

# Solar Neuro Module

## Adding Neurophysiological tests to your Solar Pelvic Floor Measurement System

In the diagnosis of micturition and pelvic floor disorders, common urodynamic, pelvic floor and anorectal investigations are more and more combined with studies to investigate neurological abnormalities. Neurological studies can greatly improve the quality of the diagnosis.

The Solar Neuro Module enables you to conduct neurophysiological assessments of pelvic floor dysfunction on the same system as you use for urodynamics or anorectal manometry. With a set of pre-defined neurophysiological tests for assessing pelvic floor disorders, the Solar Neuro Module is used in a manner that will be familiar to those already acquainted with the intelligent Solar functional diagnostic testing system. As a result you can use the same MMS patient database.



*The Solar Intelligent Urodynamic and GI Manometry system now offers neurophysiological tests, before, during or after pelvic floor tests and sharing the same patient database*

The Solar Neuro Module allows you to study the motor innervations of the sphincters and the pelvic floor as well as the sensory innervation of the pelvic structure. A number of measurement programs are available:

- Free Run EMG
- Pudendal Nerve Stimulation
- Motor Nerve Conduction
- Sacral Reflex
- Sensory Threshold

### Advanced functionality offered by the Solar Neuro Module

#### Free Run EMG

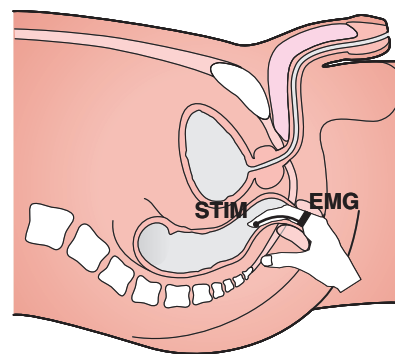
Free Run or Kinesiology EMG: Sphincter electromyography (EMG) is the recording of electrical potentials generated by depolarization of the striated muscles involved in the active continence mechanism. The method yields

information on the voluntary control of the sphincter muscles and the coordination between the detrusor and the sphincter apparatus during bladder filling and during micturition.

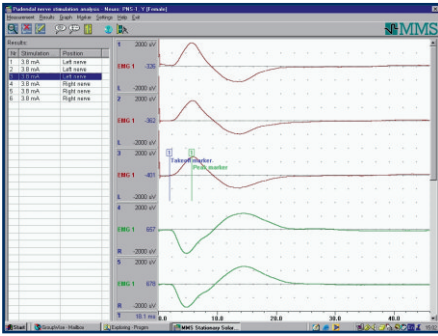
Sphincter EMG may be used for recording of the activity in the urethral striated sphincter, the anal sphincter or the pelvic floor muscles - or all sphincters simultaneously. Routine EMG as part of urodynamic studies usually employs 1 or 2 channels for recording from the urethral and/or anal sphincter muscle. Furthermore Free Run EMG offers excellent functionality to measure Corpus Cavernosum EMG (ccEMG).

#### Pudendal Nerve Stimulation

Pudendal Nerve Stimulation (PNS) or Pudendal Nerve Terminal Motor Latency (PNTML) has diagnostic and prognostic value in the care of patients with fecal incontinence and in other patients with pelvic floor dysfunction in whom it is important to identify and quantify the nature of neuromuscular injury. PNS is a common and simple study that measures the latency through a direct reflex between stimulator site and recording site. The St. Marks probe is used for latency measurement between stimulator site and recording site (anal sphincter). Pudendal nerve conduction measures the reflex via the brains. PNS can also be used for urinary incontinence studies when the sphincter is stretched after childbirth.



