Blood Pressure Measurement in Horses

The HDO MDEquine makes it easy to obtain reliable blood pressure measurement in horses. A horse’s blood pressure can be measured in the stable or paddock in less than 1 minute.

Reference Values for Horses:
Systolic 112 ± 14 mmHg  Diastolic 70 ± 14 mmHg

Indications for blood pressure measurement in horses

- Disease diagnosis and follow-up
- Assessment of treatment results
- Prepurchase examination
- Assessment of mating ability in senior mares
- Monitoring sedated patients
- Monitoring intensive care patients
- Monitoring arrhythmias
- Monitoring general herd diseases

Diseases Associated with BP Changes
- Founder (laminitis)
- Bleeding (epistaxis)
- Colic or Colicky Pain
- Broken Wind (cortisone)
- Renal Failure
- Cushings Syndrome
- Diabetes Mellitus
- General Herd Disease

Circulatory Disorders from Sedatives
- Xylazine
- Levomethadone (with neuroleptics)

Monitoring (anesthesia, shock)
Hypotension may lead to permanent organ damage or failure, and should be treated in early stages.
Be Innovative
High Definition Oscillometry
Blood Pressure Measurement and much more!

- Puls adapted deflation rate (3-18mmHg)
- Real-time programming of valves
- Gain for highest sensitivity (70 – 1280)
- Real-time visualisation of blood pressure
- Beat by beat assessment of cardio-vascular situation

New ways of cardio-vascular evaluation - Non invasively!

Visible assuredness of accuracy
Optimal representation of the arterial opening behaviour:
- pre-systolic waves followed by amplitudes with slightly increasing height: relaxation of the arterial wall
- further more dominant increase in height: initiation (SAP) and increase of blood flow. Due to turbulent flow, the amplitudes are further becoming higher up to a maximum, which is close to MAP.
- Decrease of amplitude size due to a change from turbulent to laminar flow – reaching DAP and finally a complete opening of the artery

Visible assessment of affected cardiac output
Height of the amplitudes represent Cardiac Output qualitatively:
- High amplitudes followed by lower ones: affected cardiac output. The more dominant the more severe
- Difference in height in combination with Gain: more detailed reflection of CO impact

Visible proof of linearity
Red line in the top window should be linear = linear deflation
- linearity is a key prerequisite for accuracy
- loss of linearity: curve instead of linear line

Visible detection of artefacts
Artefacts are strong signals which are misleading and need to be detected
- Artefacts are clearly detectable on screen
- Visible control how the technology takes care of them

Visible assessment of arterial elasticity/compliance
Pre-systolic waves represent arterial situation
- low amplitudes: good elasticity
- high amplitudes: impaired elasticity
  - arterial vasoconstriction
  - arterial remodelling
  - arterial calcification
  - etc.

Visible analysis of rhythm, dysrhythmia
Distance from one amplitude to the next should be equal.
- Differences in distance: dysrhythmia
  - respiratory sinus arrhythmia (usually CO not affected, continuous increase and decrease of amplitude height)
  - extra beats (CO affected: also different height)
  - AV-block/sinus arrest/ etc. (CO affected: also different height)