



# Equine Metabolic Disease

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# Which of these is a welfare issue?



Source: <http://www.flickr.com/photos/tamar/1396762662/>



# Trick question

## BOTH OF THEM ARE!



Both will experience:

- Exercise intolerance
- Pain
- Increased risk of secondary disease and organ failure
- Poor quality of life
- Shortened life span

# Equine obesity is a growing welfare issue.

All around the developed world vets and horse welfare bodies have been noticing an obesity epidemic in horses.

## WHY?

Horses evolved to:

- > Efficiently convert energy from sparse resources
- > Gain and lose condition in an annual cycle
- > Survive cold conditions.

# The modern horse:

- ◉ Grazing lush pastures (high sugar/low fibre) designed to grow meat and milk FAST.
- ◉ No “lean” periods (don’t lose weight over winter).
- ◉ No enforced exercise to survive
- ◉ Rugging/provided shelter so no need to burn calories to keep warm

**OBESITY &/or regional adiposity**



**INSULIN RESISTANCE & INCREASED CORTISOL**



# **EQUINE METABOLIC SYNDROME**

**LAMINITIS**

Inflammation

**abnormal cycling**

altered fat metabolism

*Early onset arthritis*

**Cushings**

**high blood pressure**

*exercise intolerance*

A diagram illustrating the progression of equine metabolic disease. It features three main components: a light blue circle on the left, a blue cloud on the right, and a black starburst at the bottom. The circle and cloud are connected by two horizontal arrows (one pink pointing right, one yellow pointing left). A red arrow points from the cloud down to the starburst. A thin grey line also connects the circle to the starburst.

**OBESITY &/or  
*regional  
adiposity***

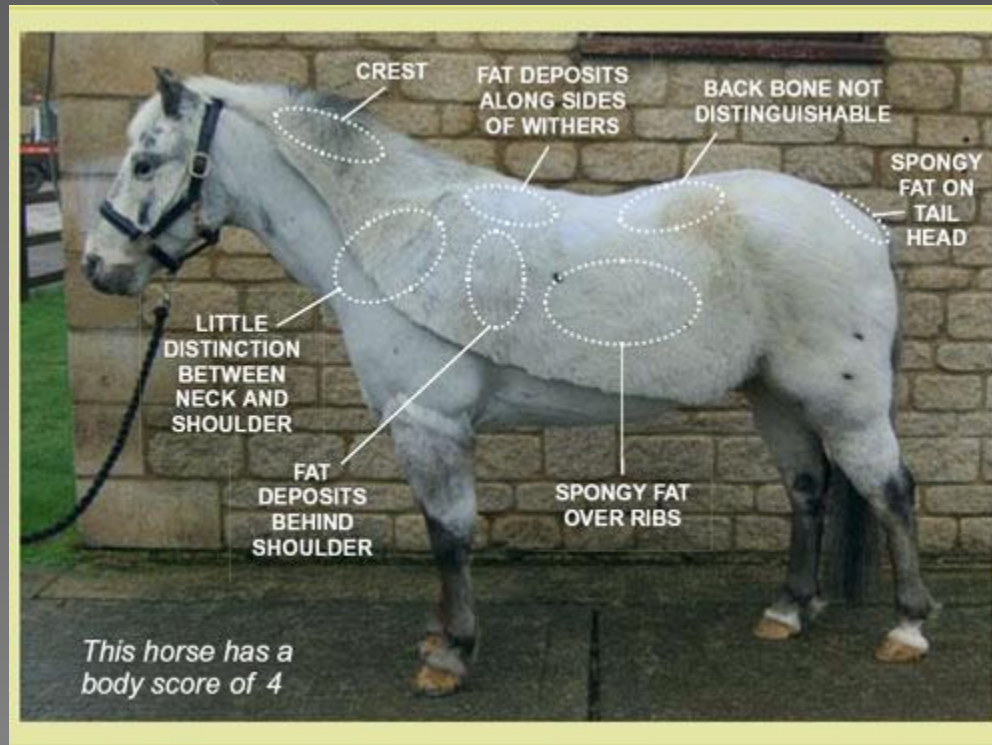
**INSULIN  
RESISTANCE &  
INCREASED  
CORTISOL**

