

# Arabian fading

## SYNDROME AND NUTRITION

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*photos by Gigi Grasso*



Arabian horses, especially grey Arabian horses, are prone to develop a skin depigmentation that is recognised by several different names: vitiligo (the most correct and specific medical term), Arabian fading syndrome, pink syndrome, "pinky" and others. This disease causes the horses to undergo a progressive depigmentation of the skin.

As to its scientific definition, vitiligo is a specific type of leukoderma (skin depigmentation), and is better defined as an acquired disorder that selectively destroys some or all melanocytes (cells producing the black pigment melanine) residing in the epidermis or skin. The mechanism or mechanisms by which the melanocytes are lost may be many, but are not yet unequivocally proven.

The causes of vitiligo are still mostly unknown, but it is considered likely that the melanocytes of the affected individual are genetically more susceptible to one or several environmental factors that initiate the processes resulting in the loss of melanocytes and appearance of white spots on the skin.

There are a lot of skin depigmentations characterized by the absence of melanocytes in the skin other than vitiligo. Leukoderma can be then classified as follows:

- ◆ Genetic, congenital depigmentation
- ◆ Piebaldism
- ◆ Waardenburg's syndromes (types 1 - 4)
- ◆ Albinism-deafness syndrome
- ◆ Others
  
- ◆ Acquired Depigmentation
- ◆ Primary (not known to be caused by another disease)
- ◆ Vitiligo vulgaris
- ◆ Rozycki syndrome
  
- ◆ Secondary (caused by or associated with another disorder)
- ◆ Chemical leukoderma
- ◆ Depigmentation associated with melanoma
- ◆ Depigmentation associated with halo nevi
- ◆ Other halo phenomenon
  
- ◆ Depigmentation associated with lymphomas
- ◆ Vogt Koyanagi Harada syndrome
- ◆ Allezendrini syndrome
- ◆ Idiopathic guttate hypomelanosis
- ◆ Lichen sclerosis et atrophicus
- ◆ Scleroderma
- ◆ Post traumatic (e.g. thermal and radiation burns)
- ◆ Post inflammatory (e.g. lupus erythematosus)
- ◆ Post infectious (e.g. herpes zoster, pinta)
- ◆ White (not gray) hair (familial and sudden whitening)
- ◆ Others



*Grey Arabian horses are prone to develop skin depigmentation*

*Vitiligo is an acquired depigmentation*

*Pigmentary abnormalities of the skin and coat are actually common among different animal species, including man. It is believed that most of these abnormalities may be acquired, and that some may be hereditary or familial, such as vitiligo. As a familial disease, vitiligo is well recognized in the Arabian horse breed and in some other animal breeds as well. It is also believed that it could be familial in Holstein-Friesian cattle, Siamese cats and in some breeds of dogs including the Belgian Tervuren and Rottweilers.*

*Vitiligo is normally not accompanied by systemic or cutaneous disorders. Unfortunately at the present time, there are no treatments proven to be consistently effective for any species and treatments currently used in people with vitiligo are unlikely to provide significant cosmetic results in animals. As a multi-factorial pathology, it is believed that the genetic background is a cause of susceptibility to environmental and nutritional disturbances and imbalances. Therefore, it is important to prevent the lack of all the nutrients that have a role in the skin health of the horses that show this pathology.*

*Affected animals develop somewhat symmetrical macular depigmentation of the skin, similar to the Appaloosa pattern for some extent, that occasionally also affects the hair coat and claws or hooves. The onset usually begins in young adulthood. Most lesions are on the face, especially the muzzle or nose or around the eyes. The area may be haired with leukotrichia, but there is no hair loss. Depigmentation*



*may wax and wane, but complete remission rarely happens.*

*In the Arabian horse, the disease can be very striking and devastating to the owner because it is a standard breed characteristic to have dark skin under the hair, especially around the muzzle and eyes. On the contrary, affected horses have white splotches. Usually the depigmentation occurs about at the age of 1-2 years, and is not accompanied by any inflammation or redness or thickening or thinning of skin. Some lesions can also appear during pregnancy, or in the early postpartum. Lesions are generally annular, normally symmetrical, on muzzle, lips, around eyes, anus, vulva, sheath, hooves.*