*Pudendal Nerve Stimulation using the St. Marks probe*



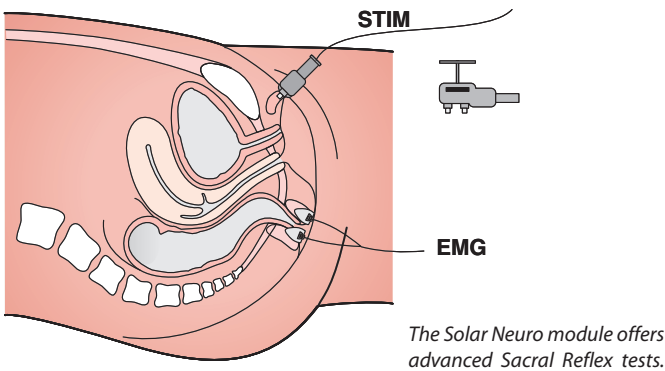
*Pudendal Nerve Stimulation Analysis*

## Motor Nerve Conduction

The purpose of the Motor Nerve Conduction test is to measure the nerve conduction velocity of the dorsal nerve of the penis. To make this recording, the dorsal nerve of the penis is stimulated on the dorsum of the glans penis. Recording takes place on the dorsum of the penis and at its base. The distance between the recording electrodes is divided by the difference in the latency between the dorsal and the base response to calculate conduction velocity.

## Sacral Reflex

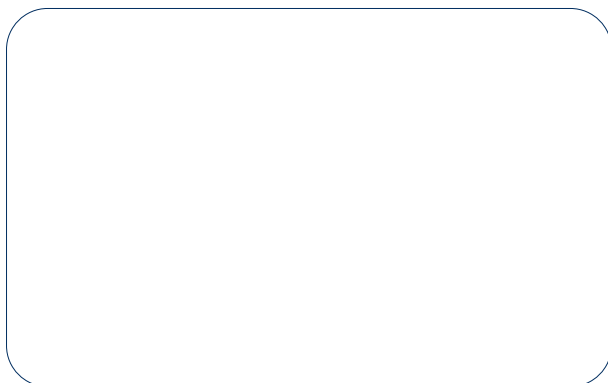
The Sacral Reflex or Bulbo Caverosum Reflex program offers stimulation of the dorsal nerve of the penis or clitoris and records reflexes via the brain taken from pelvic floor muscles structures. The latency from stimulation to response is measured. The Sacral Reflex can also be used for measurement of Vesico-Urethral or Vesico-Anal Reflexes and Anal Sphincter responses.



*The Solar Neuro module offers advanced Sacral Reflex tests.*

## Sensory Threshold

The Sensory Threshold program offers stimulation only. It gives you a visual detection of the reaction on a stimulus on penis, clitoris or vesical impulse.



## Solar Neuro Configurations

MMS offers a complete range of Neuro-diagnostic solutions to pelvic floor specialists. Modules complementary to the MMS Solar family (Solar Gold, Solar Silver, Solar Smart or Solar GI) are :

- 1 channel High speed EMG
- 2 channels High speed EMG
- 1 channel High speed EMG, Stimulation programs
- 2 channels high speed EMG, Stimulation programs

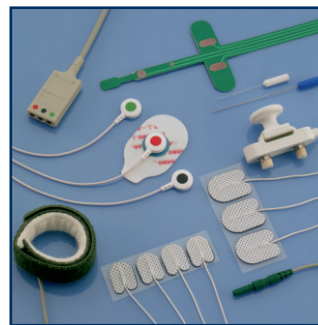
## Easy to use stand-alone solution

The Solar Neuro Module can also be used without the need to invest in a urodynamic or anorectal manometry system. If requested, above mentioned configurations will come with a Solar Main Module, Patient Safety Module, Hardware Diagnostic Software and an extensive Patient Database Program. This stand-alone solution can easily be upgraded to a full blown measurement system. As a result, investments are guaranteed.

Optional are a dual foot-switch for stimulation and store functionality and an adjustable arm to mount the Solar Neuro Module on a cart or table. For technical specifications of the Solar Neuro Module we refer to the Solar Neuro technical specification sheet. If you want more information or information about prices, please contact MMS or your local MMS dealer.

## Solar Neuro Accessories

Medical Measurement Systems also offers a complete line of special neurological accessories such as needle and surface electrodes, stimulation probes, urethral rings and St.Marks electrodes.



*MMS can supply a full line of different needle or surface electrodes.*



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