



**Tokyo 2020 Olympic & Paralympic Games  
Climate Mitigation  
Jenny Hall Chair FEI Veterinary Committee**

# The individual horse intervention protocol

A new concept  
Focused on the  
individual horse rather  
than the overall  
competition formats  
Formal protocol for  
intervention and  
support during post  
travel recovery and  
training



# Goals of protocol

Not applicable during competition warm-up

Collaborative process – working with horse's own team

Consistent approach

Best practice

First class advice

Protection of horse and athlete health and welfare



# Description of concept

At Olympic Games horses  
at exercise always  
observed

Agreed triggers for  
intervention:

Examples: excessive  
sweating, increased  
respiration, general  
demeanor



# Intervention: to assess the horse and gather objective data

Move horse to shade  
Observe horse  
Record rectal temperature, heart rate and respiration  
Cooling if indicated  
Guidance determined by assessment and recovery if cooling required



# Further management determined by horse data

Advice dependent on:

- Assessment of thermal stress
- Recovery rate
- Potential for adaptation of thermal exposure



# Research studies during 2019

- Analyses of Wet Bulb Globe Temperature (WBGT) to inform advice for Eventing at the Tokyo Olympics, 2020
- Project timeline 01/05/2019 – 31/12/2019
- Both retrospective and prospective work
- Principal aim to confirm impact of change in format of Eventing competition regarding thermal load on the horse and therefore validity of previously implemented mitigation strategies



# Horse data gathering at Test Event

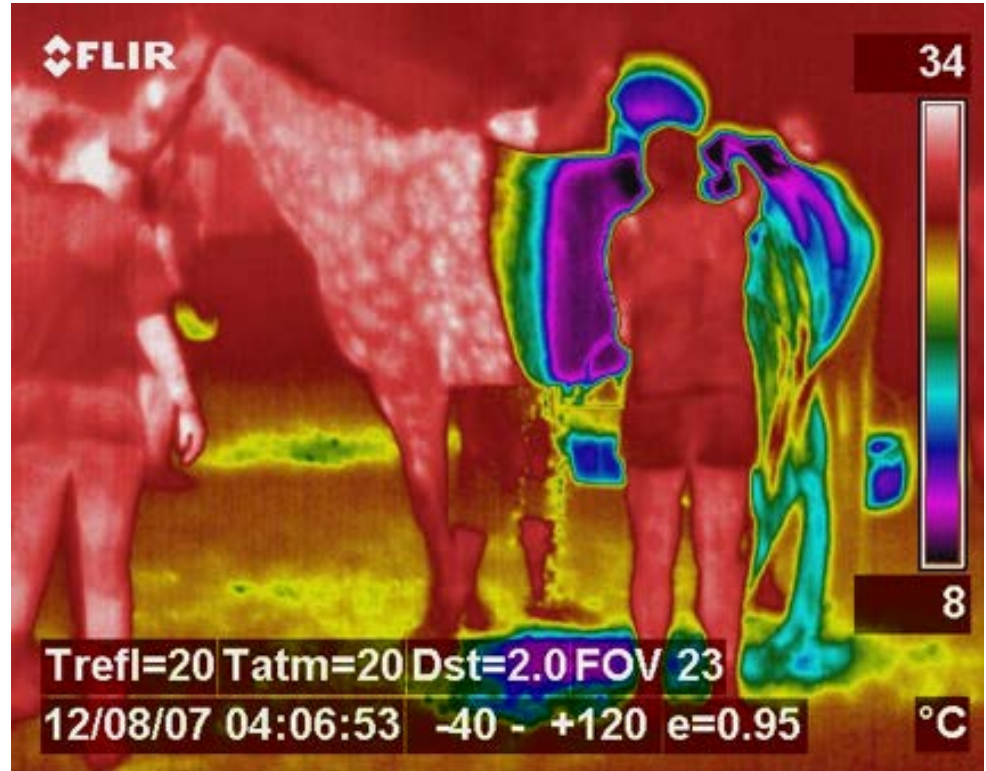
- In collaboration with NFs
- Pre transport preparation
- In transport
- Post arrival recovery period
- Preparation for competition
- Competition
- Post competition





# Education programme

Beginning at Test Event  
Raising awareness  
Communicating  
outcomes from studies  
done during 2019  
Sharing best practice  
across the four  
disciplines



# Risk factors for heat related illness

- Big, heavily muscled horses
- Older horses
- Pre-existing health conditions
- High body condition score
- Temperate to hotter and more humid climate
- Dark or long hair coat
- Maximal athletic effort
- Dehydration



