University Centre Myerscough

Anatomical Bridles, do they really alter and reduce pressure distribution on the horse's head?

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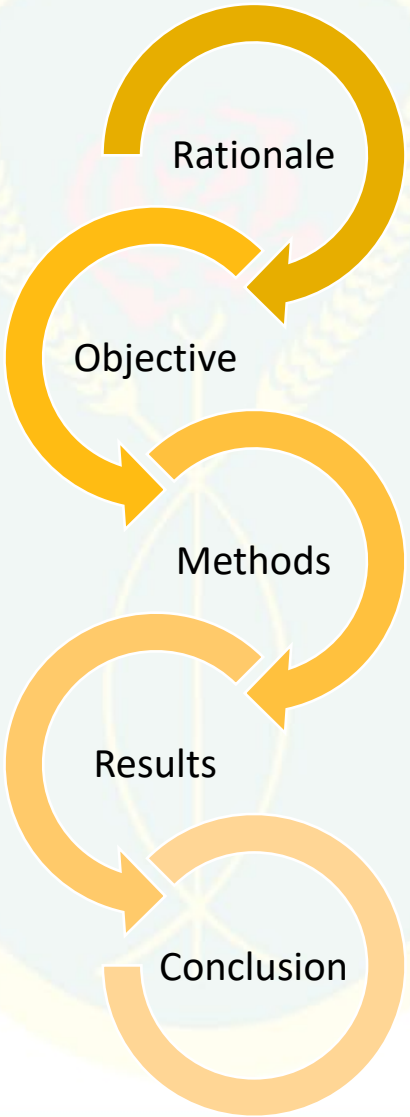
Agenda



Rationale

- Various bridle designs available commercially
- Claims of reduced poll pressure and improved performance
- Ill fitting tack causing pressure points influencing unwanted behaviours & physiological detriment

Literature

- Increasing interest in ethical equitation (Jones & McGreevy, 2010; McLean & McGreevy, 2010a,b.)
- Relentless pressure may increase need for increased pressure (McGreevy, 2011)
- Excessive pressure could cause unrelenting pain & subsequent physiological damage (McGreevy *et al.,* 2017)

- May never be “tightly fixed so as to harm the horse” (FEI 2017a, Article 428.1)
- “Tack must be designed and fitted to avoid the risk of pain or injury” (FEI 2017b, Article 1c)

Literature

- Devices such as restrictive nosebands merit attention in relation to horse performance & welfare (McGreevy *et al.,* 2017)
- Studies have established a link between tight nosebands & a physiological stress response suggesting compromised welfare (Fenner *et al.,* 2016, McGreevy *et al.,* 2012)
- Prevent expression of normal behaviour, may compromise blood flow & damage bone (Casey *et al.,* 2013)
- Areas vulnerable to high pressures include nasal bone, facial crest, mandible & buccal mucosa (Casey *et al.,* 2013)

Literature

- Restrictive nosebands, by definition, violate the five domains model (Jones & McGreevy, 2010)
- Tighter nosebands caused cooler facial skin distal to the noseband (McGreevy et al., 2012)
- Unhabituated horses increased stress response as noseband tightened (Fenner *et al.,* 2016)
- Demonstrates importance of bridle design in performance and welfare of horses (Murray *et al.,* 2015)

Aim & Objective

Investigate the impact of two bridle designs on headpiece & noseband pressures

Methodology

- Multiple long reining trials
- Tekscan pressure sensing technology
- Comparison of HP & NB pressures between bridles & different exercises.

Plate 1: Horse with Tekscan Pressure Sensing System attached.

