

BIT AND BRIDLE FIT- RDA LECTURE





setting the standard

Why use a bitting professional?



- - bridles
- Reduce

• Provide a service to both horse and rider

• Promote welfare in relation to bits and

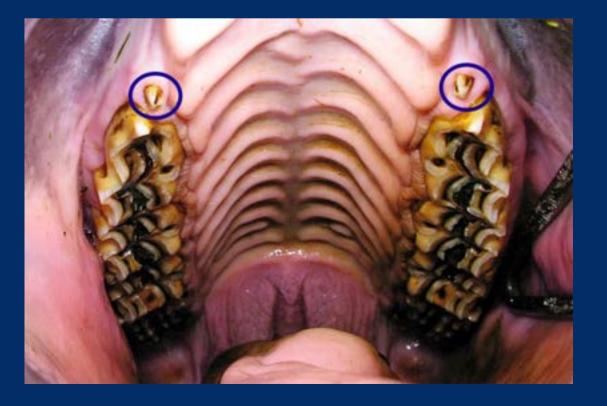
 Increase understanding of both physical and behavioural effects of bits and bridles and relate this to the anatomy of the horse points and pressure increase biomechanical function

Improve comfort of the horse in ridden work





Reluctance to be tacked



Napping and other evasions Contact/ schooling 🔶 issues **BEHAVIOURAL** Strong horse/ bolting- flight animal psychology

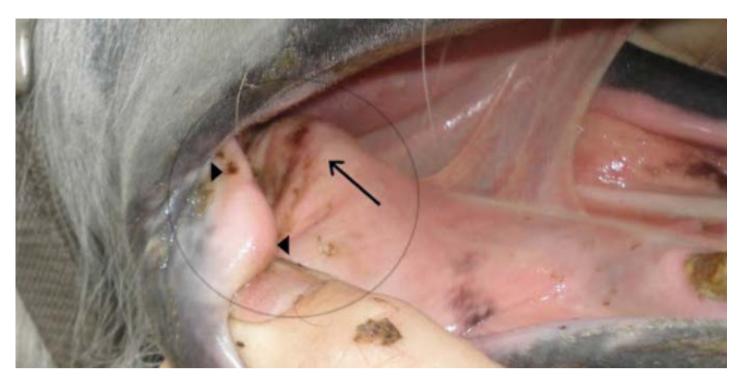


up/handled

S its/brid **D S**

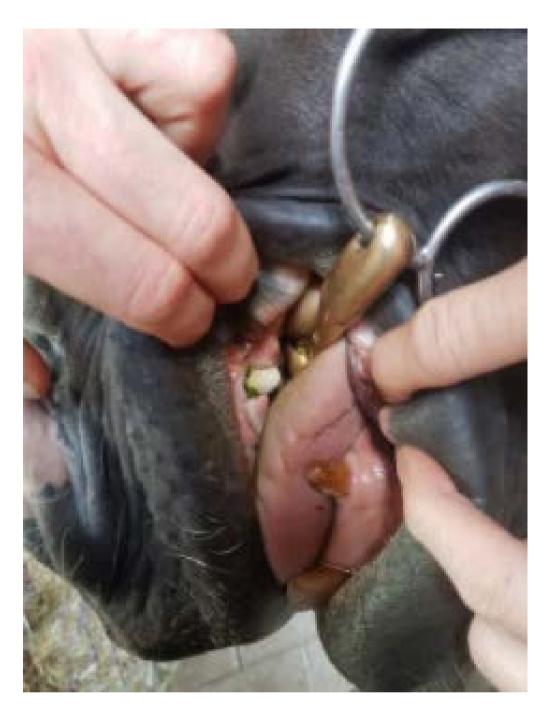








BITS-A HORSE'S PERSPECTIVE







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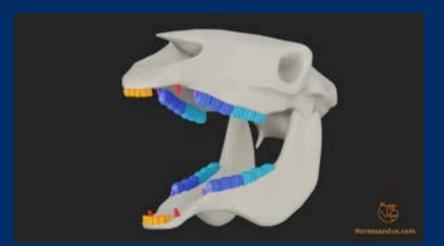
• Bits have been around for over 6000 years

