.

Talon loss becomes quite common when young dragons are learning to fly. However, it remains a risk throughout life, especially in those dragons that are injured or sick, or otherwise impaired. It is then that take off and landings can cause a talon to break off, either fully or partially, particularly on hard surfaces, such as rock and compacted dirt.

Though much not so common, talon loss can also occur in mating flights, whereby talons are lost by fighting males. Hunting may also result in the loss of a talon, particularly when the captured beast is of a sufficient weight that a wrong move will wrench the talon from the bed of the foot.

Assessment:

If the dragon is in pain, then ask a Gold dragon to 'dampen' the pain. It's likely that the pain will be fleeting, with the wrenching occasionally accompanied by nausea, which will then lessen to a throb. The Dragonhealer should ask the rider for details of the injury. If it's a flight injury, the rider should be given a skin of wine unless the Dragonhealer wants their affections coming their way (not advised until **after** you've dealt with the dragon). Otherwise the rider should only be affected a little, with an uncomfortable feeling predominating.

Determination:

Is there any talon left?

Is the talon hanging at an awkward angle?

Is there dirt associated with the remaining/lost talon?

Is there ichor pooling around the talon bed?

Treatment:

1. The area around the talon bed should be cleaned with redwort, especially if infection seems likely. If there's some ichoring, then use apply numbweed immediately.
2. If the talon is torn, the Dragonhealer should determine whether it would be more fortuitous to remove the complete talon, or remove the damaged portion. If they decide to remove the talon, they should make sure that the talon bed is fully numbed. The talon is mostly dead, this does not need to be numbed, only the bit near the bed is living tissue.
3. The assistance of another dragon may be required to remove the talon, depending on how severe the injury. If it is hanging from the talon bed at an angle a sharp, sterile knife should be used to remove it, severing through as little tissue as possible so as not to damage the talon bed.
4. If the talon can be saved, remove the part that is damaged with a sharp knife. The Dragonhealer will need to numb the talon bed with numbweed, otherwise the dragon will feel uncomfortable pressure in this area during the procedure.

Recovery:

The talon should eventually grow back, taking between four and eight sevendays to do so. Any injury site will close within a day or two. Occasionally a talon may not grow back if the talon bed is sufficiently damaged. However, this will not impair the dragon in any way, as they will quickly learn to compensate for the missing talon.

Threadscore

Thread is the whole reason dragons were created. It is a parasitic organism somewhat similar to a Terran mycorrhiza, carbon-based and omnivorous. Although its exact origins are unknown, it is believed to

hail from the Red Star, as the approach of the erratic wandering planet in the sky heralds a Pass of Thread. As it passes through Pern's atmosphere, Thread unfolds into its threatening form: a tangled mass of greyish-silver filaments that devours anything organic in its path. Thread can only be killed by flame, extreme cold, or water.

Threadscore is a severe burn, caused by the fact that the mycorrhiza grows very hot on its trip through the atmosphere, and a wound, from where it consumes organic substances. The edges of any Threadscore wound will be blackened and burned as if it were lanced by a very hot blade, and therefore easy to diagnose: it looks like a cut that's been burned along the edges. Dragon Threadscores generally don't need dousing in water, as they've generally gone through between immediately after sustaining the injury in an attempt to kill the Thread. However, in the event that a wound does need drowning, get the dragon into or near a lake if at all possible or else carry a lot of water buckets.

Many dragons sustain basic Threadscores, and Weyrlings are generally not tapped into a Fighting Wing until 'blooded'. The symptoms will be clean lacerations of a burned nature, with blackened edges. Rider and dragon will both likely be uncomfortable, but no more than that.

Assess the situation:

For mild Threadscores, rider and dragon should be in no more than mild discomfort, so it's possible to get the rider's assistance in treating the injury.

Determination:

Where is the injury?

Is it dirty in any way?

Make sure that the Threadscoring is definitely of a basic nature. Look for deeper, more serious injuries.

Treatment:

1. If wound has become dirty (often char dust will be the main culprit), clean quickly but thoroughly with redwort solution.

2. Cover wounded area with numbweed.

Recovery:

Simple scores are unlikely to trouble dragons once treated. Slightly deeper scores with no complications or infections may keep the dragon out of the air for a day or two.

Tongue Bites

Dragon tongues are not forked, and they have little saliva, just barely enough to help protect from infection and help in masticating food and Firestone. Too much saliva might complicate later reactions in the second stomach upon chewing Firestone. The tongue does have taste buds, but unlike a human's it isn't as developed, and it is doubtful they differentiate between sour/sweet etc. However, their taste buds may allow them to discern between food and Firestone, so that they can direct it to the correct stomach.

Dragon teeth are strong, which is fortunate as they have only the one set of teeth. They rarely break, but may do so in later age. The front teeth are sharp canines, which are ideal for the ripping and rendering associated with hunting, and molar-like at the back for chewing meat and Firestone.

When Weyrling dragons begin to masticate Firestone there is often the chance that they will bite their tongue sufficiently hard enough to make it ichor. Distracted dragons may also occasionally bite their tongues by accident, or those trying to eat large chunks of food, instead of using their front canines to rip it into manageable pieces.

