New approach to the epidural space

SAFE, SOUND AND SIMPLE

Herman Wijffels Innovation Award
The Herman Wijffels Award was instituted as a means for promoting innovative and sustainable enterprise in the Netherlands. In competition with over 250 participants, APAD was evaluated the best innovative product of 2007 and won this most prestigious award.

Technical Data and Specifications

Size and Weight
- Height: 220 mm
- Width: 230 mm
- Depth: 90 mm
- Weight: 2 kg

Display
- Colour TFT with LED backlight
- 320x240 Pixel Resolution
- Touch Screen
- Vertical Scale 0-100 kPa
- Vertical Resolution ≤0,6 kPa

Audio
- Frequency: 140 Hz-1 kHz
- Resolution: ≤0,4 Hz

Pressure Measurement
- Input: 0-133 kPa
- Tolerance: 5 %

Data Transfer and Storage
- Serial Port Optical Galvanic Isolation
- Secure Digital Card (SD) max. 1Gb

Net Adapter
- Voltage In: 100-240 Vac/50-60 Hz
- Voltage/Current Out: 15 V/1.6 A
- Battery Pack: NiMH 7,2 V/1500 mAh
- Battery Charger: Internal, 2 stage

Registration and documentation of the epidural puncture

APAD is an invention of T.J.M. Lechner, MD, Anesthesiologist and has been patented by APAD Octrooi BV.
 Revolutionary acoustic system to locate the epidural space featuring the following unique advantages:

- Registration and documentation of the epidural puncture
- Guaranteed finding of the epidural space
- Penetration of the epidural space is indicated by a clear variation of the acoustic signal
- Acoustic monitoring is superior to the sense of touch
- Two handed technique for absolute needle control
- An outstanding educational tool
- Monitoring of the different layers guarantees a safe procedure

APAD (Acoustic Puncture Assist Device)

APAD is a revolutionary device to localise the epidural space by means of an acoustic signal. This device is measuring the pressure in an extension tube between the epidural needle and the syringe placed in a pump. The generated pressure is translated into a corresponding acoustic and visible signal.

The device enables the anesthesiologist to handle the epidural needle with both hands and to detect the epidural space by means of the acoustic signal. The method has been proven to be reliable, safe, and simple in several studies (publications 1, 2, 3, 4).

The benefits of this new epidural puncture technique include: registration and documentation of the epidural puncture, better needle control, certitude that the epidural space has been reached, the free space can be checked and APAD is an outstanding educational tool.

List of Publications

Several studies have proven the APAD-procedure to be reliable, safe, and simple. The clinical results have been published in various leading journals. Please inquire for the following articles, for further reference:

1. Lechner, T.J.M. van Wijk M.G.F., Maas A.J.J. Clinical results with a new acoustic device to identify the epidural space. Anaesthesia, 2002; 57:768-772