Things to consider when bitting

The horse must come first

- Choice of bit
- Designed action versus desired effect
- Mouth conformation
- Pressure points
- Where to fit the bit? E.g. room, lip wrinkle, palatine grooves
- Level of training
- Activity
- Rider ability







CLASSIFICATION

- Elevating effect
- Acts on tongue, bars, corner of mouth and possibly inside of cheeks
- Pulley/lifting effect- should be used 2 reins
- Additional poll pressure
- Designed to combine effect of double bridle with 1 mouthpiece
- Jointed mouthpiece reduces curb pressure
- Should be used with 2 reins
 - Used alongside bridoon snaffle
 - For refinement
 - Lowering, rounding, braking effect
 - Should encourage flexion at the poll, stretching over back
 - Exerts pressure on curb groove as well via curb chain
 - Ideally 35 degrees working angle



Pelham

Snaffle

Gag

Curb/Weymouth



Basics





RING



JEDNOM LOMLJENA S LABAVIM PRSTENOM

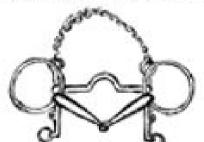
RAVNA BEZ PRIJELOMA S FIKSNIM PRSTENOM





DVOSTRUKO LOMLJENA S MOBILNOM SREDINOM

JEDNOM LOMLJENA S JAJASTIM PRSTENOM



DVOSTRUKA ŽVALA



KIMBLEWICK



- Fixed
- Sliding
- Steering
- Leverage
- Poll Relief
- Poll Pressure
- Curb Action

