The new P.A.M. (Pressure Application Measurement) from Ugo Basile is a novel, easy-to-use tool for measuring mechanical pain threshold in experimental joint hypersensitivity models in rodents. The PAM device has been designed and validated specifically for the mechanical stimulation and assessment of joint pain, and therefore is especially useful in studying arthritis.

The PAM applies a quantifiable force for direct stimulation of the joint and automatic readout of the animal response.

The operator simply wears on his/her thumb a special force sensor, specially designed to apply force to rat and mouse joints, and measures the force which elicits the animal response (normally, limb withdrawal).

Each PAM device comes standard with two force sensors, a large one useful for stimulating rat joints, a smaller sensor recommended to test mice; an optional paw transducer/applicator is also available, to stimulate the animal paw.

**Main Features**
- Rat and Mouse Transducers included
- Maximum Applicable Force: 1500g
- Resolution: 0.1g
- Automatic recording of Limb Withdrawal
- User-controlled application of pressure directly to the joint
- DCA Software included - NEW 2014 release

**Joint Pain**
- MECHANICAL PAIN THRESHOLD IN:
  - Joint Hypersensitivity
  - Chronic Joint Inflammation

**Arthritis**

Ugo Basile: more than 25,000 citations
Rationale of the Technique
Arthritis is associated with chronic, debilitating pain in the joints. Current metrics of arthritic pain in animal models are indirect, by scoring the level of motor activity or the animal weight distribution (Barton et al. 2007); while correlating well with the level of joint pain, their metric is a composite picture of complex pain responses, and provides little direct information about local stimulation and locally-evoked responses.

The quantification of localized joint hypersensitivity is not common in animal experiments; in this sense the PAM device represents a step forward toward multifactorial measurement of pain-related behavior in animal research; the PAM is the first instrument designed specifically to apply force to the joint and automatically detect the animal response.

Instrument Configuration

Pressure transducers: the PAM device comes with 2 transducers, each tested and validated. Both flat and round, the large transducer is suitable for rat, the small one is ideal for mouse.

An optional paw transducer/applicator is also available, rapidly transforming the PAM into a Digital Randall-Selitto for pressure application on paws, muscles, tail.

Electronic Unit: the compact PAM controller connects to the mains or can be battery-operated. A foot pedal switch is provided for manual score of the peak force.

Data Monitoring and Storage
The device includes as standard both a control unit with internal memory and a software for signal monitoring, data transfer and analysis. Saved data can be browsed on the control unit and/or transferred to a PC in proprietary, .xls or .txt format, for further processing.

Acknowledgements
The PAM was invented and validated in the University of Edinburgh by the team of Prof. Daniel McQueen, Susan Bond and colleagues and Dr. Harry Brash, who built the first prototypes.

Ordering Information

38500   PAM, standard package, including:
38500-001   Electronic Unit
38500-002   Large Joint Transducer
38500-003   Small Joint Transducer
38500-011   DCA Software (on USB Key)
38500-302   Instruction Manual (on USB Key)
38500-303   Pedal Switch
All components lodged in a dedicated plastic case

Options
38500-006   Paw Transducer
38550   PAM, high-pressure model for large animals*

Physical
Weight   1.4 Kg (in the plastic case)
Shipping weight   2.7 Kg
Packing   46x38x27cm
Shipping Weight   27.50 Kg approx

Bibliography