**DISEASES  
ASSOCIATED  
WITH EMS**

- altered fat metabolism
- high blood pressure**
- Inflammation
- Early onset arthritis***
- Cushings**
- abnormal cycling
- LAMINITIS**

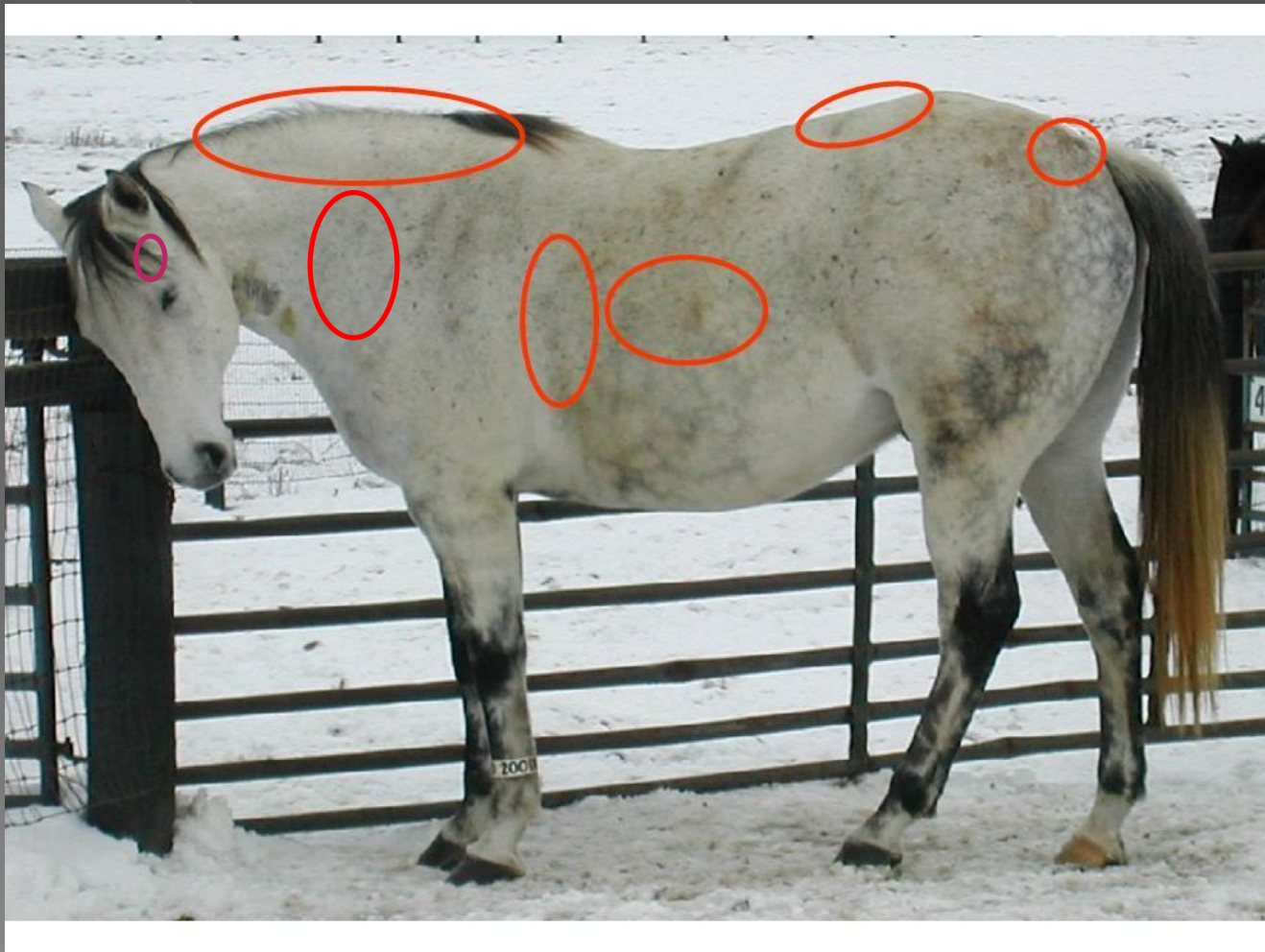
**EQUINE  
METABOLIC  
DISEASE**

**OBESITY = anything over  
4/5 is at risk of EMS**





**REGIONAL ADIPOSITY = anything with regional adiposity is at risk of EMS even if they are < 3/5**



Modified from Fat Horse Slim, [www.bluecross.org.uk](http://www.bluecross.org.uk)

# FEEDING

- ◉ *Starving a fat horse can kill it - hyperlipidemia*
- ◉ Use low energy/long fibre hay/chaff
- ◉ Aim to feed 1.5% of **IDEAL** body weight
- ◉ **MUST** weigh the feed
- ◉ Provide a low calorie vitamin and mineral balancer
- ◉ Feed as often as possible with largest amount provided before longest stretch of time without feed (usually night feed)
- ◉ Trickle feeders

# EXERCISE

- ◉ Increases **energy used** so speeds up weight loss so **if** horse is capable include it in program
- ◉ *BUT be careful not to overdo it i.e. NO hooning on the lunge!*
- ◉ Increase “**incidental**” exercise –move them around ‘briskly’, feed far from water source so they have to walk, provide toys, mates.
- ◉ Make them **WORK** for food – treat balls, trickle feeders
- ◉ If riding: NO ambling, mild puffing means the horse is **exercising**, hills, increase workload every two weeks