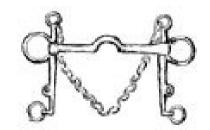


UDUBLJENA I JEDNOM LOMLJENA S LABAVIM PRSTENOM

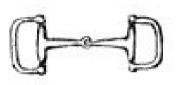




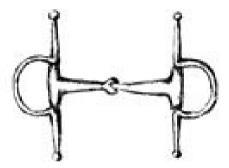
S FIKSNIM PRSTENOM



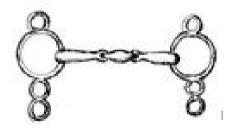
PELHAM



JEDNOM LOMLJENA S D-PRSTENOM

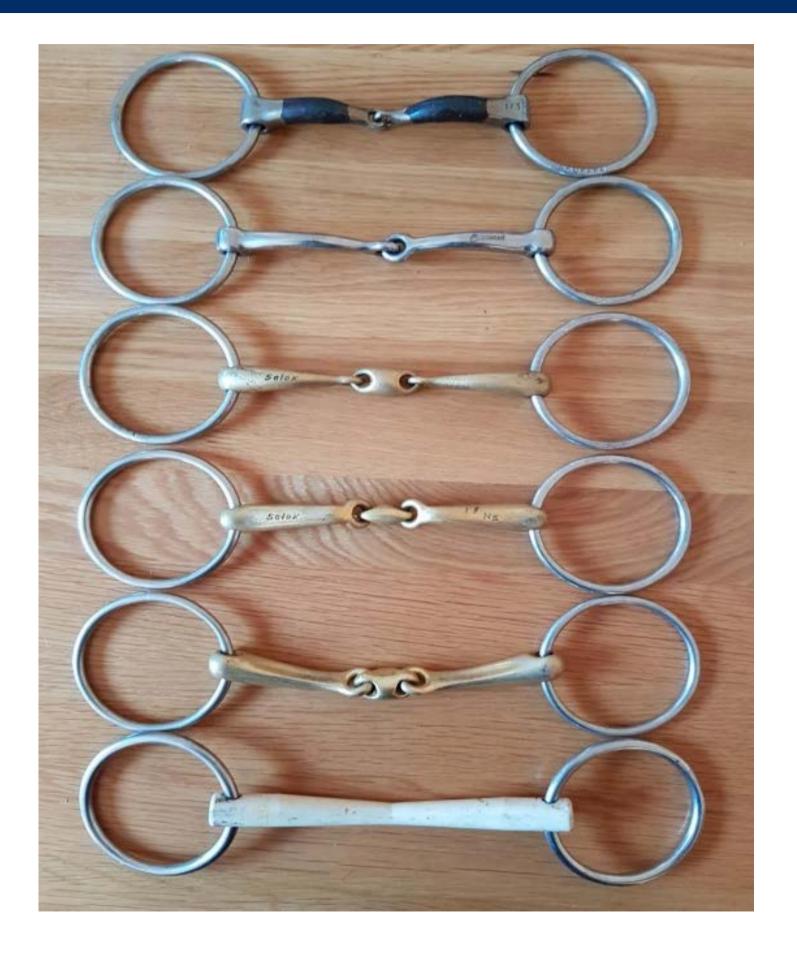


JEDNOM LOMLJENA S PUNIM OBRAZNIM PRSTEN(





MOUTHPIECE



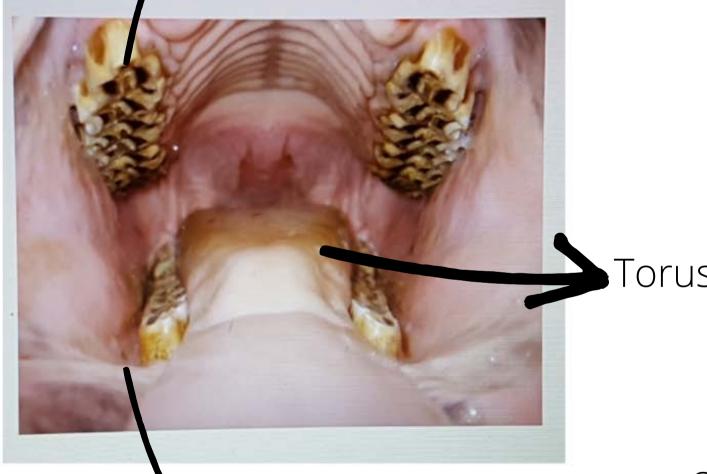
Consider each horse as an individual

Weight
Material
Links/joints
Thickness
Is it 'anatomical'?