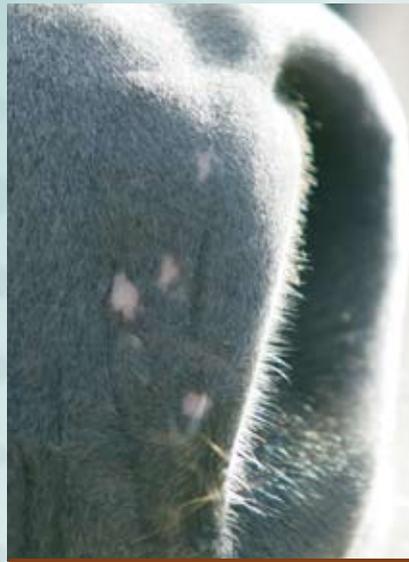
*There is a number of nutrients that play a role in maintaining the integrity of the skin, permit its sound renewal and maintain its colour. All of these nutrients must be present in proper amounts in the horse's diet. Nutrient requirement tables are widely available in international literature. But as to vitiligo affected horses, it is likely to presume that "normal" supply levels of these nutrients must be increased for horses that are more susceptible to specific nutrient deficiencies. This is the main reason why high amounts of these nutrients are sometimes prescribed by veterinarians. Moreover, for the prevention or treatment of vitiligo, these nutrients are not always given with meals. This is because some deficiencies could be a consequence of a lack of adsorption from the gut. Therefore, Intra-muscular (im) or intravenous (iv) injections are then preferred. Among the cited nutrients, it is possible to list:*

- o itamin A: Vitamin A or retinol, a fat-soluble vitamin,*

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The area may be haired with leukotrichia



Depigmentation may wax and wane, but complete remission may occur rarely



In the Arabians, the disease can be very striking to the owner because Arabians are supposed to have dark skin around the muzzle

that plays essential roles in vision, growth, and development; the development and maintenance of healthy skin, hair, and mucous membranes, immune functions, and reproduction. The deficiency of vitamin A involves keratinisation of the skin. Vegetable oils are good sources of the pro-vitamin carotin for the horse, but fresh grass (alfalfa, in particular) also is a good source. Other sources of this vitamin are supplements and pharmaceutical preparations that must be used by im or iv administration.

o itamins of the B group: a number of vitamins of the B group play a role in the skin and coat metabolism, and their deficiency can cause troubles for horses. In particular riboflavin (vitamin B2) deficiency involves hair loss and lips skin lesions. Biotin (vitamin H, that is one of the B group) is one of the most well known vitamins, in particular for its role in the hoof growth. In fact, biotin is involved in the hair and hoof metabolism, and its deficiency involves a decrease in the skin, coat and hoof quality and hair loss. Other skin lesions may result when using rations that lack vitamin B12 (cyanocobalamin), panthotenic acid, niacin (vit. PP) and vitamin B6 (pyridoxine).

o obalt: its deficiency involves dry skin and rough coat.

o odine: a lack of this mineral can led to alopecia, dry skin and rough coat.

o inc: one of the most important trace elements involved in the skin metabolism, its deficiency involves the same troubles as Cobalt and Iodine, plus dermatitis.

o opper: the most important trace element relating to vitiligo, because its deficiency can cause skin depigmentation (its metabolic activity is linked, among the other biological roles, in the melanin production). It is then likely to think

that some signs of vitiligo are a consequence of a disturbance of the copper metabolism in this role. Copper deficiency can also result in alopecia and dry skin, and a lot of other systemic disorders, e.g. osteochondrosis.

All these nutrients must be present in proper amounts to prevent skin troubles. Normal rations, based on mixtures of simple foods (mostly, oats or barley and meadow hay) are prone to unbalances and deficiencies of more than one of the cited nutrient. This is the main reason why supplements must be used for all horses, but for grey Arabians in particular. For horses that show signs of vitiligo, the doses of all these nutrients must be increased, obviously taking into account that over dosages are also dangerous, in particular for vitamin A.

The recomendation is to be informed and to select a good veterinarian who is able to help you in choosing the appropriate products, dosages, administration strategy and duration of the treatment for your animals.



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*As vitiligo is a multi-factorial pathology, it is important to prevent the lack of all the nutrients that have a role in the skin health*



*Most lesions are on the face, especially the muzzle or nose*