Plate 2: Horse with full Tekscan Pressure Sensing System

Plate 3: Horse with Cavesson Bridle

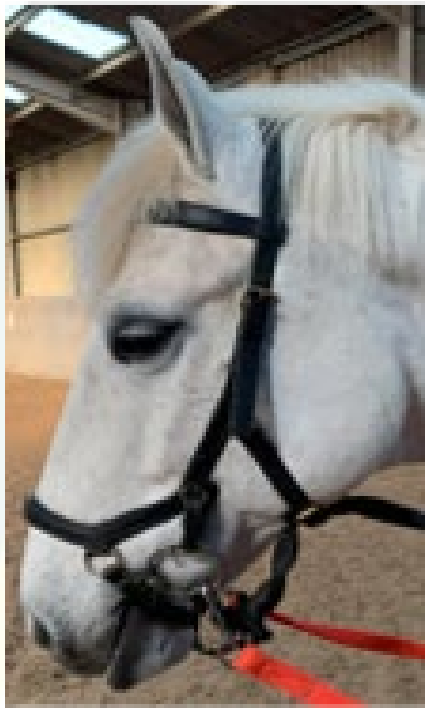


Plate 4: Horse with Micklem Bridle

Results

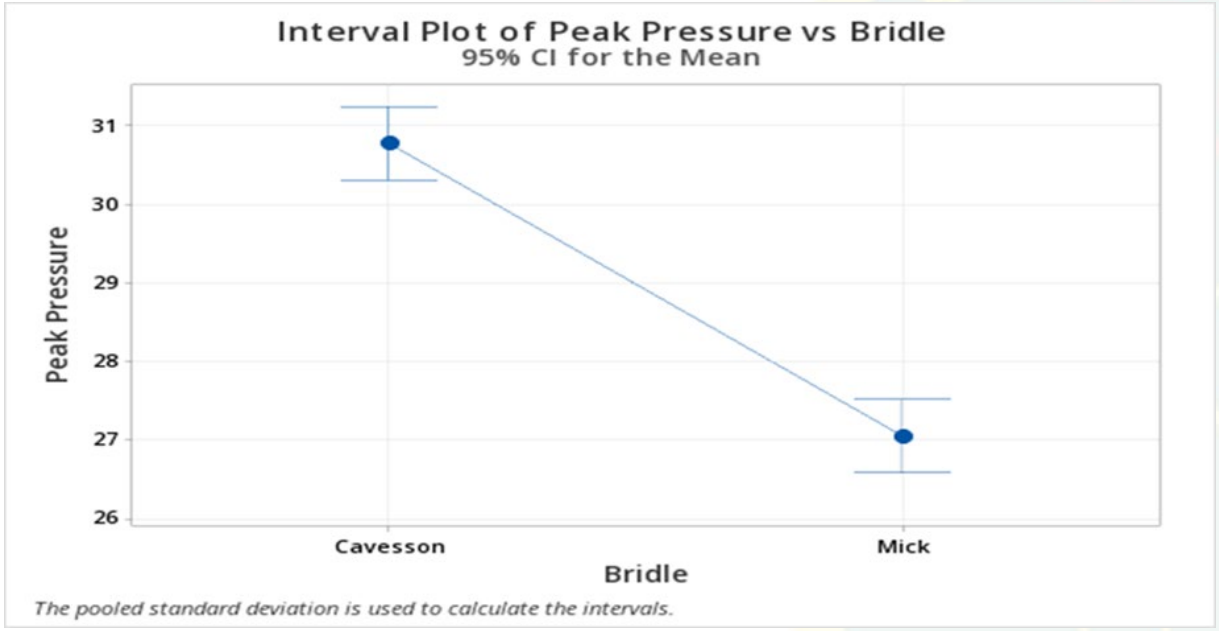


Figure 1: Headpiece pressure comparison between Cavesson and Micklem

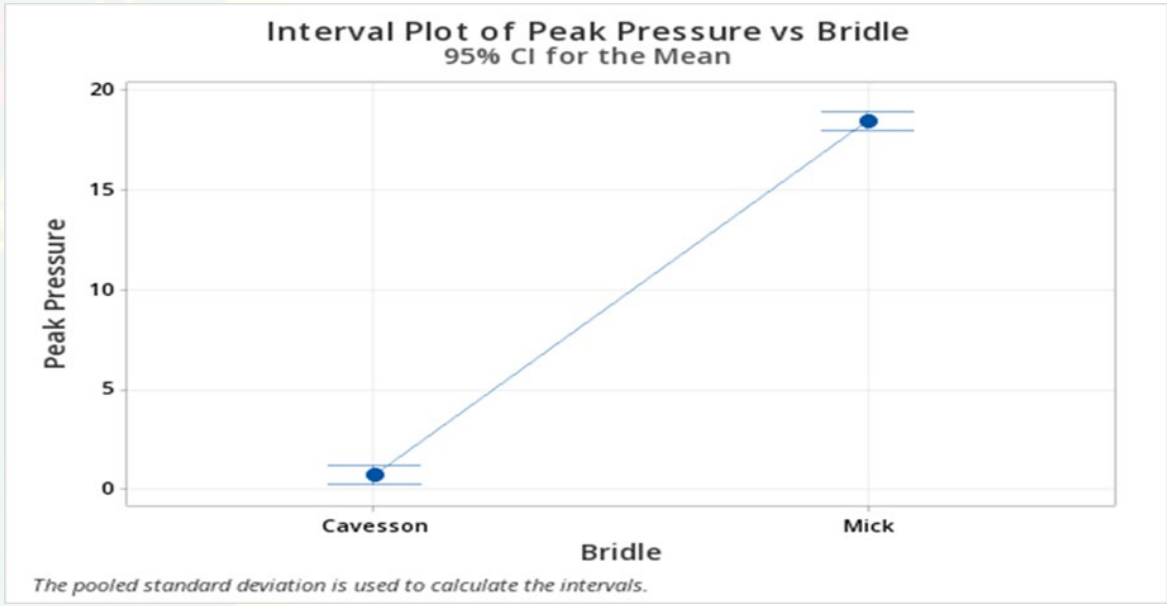


Figure 2: Noseband pressure comparison between Cavesson and Micklem

Results

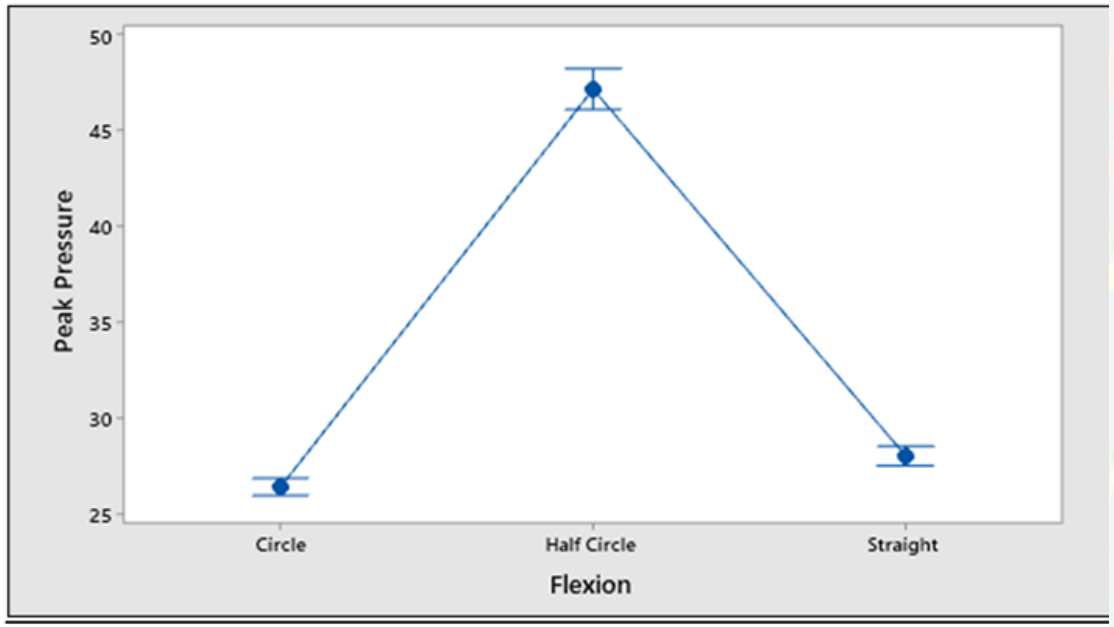