Oral Anatomy

Premolars



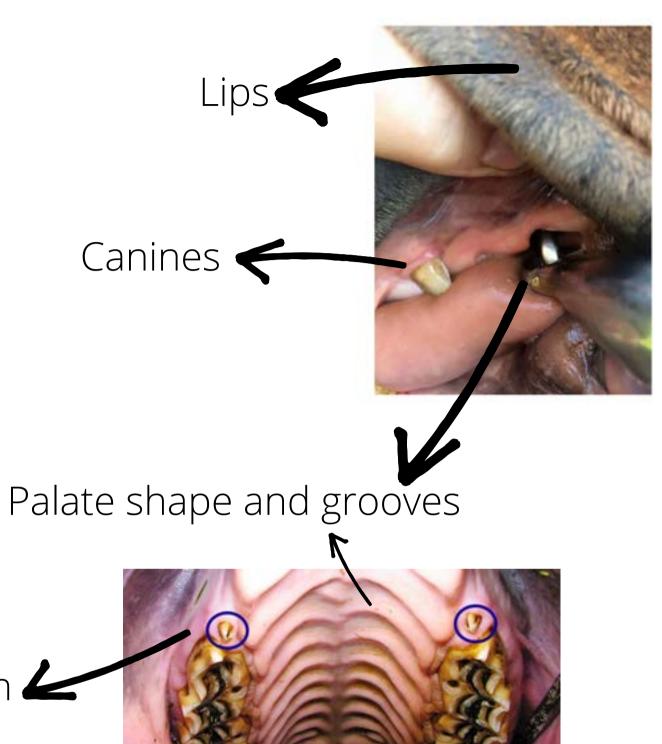
Torus Lingus/ Genioglossus

Wolf Teeth

Soft tissue/ cheeks

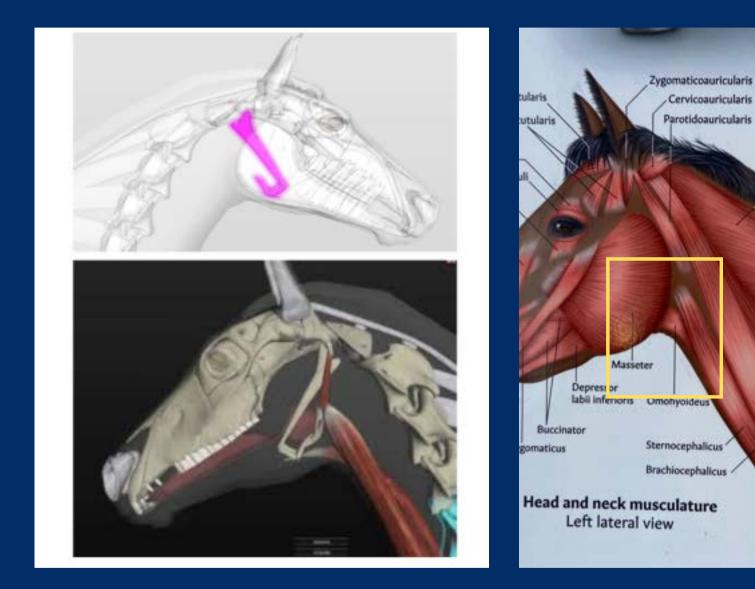


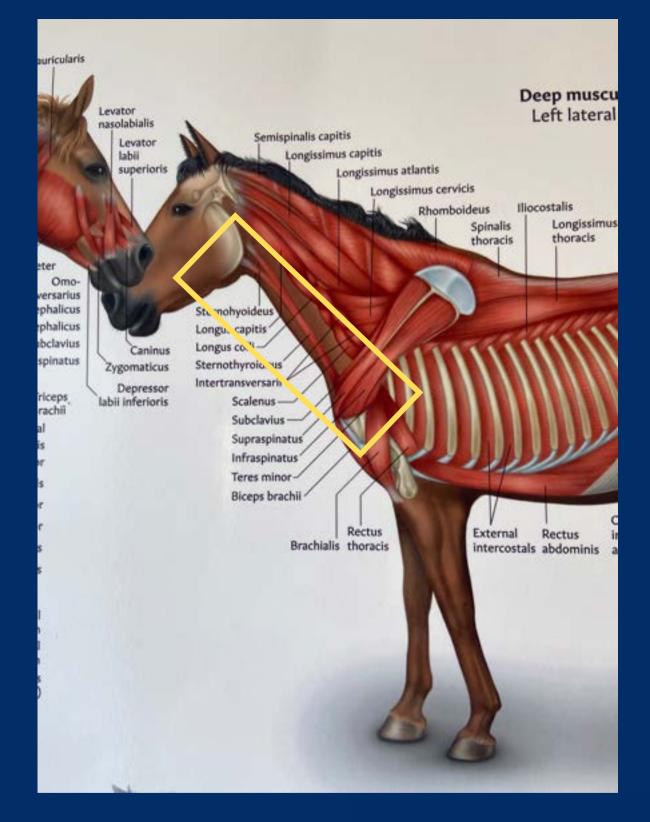






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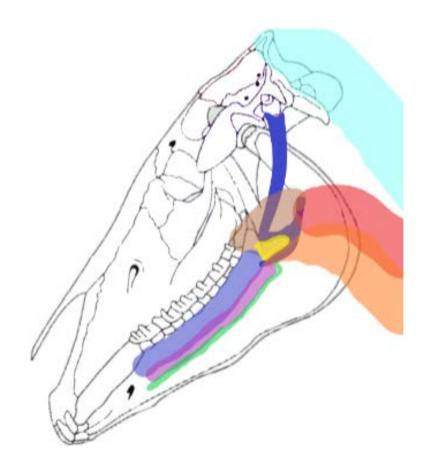
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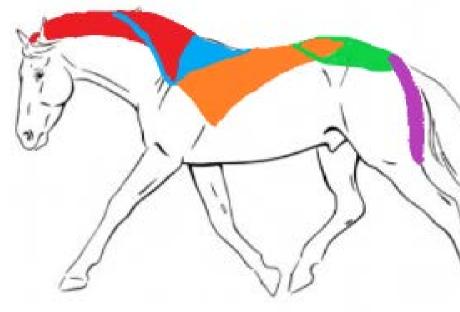
Other important anatomy

Cranial to Caudal: Nuchal Ligament, Trapezius, Latissimus Dorsi, Medial Glutes, Hamstrings (Semi membranous and Semi Tendinosis).

