

Gray Horses and Melanomas

- By Jennie Hakes, July 2025



Colinda Z and me 2012

In 2010, I bought a 12-year-old flea-bitten gray Zangershiede mare named Colinda Z (“CZ”). I had never owned a gray horse, so melanomas were not on my radar – until I started noticing black grape-like bumps under her tail maybe 8 years ago. Not one, but two veterinarians did not seem concerned and advised me to do nothing, but the bumps eventually grew alarmingly into big lumps, worrying me enough to have them removed in October 2024. I regret not doing sooner. More on that later.

If you don’t know what a melanoma is, which I didn’t, it is a type of skin tumor found in 80% of gray horses over 15 years old. Melanomas most commonly form under the tail, in the region surrounding the anus, and on the genitalia, but can occur elsewhere such as on the head, and in worst cases internally. Unlike melanomas in humans, equine melanomas are not caused by sun exposure. Non-gray horses can get melanomas, too, but it is not common; those tumors are usually more severe.

What is a “gray” horse?

Sounds like a silly question, but not all horses with gray or white-ish coats are true grays. Cremelos, perlinos, true whites – these horses are born predominantly white and have pink skin. A true gray is born bay, black, or chestnut, and has black skin and dark eyes. All gray horses eventually turn white or flea-bitten if they live long enough.

My mare came with a passport listing her as a bay, which made me scratch my head at first (do I have the right horse?). In looking at CZ’s family tree, her dam was bay and her sire, Catango Z is gray. The three photos below show the gradual graying of Catango Z (both his sire and dam were gray).



Colinda Z with previous owner Lisa Roskens



Why does a horse turn gray?

A horse has around 22,000 genes that determine the characteristics of the animal. Each cell has two copies of each gene, one from the sire, and one from the dam. All gray horses have at least one gray parent. A gray horse has inherited either one dominant and one recessive gray gene (Gg) or two

dominant gray genes (GG). The gray gene causes progressive depigmentation of the hair shaft by causing the *melanocytes* in the skin to go into overdrive. (Melanocytes produce the pigment called melanin; virtually all mammals produce melanin with the exception of albinos.)

Why do most gray horses get melanomas?

Beautiful as gray horses can be, there is a downside – they have a genetic predisposition to develop melanomas. A 2024 study in Sweden determined the speed of graying is directly related to the number of copies of a small, duplicated DNA sequence in gene Syntaxin 17.¹ This mutation disrupts the normal melanocyte function. Slow-graying horses have 2 copies of this mutation and will never turn completely white, but fast-graying horses have 3 copies and can turn white in as little as 10 years. Fast-graying horses are more likely to develop melanomas. A test called the “gray copy number” can predict how fast this graying will occur. The slower the graying, the lower the incidence of melanoma.²

What should you do about melanomas?

Not every gray horse will get melanomas, and not all melanomas will grow into cancer. Because melanomas are so common in gray horses, many veterinarians do not recommend removal, the thought being it could cause the tumors to become more aggressive. Opinions on this have changed. Melanomas may be common, but they aren’t harmless. A January 2025 article³ in EQUUS magazine reported that delaying the removal of melanomas “can have a serious impact on a horse’s life.” The size of the melanoma does not determine if it is malignant or not. If a melanoma occurs internally, it is always due to a malignant melanoma on the skin metastasizing.

If not removed, melanomas can grow quicker and larger, sometimes becoming cancerous. Unchecked melanomas could lead to internal tumors that affect defecation and urination. Removal at an early stage when melanomas are small can lead to a normal life for the horse; however new melanomas can continue to appear for the life of the horse so the owner should be vigilant and continue removing them. It is also cost-effective to remove them early, as it is easier to remove small ones than large ones. Treatment options today include surgical removal, laser ablation, Oncept vaccine, and chemotherapy. Mind you, none of this is inexpensive, but other than doing nothing, removing the melanomas as soon as you find them is the most cost-effective option.

(An article in *Blood Horse*⁴ describes some famous Thoroughbreds – Tapit, Black Tie Affair and Alphabet Soup – who turned white and developed melanomas. In 2016-2017, Alphabet Soup was treated with an at the time new cancer vaccine that reduced his tumors by over 75%. This vaccine “allowed the retired stallion’s immune system to target and eliminate cancer cells by placing an indicator on the cancer cells to alert the immune system of the enemy.”⁵)

Colinda Z’s melanomas and treatment

Back to my mare. On Monday October 28, 2024, I hauled CZ to the University of Minnesota's Large Animal Hospital in St Paul to be evaluated for surgery. They gave the OK and operated on Tuesday. Because her melanomas were large, the surgery took 5 hours. A small tumor in the corner of her right eyelid and another suspicious spot by her left eyelid were removed the next day. They also noted 2 firm, circular swellings in the right throatlatch, but removal in these areas is really not an option.

1 <https://phys.org/news/2024-09-genetic-variant-hair-graying-susceptibility.html>. This article details the research at Uppsala University in Sweden

2 UC Davis Veterinary Genetics Library https://vgl.ucdavis.edu/test/gray_copy_number

3 “Research backs early intervention for equine melanoma.” January 16, 2025, by Christine Barakat.

4 <https://www.bloodhorse.com/horse-racing/articles/280041/shades-of-gray-study-looks-at-coat-color-aging-horses>

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After the 2nd surgery, CZ's went on IV fluids due to compromised kidney function and needed to stay a few more days until that was resolved. We brought CZ home on Saturday November 2. Total cost? \$4500.