Figure 3: Interval plot to compare headpiece pressure between different movements

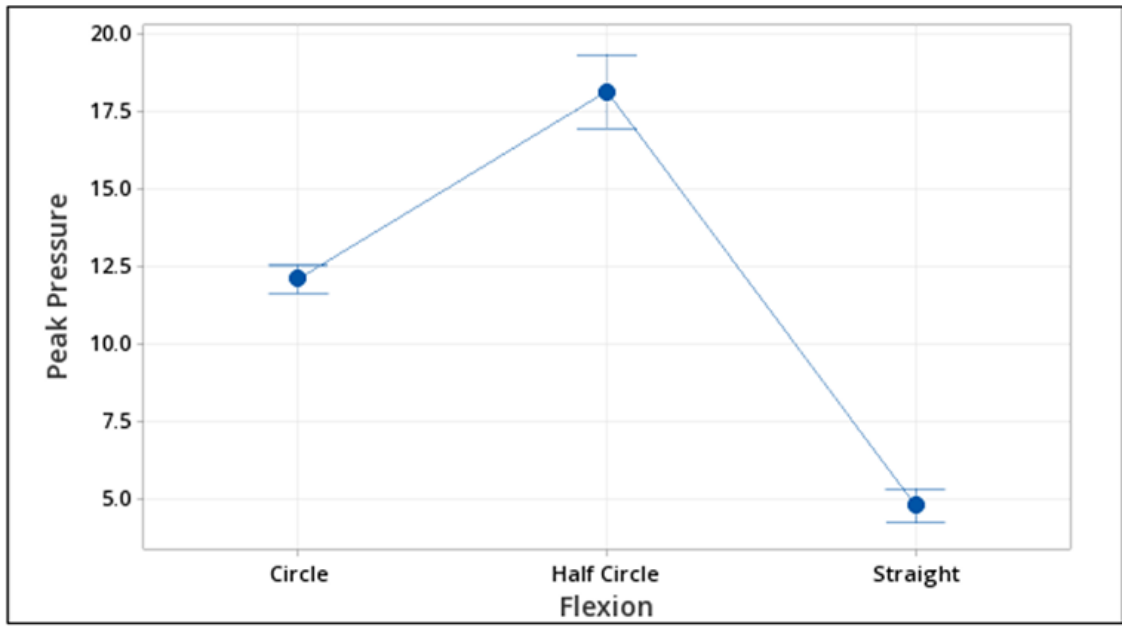


Figure 4: Interval plot to compare noseband pressure between different movements

Results

Figure 5: Interval plot comparing peak noseband pressures in different paces

Conclusions

- Overall pressure exerted by any bridle across the facial structures of the horse
- Indicate that horses may require individualised assessments for bridle fit & design

References

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