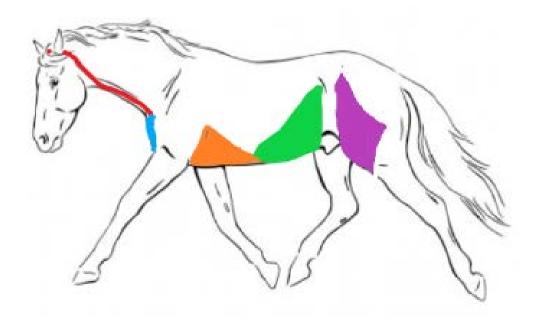
The muscles of the hyoid of specific interest to the biomechanics of bit fitting are shown below:

- Styloglossus
- genioglossus
- Geniohyoideus
- mylohypideus
- Sternohyoidieus
- Omohyoid
- Brachiocephalics



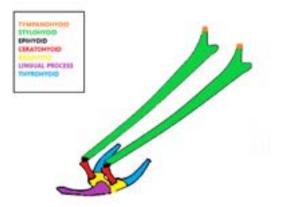


Brachiocephalic, Blceps, Deep Pectorals (superficial pectorals not shown), External abdominal oblique, Tensor Fasciae latae (TFL)





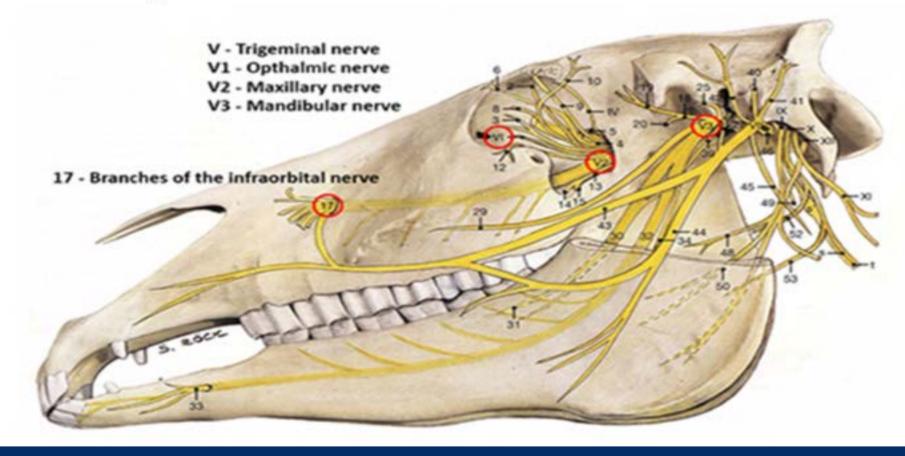






Relevant nerves

Trigeminal Nerve - V Cranial Nerve Sensory Function



lacrimal

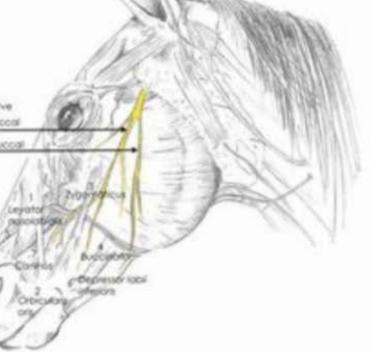
Facial nerv Donal but Veniliai by

Facial Nerve – VII Cranial Nerve

Motor Function – facial expression

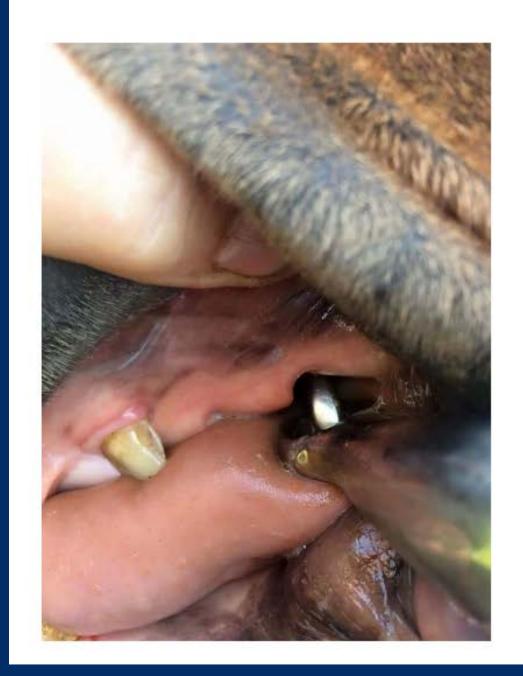
Special Sensory – taste anterior 2/3 tongue

Parasympathetic - glands: salivary, nasal,





Where to fit and sizing