Assessment:

Have they been chewing Firestone? Have they been eating large chunks of food?

Determination:

Is the tongue ichoring?

Are their bite marks on the tongue?

Treatment:

1. Apply numbweed to the tongue, and let it heal.
2. The dragon should not chew Firestone for time it takes to heal. Additionally, their lifemate should ensure that food is cut up into manageable chunks. The dragon should be reminded to use other side of their mouth where possible.

Recovery:

The saliva produced (there will be extra because of the addition of numbweed to the mouth and because of the injury) will aid in the healing of the bitten part of the tongue. It will be completely healed within two to three days. The Dragonhealer should advise caution for the future, and/or smaller chunks of food.

Wounds

Any disruption of the hide, or surrounding body surfaces, is known as a wound. Most wounds are classified as being open, with a break in the hide through which ichor may escape. This, however, disrupts the normal impenetrable barrier to infection, as germs may enter via the route of injury.

How the wound is created determines the type of the wound and also influences the treatment given. Incision wounds are made by a clean cut from a sharp edge, such as a knife. There may be profuse ichoring because the edges of ichor vessels are cut straight across. Generally, this type of wound is rare in a dragon, and is usually the result of some surgery on the part of the Dragonhealer. Lacerations are rough tears caused by crushing or ripping forces, generally from another object/dragon. Lacerations may ichor less profusely than clean cut wounds; though there is more tissue damage. Contamination risk from

germs and subsequent risk of infection is high. These may happen during a mating flight when talons may shred the hide of an opponent. Abrasion wounds are superficial wounds in which the top layers of the hide are scraped off, leaving a raw tender area, and are caused predominantly by a sliding fall or a friction burn. They often contain foreign particles that may cause infection. In dragons these can occur from brushing against rock, bad landings on hard dirt, etc. Puncture wounds are caused by the entry of a sharp foreign body into the hide, such as the use of a needlethorn. They are characterized by having a small site of entry but a deep track of internal damage. As dirt and germs can be carried far into the body risk of infection is high. Generally, because dragon hide is so thick, these injuries are extremely rare, but may occur in the frenzy of bleeding with sharp bone fragments from the herdbeasts and wherries. Threadscore is similar to an incision wound in tissue damage, but with the complication of a burn. Depending on the resultant damage, Threadscored wounds may ichor profusely or ooze slowly. However, Threadscore is such a common complaint for dragons that it's covered in its own section.

Several of these wound types can cause serious ichoring, and it is imperative that a Dragonhealer learn to recognize the various types of ichoring from the various types of vessels. However, at this level only capillary ichoring will be taught. Capillary ichoring can be characterized as oozing and occurs at the site of all wounds. Although capillary ichoring may at first be brisk, ichor loss is generally negligible. When the ichor vessels are severed or torn, their damaged ends constrict and retract in order to minimize ichor loss. At the same time, the ichor that escapes from damaged vessels begins to clot.

One of the greatest dangers with any wound is that of infection. Wounds should always be cleansed with redwort, and care should be taken to remove all dirt and other foreign objects.

Assessment:

If the dragon is in pain, then ask a Gold should be asked to 'dampen' the pain and still the movement. However, in these cases, the application of numbweed should solve most cases. The rider will have to convince the dragon the pain will go away, as the numbweed does take at least 5 seconds, if not longer, to penetrate dragonhide down to the germative layer. Involve the

rider. Ask the rider for details of the injury. If this is the result of a mating flight, make sure you start handing the rider skins of wine. Take control of the situation, but never forget to ask a rider first for permission to approach their lifemate - big dragon, in pain, equals a dangerous combination.

Determination:

What type of ichoring do you have?

Is the ichor gushing, oozing, or spurting?

Is this a slight, moderate or severe injury?

If moderate or severe, then ask for a more capable Dragonhealer to take over.

Treatment:

1. Clean wound with redwort.
2. Slather with numbweed. Remove any dirt, foreign articles etc.
3. If ichoring has not stopped, apply a pressure bandage to the wound. A pressure bandage is merely a pad of bandaging material that is applied over the wound and pressed tightly in place. If this soaks through, it should not be removed; instead, a second bandage should be applied on top of the first. In most cases, this will be enough to stop ichoring. The Dragonhealer may need help in doing this.
4. Apply more numbweed

Recovery:

For minor injuries usually a day or two is all that is required. Numbweed will help clot the ichor, and so the wound will heal quickly. For more moderate injuries, usually no more than a sevenday is required. Obviously, if the injury is in a place that would be exacerbated, such as under the straps, on the wingsails, etc, they should rest longer.

During the recovery time, it is important to keep wounds clean and protected from further injury. The rider should be cautioned about the signs of infection and urged to seek a dragohealer if they notice any of these signs:

- a) Increasing pain and soreness.
- b) Swelling, redness and a feeling of heat around the wound.
- c) Pus within, or oozing from, the wound.
- d) Faint trails leading away from the wound.
- e) If the infection is advanced, signs of thirst, gray hide and lethargy.

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