Melanoma development is more common in grey horses

By Carly Severs, Equine Science, Charles Sturt University

Many studies have identified the high incidence of melanoma development in ageing grey horses, reporting approximately 80% of grey horses over the age of 15 are affected. In contrast, a study investigating melanocytes in young horses found a much lower correlation between coat colour and melanoma development, which may be explained by coat pigmentation and melanin content.

Melanin has a protective role in the skin. As a horse ages, its pigmentation and melanin content reduces, making the horse much more susceptible to melanoma development. Further studies have identified significant differences in the types and characteristics of melanomas that develop in grey horses compared to those in solid coloured horses. Melanomas in ageing grey horses have a faster duplication rate, but are less likely to be malignant than those in solid coloured horses, such as chestnuts or bays.

The lower malignancy rate of melanomas in grey horses is likely attributed to specific grey horse genetic factors which inhibit metastatic processes. Recent developments in genetic mapping have enabled the identification of specific genetic mutations, such as STX17, which is a genetic mutation that explains the high genetic correlation between rate of greying, the incidence of melanoma and vitiligo-like (sporadic colour loss) skin depigmentation. Further advancements in genetic mapping of pigmentation disorders and melanoma development will enable more educated breeding decisions to be made and reduce the future incidence of melanoma development in horses.

Lacking evidence in the benefits of Equine Nutraceutical Joint Supplements

By Brooke Purcell, Equine Science, Charles Sturt University

Nutraceuticals are compounds claiming to have the properties of both nutrients and pharmaceuticals, and are gaining in popularity. However, research into the safety and efficacy of nutraceuticals and herbal medicines is yet to catch up to consumer demand.

There are an increasing number of nutraceutical equine joint supplements on the market today and, according to a study at the Jersey Fresh Three Day Event, up to 70% of C2PP* and up to 60% of C2P*** level competitors used joint supplements - highlighting their popularity. Despite the widespread nature of their use, the scientific research to support their use is scarce and, in many cases, inconclusive.

Overall, research suggests that horses can sense fear in humans and it is important to understand the horse’s interpretation of the body cues of humans when handling horses or being in close proximity to them. This is critical in improving horse and human welfare. However, further research is required to determine how horses can change the way they do things to further improve horse welfare, and achieve a better understanding of the interactions between horse and human.

Horses can sense fear in humans

By Dominique Fennelly, Equine Science, Charles Sturt University

Horses and humans have been interacting for centuries. Even though there is a bond between horses and humans, humans can inadvertently send mixed signals, such as fear, perhaps causing a fight response in the horse, which may cause injury to the rider or handler. Ferken et al (2007) state that closely related emotions are fear and anxiety, where fear is the reaction to actual or perceived danger, and anxiety is the reaction to probable danger. A measurement of fear in both humans and horses is an increased heart rate.

Sensory studies have shown when a person with a negative disposition strokes a horse, it results in the increase of the horse’s heart rate. A horse is also able to perceive human’s visual stimuli, such as postures, vocal signals, involuntary cues in body language and use them. Auditory studies compare human tone and its impact on the horse stress response, and a calmer tone proves to have a lower physiological impact on the horse stress response.

Horses have an innate ability to sense danger from different stimuli, including sight, touch and smell, as this is imperative for survival. Inexperienced riders and handlers may unknowingly exhibit signs of fear and anxiety, such as body language and sensory actions, which the horse picks up on, leading to the horse’s natural instinct of flight or fight.

In conclusion, studies into the effectiveness of nutraceutical joint supplements are varied in their results. Combining this with the lack of regulation of supplements for use in horses, more research is required to justify their use, particularly as an expensive preventative measure.