General Action of Bit

- Most bits rotate and move backwards along tongue towards the horse's molar teeth on rein on rein contactup to an inch (NS Study)
- Bit pulled away from palate
- Closure of the bit can not cause an upwards push of the joint unless hands are particularly low
- All jointed bits close around the tongue (nutcracker)
- No evidence that bits impair respiratory function at rest-however lots for ridden
- Lots of evidence for oral injury (Tuomala et al., 2021)

ttps://www.researchgate.net/publication/228259985 Radiographic study of bit position within the horse's oral cavity



Unlikely angle





Bitting Myths and things to avoid....

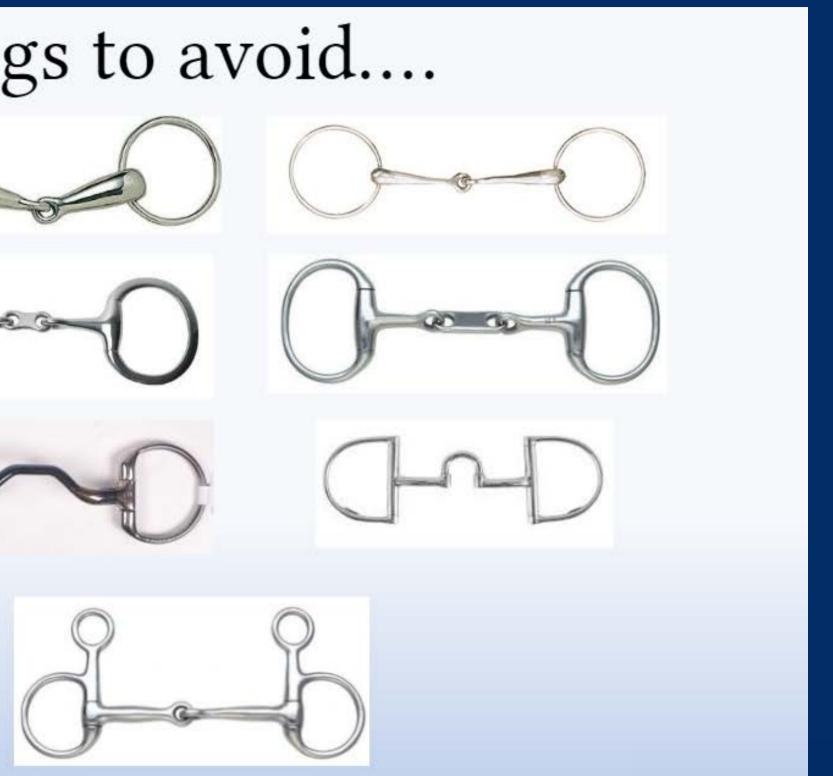
- Thick v Thin Mouth Piece
- French Link v Dr Bristol
- Ports
- Hanging cheek gives Poll Relief

(Neue Schule Poll pressure guide)











Myths and things to avoid....