Aftercare



CZ prior to surgery

CZ was fairly miserable for quite a few days. Her wounds were extensive, and she didn't want me anywhere near her hind end, even kicking if I got near her tail to check her wounds. She continued on Banamine every 12 hours for 6 days, plus antibiotics. I had bloodwork done 1 week post-op to check her kidneys, and it came back normal. CZ was on stall rest for a week or two, then easy turnout and was back with the herd a month later.



CZ post-surgery

Hindsight is 20/20. Probably it was too late to do this operation. She is now 27, which is a long life for a horse. She is sound, she can still do justice to her dressage movements and seems happy. So far, I have not noticed much more tumor growth,

though I expect it. If and when that happens, I will not put her through surgery again. (By the way, CZ is still flea-bitten gray; she has not turned white like her sire.)

Other experiences

I put a note on <https://groups.io/g/TCCT> (a horse-oriented list) to see what experiences other owners had with melanomas. Here are some responses (edited for brevity):

Shiloh, 19-year old mare. In 2023, Shiloh had numerous tumors removed by laser ablation from her anus and vulva at the U of MN. "Deep incision required a few stitches. She was on stall rest for 3+ weeks and then light work. Meds at first for pain and antibiotics. Ascend ointment for incisions. She healed really well and has had no new tumors so far." - Tracy Jennings (Note: Tracy's experience with Shiloh is why I decided to get CZ done. Thanks, Tracy!)

Cora, 15-year-old gray Friesian Sport Horse (crossed with Arab and Morgan.) Cora started life black in color (see photo). Lynda has owned Cora for 8 years and says the mare came with some melanomas. She had 5 melanomas removed from under the tail a few months ago after hearing of other people having them removed when they were small. Her vet agreed. It was a standing procedure with cryotherapy on the resulting incision sites. "Recovery was very quick; they were scabbing over within a week and fully healed over with nice healthy skin shortly after that. Interestingly, she was scoped at ISU in 2020 for a nasal discharge, and they found flat colored patches in her guttural pouches that they said were a form of internal melanomas." Lynda Fleming





Rascal, OTTB. Rascal has had two operations for melanoma removal. “The first time was for an extra-large one that was right next to his anus (see photo at left), and we worried that it would impair his ability to poo.” That was in 2017. Two years later she had some smaller ones removed by laser. The horse is 27 and doing well. Rachel thinks Rascal started out black in color. - Rachel Deambrogio

Gray Appendix. Had melanomas when she bought him at age 12, in 2003. “He had one larger one above his eye plus a couple smaller ones on his tail. I was advised that I should leave them alone as they would not harm him or cause his death long-term. However, over time he ended up with many (close to 100?) tiny melanoma bumps around his anus and maybe 4-5 medium sized bumps on his tail. I ended up euthanizing him in 2008, at the age of 17 years, due to a mass in his lung that continued to grow despite steroid treatments for many months.” The owner says it is possible his melanoma had metastasized and spread to his lung.” - Anonymous owner

Welsh ponies Star, Missy, and Tally. Two of her gray Welsh ponies developed melanomas on their tails around age 5. Her vet at the time did not advise doing anything about them. Missy was eventually euthanized due to multiple problems, including her melanomas (“Tumors everywhere!”). Star has fewer tumors, but larger. The mare’s son Tally is 17 with no sign of tumors. “That being said, as a breeder, I have chosen to not breed anything that could be grey.” (Heidi also had a gray TB she sold when it was 10, and it had no sign of melanoma.) – Heidi Tchida

Arabians. “The farm I grew up on had mostly Arabs and Arab crosses, so we had a lot of melanomas. My riding horse’s dam had one, growing quickly, in the corner of her eye that we had removed. She retained her sight and full function, and it was never a problem for her again. As my gelding aged, he developed some along the bottom of his tail bone and between his hind legs. They didn’t cause any issues with movement we did not remove them. When he was 28, he started dragging a hind toe slightly and over the course of a month it worsened, and his body started to kind of curl to one side. The vet thought he had a tumor on his spine somewhere, but it would be impossible to find or remove. As that worsened and he had a tripping/safety issue in the pasture we had him put down.” – Laura Carlson

19-year-old mare. “My 19-year-old mare has two bumps on the underside of her dock. My vet has recommended leaving them alone (perhaps as a factor of her age as he did remove sarcoids when she was 11), but I’ve read other sources that advise removal for any melanomas.” - Anonymous

QH/Percheron gelding. Alicia’s horse “had many melanomas, especially around his anus and in his sheath. My vet’s advice was ‘leave them unless they become a problem. She mentioned they can make urination and/or defecation difficult if they are in the wrong spot or grow too large. In his case, they were unattractive, and when one under his tail grew quite large and developed a small crust or scab, it must have been itchy, because he started rubbing his tail. Other than that, they caused no problems. I put him down at age 26 for unrelated reasons. I avoided grays when looking for my next horse, but that was more to do with grooming challenges than with melanoma.” – Alicia Cozine

Remington (AKA Bud), Chestnut and white pinto. “Remington (AKA Bud), has black skin under his chestnut areas and pink skin on the white areas. The melanomas are right on the border between spots, but on pink skin. The melanoma has appeared on his sheath. My vet prescribed a topical which did remove a smaller growth on his back but did not remove the one on his sheath. It did seem to slow it down a bit.” Nancy has had surgery performed twice, but the melanoma came back each time. Bud is now 25 years old, and Nancy has decided against more surgery, due to his age and not wanting to repeat the trauma. She declined the implantation of radioactive beads. – Nancy Cupp