# How to recognise the horse that is too hot

Needs to stop work and be cooled

Horse feels very **hot to touch**

Panting (fast and shallow breathing)

**Excessive sweating** – horse covered in sweat and/or dripping from the body



Unsteady**Seriously overheated and in need of immediate cooling**

**ess** (ataxia) – especially when stopping after exercise

**“Blowing”** very hard (deep and laboured breathing)

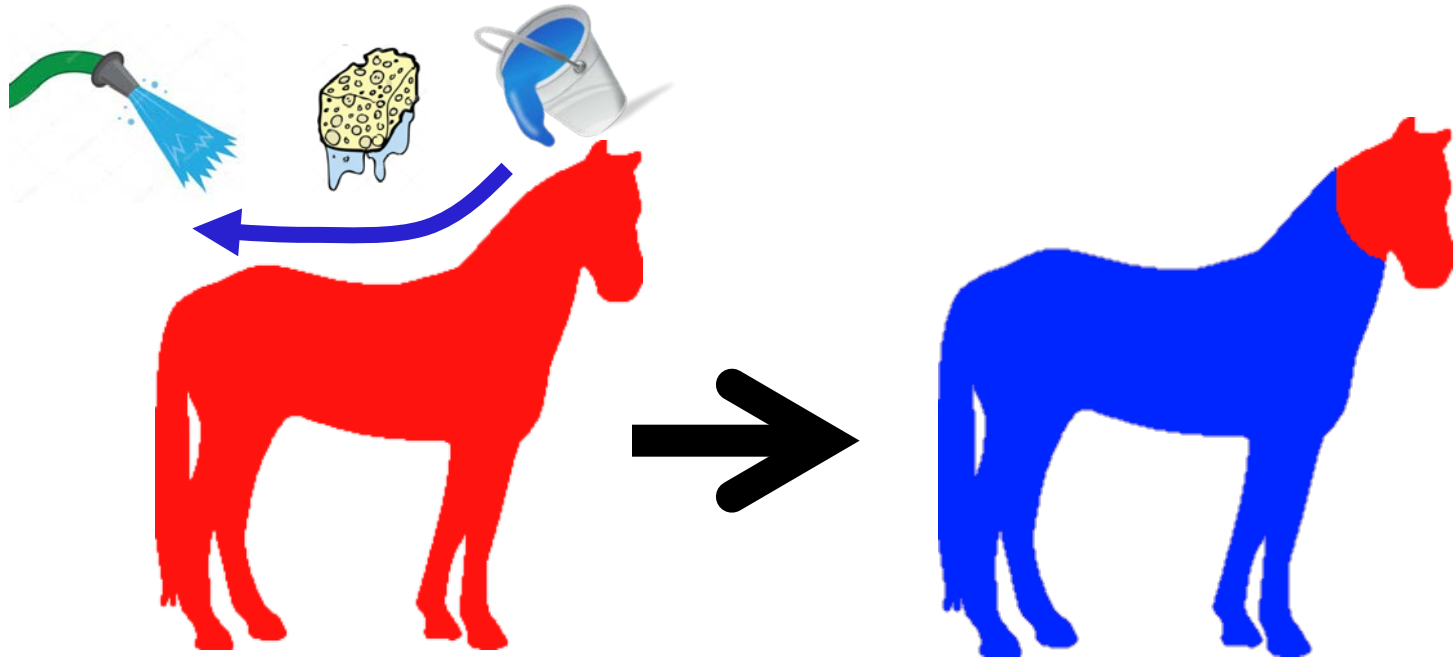
Horse may show little reaction to people/environment

A high rectal temperature – above 40°C (104°F)

Prominent blood vessels in the skin

Horse may appear distressed

# Cooling – Best Practice



**Cover as much of the horse as possible in water starting at the head and working backwards**  
**Work on both sides of the horse – one person each side is ideal**  
**Cool for 30 seconds, Walk for 30 seconds, Repeat**