- Complicated mouth piece
 - Designed to cause pain
 - Tongue pressure evasion most common problem



3 ring/gags – adverse biomechanics







Myths and things to avoid....

- Saliva good or bad? =impaired swallowing

"into pressure reaction/flight"



• Strong horse needs a strong bit



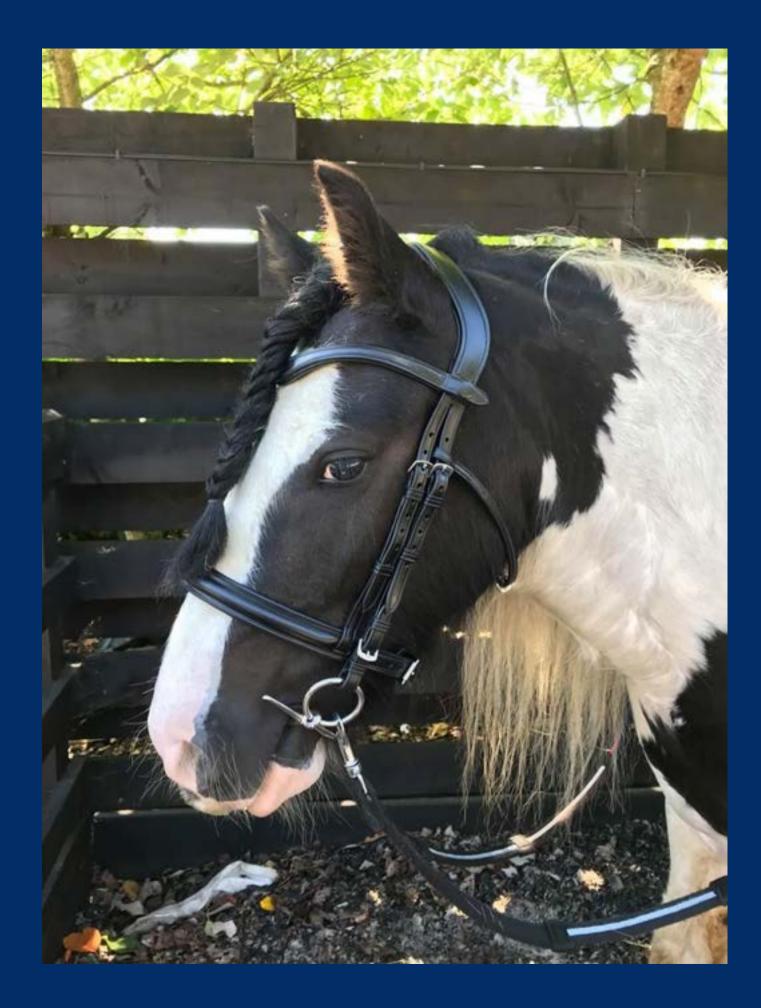


BRIDLE FIT

1yona 0.1 1009 to Flox throw land







Design Considerations

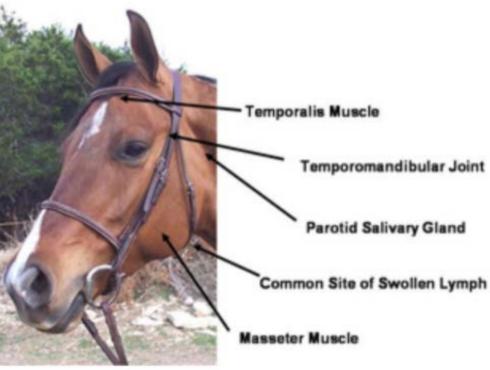
- Headpiece design
- Browband length
- Buckle placement
- Noseband fit
- Pressure on facial structures

