THE VET-PAINSENSOR FOR PAIN ASSESSMENT IS NOW AVAILABLE!

- **Dogs**
- **Cats**
- **Horses**
- **Pigs**


Real-time Pain Management

MedStorm

The Vet-PainSensor by MedStorm

MedStorm faces the challenges of pain management by offering a unique PainSensor for precise measurement of real-time pain assessment in animal. The PainSensor measures pure changes in skin conductance activity with acetyl-choline acting on muscarinic receptors and is therefore not influenced by hemodynamics and respiratory instability or diseases affecting the hemodynamics. The technology can be used to tailor the need for analgesia, to reduce side effects from over- and under-dose of e.g opioids, which may lead to reducing the length of stay postoperatively and therefore less costs for hospitals.

0 Tablet with PSS Software

0 Transmitted to PDMS

0 Philips
0 Masimo Root
0 Draeger
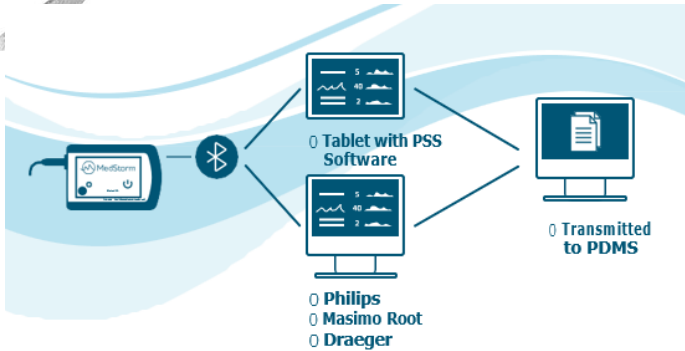
The special advantage of Vet-PainSensor is its Bluetooth technology, which allows wireless transmission of the measurement data to different displays such as the tablet or Vital Signs monitors like Philips, Masimo ROOT and Draeger and finally also being used with Electronic patient recording systems (HL7). This enables a maximum of flexibility and usability.

The Tablet:
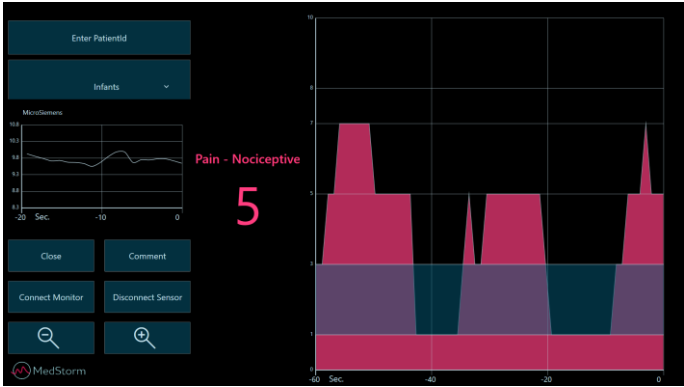
The Philips patient monitor with Vet-Pain Index

The lower yellow trend and numbers is the Vet-PainSensor index.

PAIN should not occur in animals

◯ **Pain detection is based on observational pain assessment (e.g. spot checks)**
  • Time consuming
  • Complex
  • Based on subjective validation

Lack and ineffective Pain Assessment affects Patient Recovery Time which leads to negative economic effects by various facts.

The Pain Index is based on the frequency of the peaks mirroring bursts in the skin sympathetic nerves:

Pain Index	Peaks per second Reflect how often the sympathetic nerves of the skin fire	Indication during painful events
0	0.00 - 0.06	Analgetics can be reduced
1	0.07 - 0.12	Analgesics is probably not needed
3	0.13 - 0.19	More analgesics may possibly be needed
5	0.20 - 0.26	More analgesics may probably be needed
7	0.27 - 0.32	More analgesics may be needed
8	0.33 - 0.39	More analgetisk are necessary
10	0.40 or higher	More analgetisk are necessary

EXAMPLE OF ONE SKIN CONDUCTANCE PEAK:
Skin sympathetic nervous system fires N
Sweat released within 1-2 sec N
Conductance increases N
Conductance decreases when sweat reabsorbs into skin
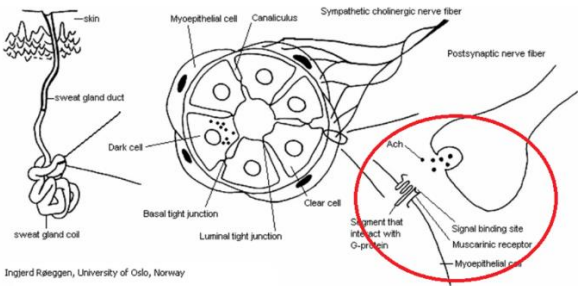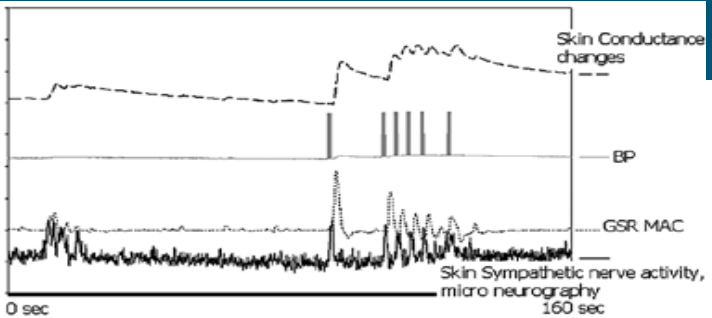
Vet-PainSensor technology

BASED ON THE FIGHT/FLIGHT RESPONSE:

Primitive nociceptive spinal reflex results in sweating under the paws, 2 sec after a painful event.

0 Painful stimuli elicit a sympathetic response in the skin through sweat glands, causing increased secretion in the skin Sympathetic nerves with acetyl choline acting on muscaranic receptors.

0 The skin sympathetic responses are detected by measuring changes (peaks) in skin conductance mirroring skin sympathetic nerve activity.

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Not influenced by:
- Respiratory distress
- Haemodynamic instability
- Medications (adrenergic, beta-blockers, the hypotensive effect of alpha-2 agonists, neuromuscular blockers, atropin (in clinical doses) as well as environmental temperature.

MEDSTORM PROVIDES THE ANSWER TO YOUR QUESTION

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