# Cooling best practice



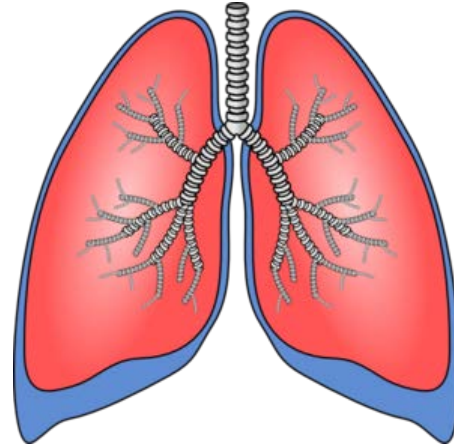
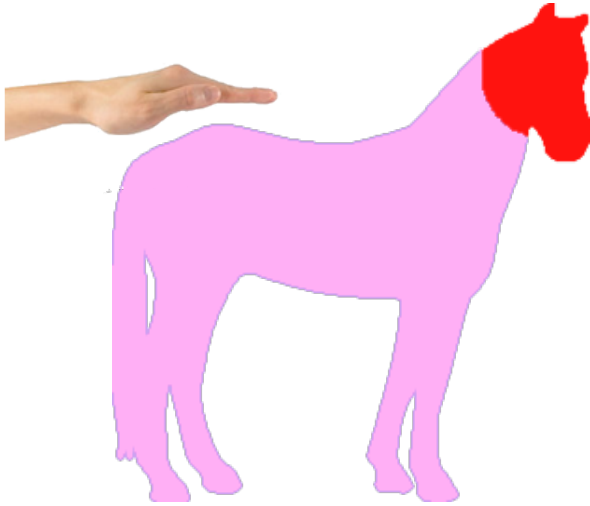
# Cooling – Best Practice



It may take 10-15 minutes and 30 buckets of water to cool an overheated horse!



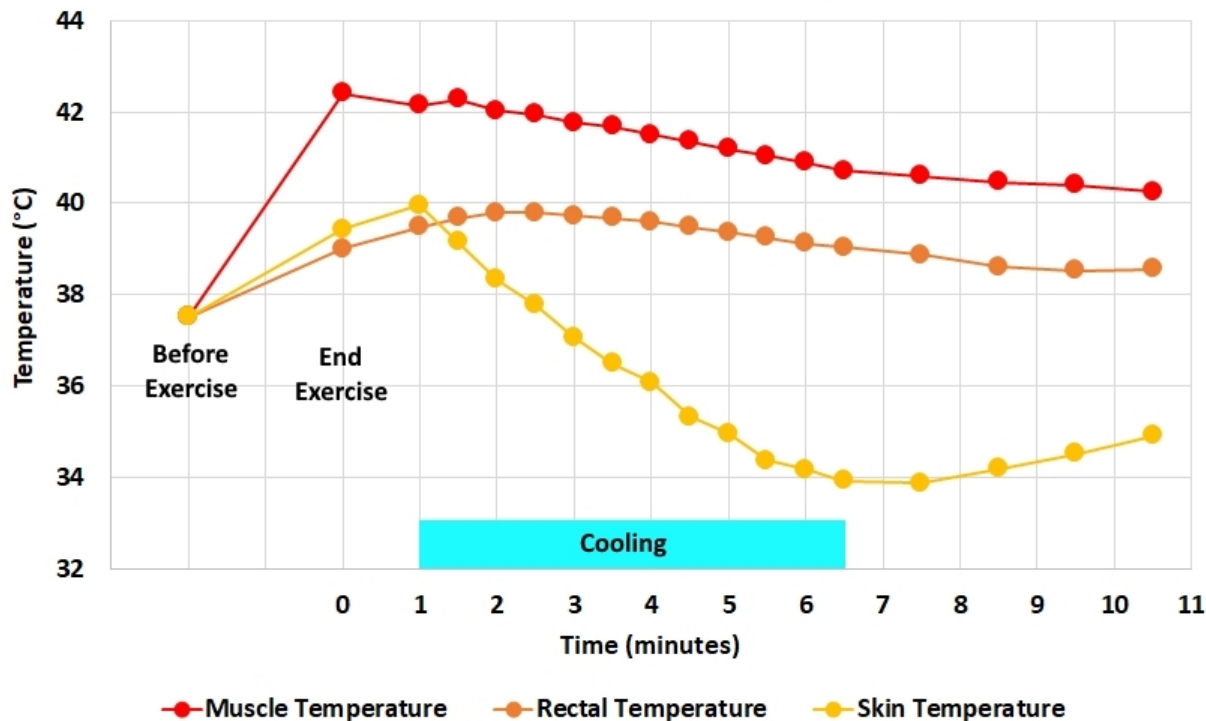
# When to stop cooling



- 1) When the horse is no longer hot to touch
- 2) When the horse has stopped BLOWING or PANTING



Changes in Muscle, Rectal and Skin Temperatures in Horses Before and After Exercise and During Cold Water Cooling (~5°C) - Marlin et al, EVJ, 1998



## KEY POINTS

Muscle gets the hottest

Skin cools the quickest

Rectal temperature continues to increase after exercise even with cooling as it takes time for heat to transfer from muscle to blood to rectum

Even after 6 minutes of aggressive cooling rectal and muscle temperature will still not have returned to resting – important for cooling in warm-up