# GRAZING

- ◉ ONLY if BCS is 3.0 or less and there is no regional adiposity.
- ◉ Graze when the grasses are USING their sugars (not storing them i.e. AT NIGHT (dark to 10.00 AM))
- ◉ Cultivate pastures that are low in soluble sugars (native grasses)
- ◉ Keep pastures longer and more mature
- ◉ Don't let pastures become stressed (overgrazing, drought, cold frosty nights)
- ◉ Use a muzzle
- ◉ Restrict grazing to a few hours at most.

# RUGGING

Only rug IF:

- BCS is less than **2.5** and here is **no regional adiposity\***

AND

- Horse is clipped
- There is no shelter in paddock (another issue)
- There is continuous rain so horse cannot get dry in a 24 hour period
- There are cold winds

**Shivering is a normal physiological response!**

**Hot horses don't need to move around to keep warm!**

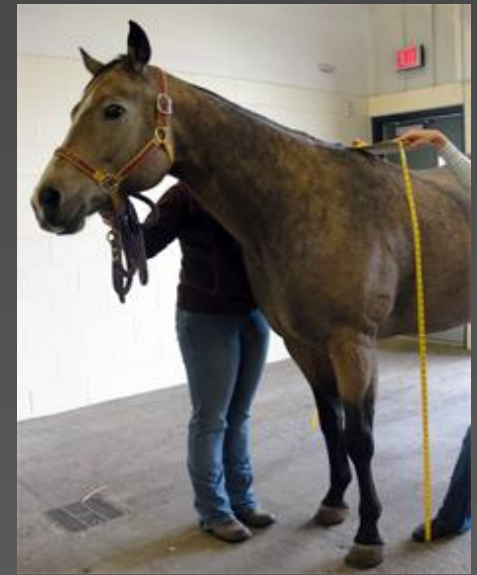
\* Thoroughbreds.....



# Change your eyes



Neck circumference



Height at withers



Neck circumference to height ratio

Neck is “cresty” if ratio is greater than

**0.63** in horses and **0.68** in ponies.

A cresty neck predisposes the horse to EMS and laminitis even if BCS is < 4

# References

- ◉ Highly recommend:
- ◉ **Fat Horse Slim. PDF**  
[www.bluecross.org.uk](http://www.bluecross.org.uk)
- ◉ [Bluecross fat horse slim](#)
- ◉ [How to tell if your horse is too fat](#)
- ◉ [body scoring visually assessment research](#)