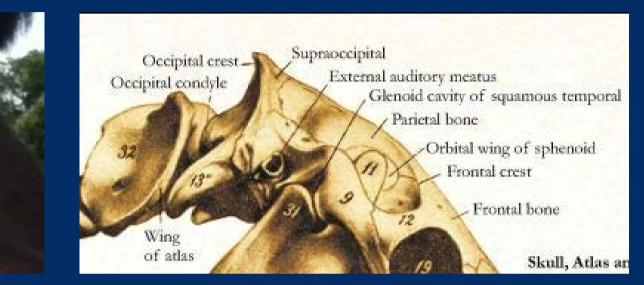


How we assess bridle fit

- Muscle development
- Wing of atlas to ear distance
- Ear base
- TMJ
- Fleshy lips
- Distance from lip corner to molars, nasal bone and curb groove
- Abnormalities



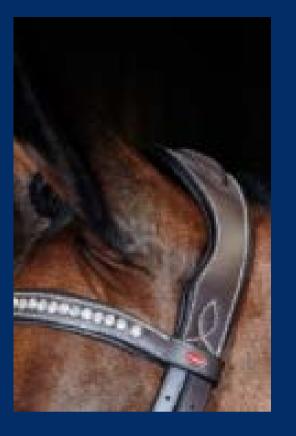






















Headpieces







Browbands







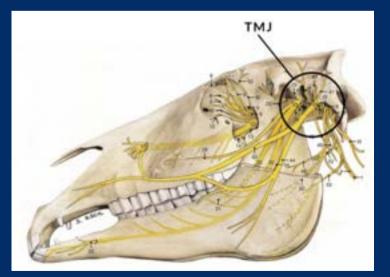
Buckle placement



 https://ffequestrian.com/pag es/how-to-fit-your-bridle? currency=GBP









Noseband Fit





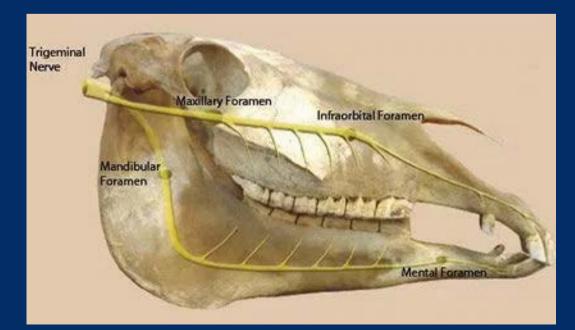


Fitting:

Should be clear of protuding cheekbone **2** Fingers front of nasal bone **Cavesson nosebands should have no function** Noseband pressure is also dependant on tightness

Tight nosebands =

More poll pressure More sensitivity to severity of bit More risk of oral injury Impairs biomechanical function











U **S**

High peak pressure and maximum force occurred at specific locations under the headpiece and noseband of ridden horses. These pressures and forces could be reduced by altering the design of the headpiece and noseband, and this altered design was associated with greater carpal and tarsal flexion and increased forelimb protraction.

Murray R., Guire R., Fisher M. and Fairfax V. (2015), A bridle designed to avoid peak pressure locations under the headpiece and noseband is associated with more uniform pressure and increased carpal and tarsal flexion, compared with the horse's usual bridle. Journal of Equine Veterinary Science 35, 947-955.

- Front and back of headpiece around ears
- Poll
- Browband
- Jaw joint
- Nasal bone
- Lower jaw













How to spot issues...





Sue Dyson's 'pain face' ethogram

Application as equine professinals, riders and owners?





HIGH HEAD



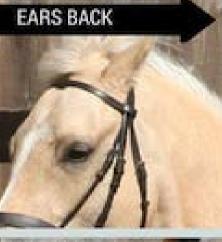


Which horse is in pain?

Eyes closed, raised head







Development of an ethogram for a pain scoring system in ridden horses and its application to determine the presence of musculoskeletal painNovember 2017Journal of Veterinary Behavior Clinical Applications and Research 23DOI: 10.1016/j.jveb.2017.10.008



Any questions?





Association of Professional BIT& BRIDLEFITTERS

setting the standard

Find a Bit and Bridle Fitting Professional:

APBBF fitters take a whole horse approach to ensure we provide you and your horse with the best recommendations.

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- Impartial advice
- Large range of brands

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