



Redemption Farm Hoof Care
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Metabolic Disorders

NOTE: please consult your veterinarian for diagnosis and treatment plan.

This info is not intended to replace the vet's role, but to give you additional resources for your own research!

- **Insulin Resistance (IR) / Insulin Dysregulation (ID) / Equine Metabolic Syndrome (EMS)**

- EMS / IR / ID is a metabolic body type in which horses have abnormal responses to carbohydrates which can result in high insulin and laminitis. It is not a 'disease' and cannot be 'cured' but rather requires lifelong dietary management.

- **Symptoms**

- Abnormal lumpy fat deposits, cresty neck, fatty sheath or udder; history of laminitis from grass, puffy hollows above eyes, elevated blood insulin, advanced cases may have increased thirst/urination, muscle wasting, lethargy

- **Diagnosis**

- Ask your vet to draw blood to send to Cornell (the most accurate lab for metabolic testing). Ask the vet to test Insulin, Glucose, ACTH.
- Per ECIR group protocol, the horse should be given hay overnight but no grain prior to testing. Avoid exercise, stress or trailering prior to the blood draw, as it can cause false elevation.
- Confirm your vet knows that blood handling is critical for accurate results. The blood should be immediately chilled, spun down within 4 hours and frozen, then shipped overnight on ice to Cornell. Other labs do not have consistently accurate results.
- Enter results in the ECIR Calculator to interpret. The reference ranges from the lab are not based on healthy horses and are not accurate. www.ecirhorse.org/EMS-calculator.php

- **Treatment**

- **Dietary control is critical!** Restricted carbohydrates, all food must be lower than 10% ESC + Starch.
- **NO GRASS OR WEEDS.** This means NONE. Not a "dry lot" that is really just overgrazed short grass/weeds. Once the horse is stable, it may be possible to have limited smart grazing, but at the beginning limiting sugar intake is extremely critical to get the insulin stable.
- **Emergency Diet on ECIR** - www.ecirhorse.org/DDT+E-diet.php
Start immediately, until long term diet is established.
- **Long term diet:** test hay (I have a hay corer to collect samples), ensure hay is below 10% ESC + Starch (otherwise need to soak to reduce sugar if untested). Balance minerals to hay analysis. I can help with this.
- **Exercise** is even more effective than diet at lowering insulin! If the horse does not have laminitis, or once the laminitis is under control, increase exercise. Do not force a foot sore horse to exercise.

- **PPID (Pituitary Pars Intermedia Dysfunction) aka Cushing's**

- PPID is caused by an enlargement or tumor on the pituitary gland, which results in high cortisol. It is most common in older horses, teens and up, but can happen in younger horses too.
- **Symptoms:** Weight loss, muscle wasting especially topline, pot belly, patchy fat deposits, poor coat, delayed shedding, long curly coat (advanced cases), lethargy, excessive drinking/urination, fall laminitis or footsoreness, hoof abscesses, excessive sweating or failure to sweat, skin darkening/thickening/scaling, increased susceptibility to infections, higher parasite counts, development of allergies or hypersensitivities, infertility, tendon/ligament issues.

- **Seasonal Rise:** All horses' ACTH levels increase in the fall, which is normal, it tells their body to prepare for winter. PPID horses have a much higher abnormal ACTH rise in the fall, which can cause significant problems. Often the first sign of an early undiagnosed PPID horse is fall footsoreness or abscesses.
 - ACTH begins to rise in late July, peaks early October, and reaches normal levels again by December.
- **Diagnosis**
 - Ask your vet to draw blood to send to Cornell (the most accurate lab for metabolic testing). Ask the vet to test ACTH, Insulin, Glucose. The insulin test will let you know whether the horse also has IR, which tells us how carefully you will need to control the dietary sugars.
 - It was previously thought that we cannot test for PPID in the fall due to seasonal rise. Now that we know more about it, it is actually the optimal time to test, as we know all horses' levels go up a little, but PPID horses go up a lot! We just need to interpret results with a different reference range. Some early PPID horses will test normal at other times of the year, but will be quite high during seasonal rise, so this is a good time to test early mild cases.
 - If your horse's ACTH is normal but you still think he might have PPID based on symptoms, a TRH stim test can be very useful for catching early cases.
 - The horse should be given hay but no grain prior to testing. Avoid exercise or stress prior to the blood draw, as it can cause false elevation.
 - Confirm your vet knows that blood handling is critical for accurate results. The blood should be immediately chilled, spun down within 4 hours and frozen, then shipped overnight on ice to Cornell. Other labs do not have consistently accurate results.
- **Treatment:**
 - **Pergolide** (brand name Prascend). Herbal chaste tree berry may control symptoms in some horses but does not control the disease, and is not recommended.
 - **Pergolide Veil:** temporary side effect of the medication, only effects some horses. Lethargy and poor appetite. Prevent this side effect by starting with 0.25mg for 3 days, then increase by 0.25mg every 3 days until you reach the desired dose. APF is an adaptogenic herbal supplement that can also help with the temporary side effects.
- **Some horses with PPID can safely graze.** If the insulin is normal, the horse may have just PPID and not IR. In this case, the horse needs medications to control the PPID, but not necessarily the strict diet of IR. However, be aware that this may change in the future, as uncontrolled PPID can cause high insulin, so monitor your horse closely for changes.
- **ECIR Group**
 - ECIR is a volunteer-based online forum that has been helping owners manage laminitis/founder, EMS and PPID for two decades. The horse owners, hoof care providers, and veterinarians involved on the forum offer their time to discuss proper diagnosis, nutrition, medication/treatment, and emotional support. ECIR was started by Dr. Kellon, who has been at the forefront of latest research and best management of these horses. It is truly an invaluable resource.
 - Information: www.ecirhorse.org Chat group: ecir.groups.io
- **Things to consider**
 - **Horses with metabolic conditions may be more sensitive to some drugs and chemicals,** which may cause a laminitis flare up, especially when not IR is not yet well controlled. Use extra caution with vaccines, dewormer, sedation, medications, etc. Ask your vet if your horse truly needs such things at this time and have a discussion about risks vs benefits. If the horse has acute laminitis or is early in rehab, consider asking if you can delay the vaccine/dewormer/sedation/meds until the horse is stable.
 - **Absolutely NO STEROIDS.** Steroids are very likely to cause laminitis in metabolic horses and should not be used unless it is absolutely necessary. Consider whether whatever you are treating with steroids is worse than the laminitis that is likely to follow, and is it worth it? This includes steroid inhalers and steroid joint injections. If it is determined that steroids are indeed necessary, ask your vet what you can do to minimize the likelihood of laminitis.