




**NEUROSTYLE**

Neurological & Neuromuscular devices

## PRODUCT CATALOG

*better future* through Medical Device Innovation

# ABOUT US



Neurostyle Pte. Ltd. Is a Singapore-based medical device company focusing on Design, Development and Manufacturing of Neurological Diagnostic, Monitoring, Rehabilitation and Home care medical devices.



High Quality  
Affordable  
Effective  
User-friendly  
Multi-functional  
Innovative



## OUR MISSION

Neurostyle is dedicated to develop and produce innovative technologies in the field of neurology and allowing the world to gain easier access to the advantages of these neurological innovations.

## OUR VISION

To prioritize and focus on establishing long-term partnerships with customers and distributors through high service quality.

Through Collaboration with dedicated research teams from Singapore's Top Research Institutes and other overseas institutions that have specialized knowledge and years of experience, Neurostyle gained access to harness innovative medical device technologies through a series of flagship projects and collaboration.

This in turn helps Neurostyle to implement advanced technologies into its products, hence providing customers with a variety of options to suit their needs.

Neurostyle continuously strives to develop its products in order to provide high-quality medical devices, support, service and experience to its customers & partners.



# STRATEGIC PARTNERSHIP



## Research and Development

The institute for infocomm Research (I²R) is a member of the Agency for Science, Technology and Research (A\*STAR) family and is Singapore’s largest ICT research institute established in 2002.

Neurostyle works closely with the I²R team whose expertise is on advanced and innovative technologies related to Neurology for R&D of new products or features.

## Marketing, Research and Development

NCC Medical is a Chinese listed company with 20 years of medical device manufacturing experience who also specializes on neurological devices.

Neurostyle’s strategic partnership with NCC medical aims to consolidate the strengths of both companies on Research, Development, Manufacturing and Marketing capabilities.

## Product Portfolio

EEG System (EEG/PSG/ERP)

Ambulatory EEG System

EMG System (EMG/NCV/EP)

Surface EMG System

IOM System

BCI-based Stroke Rehabilitation System

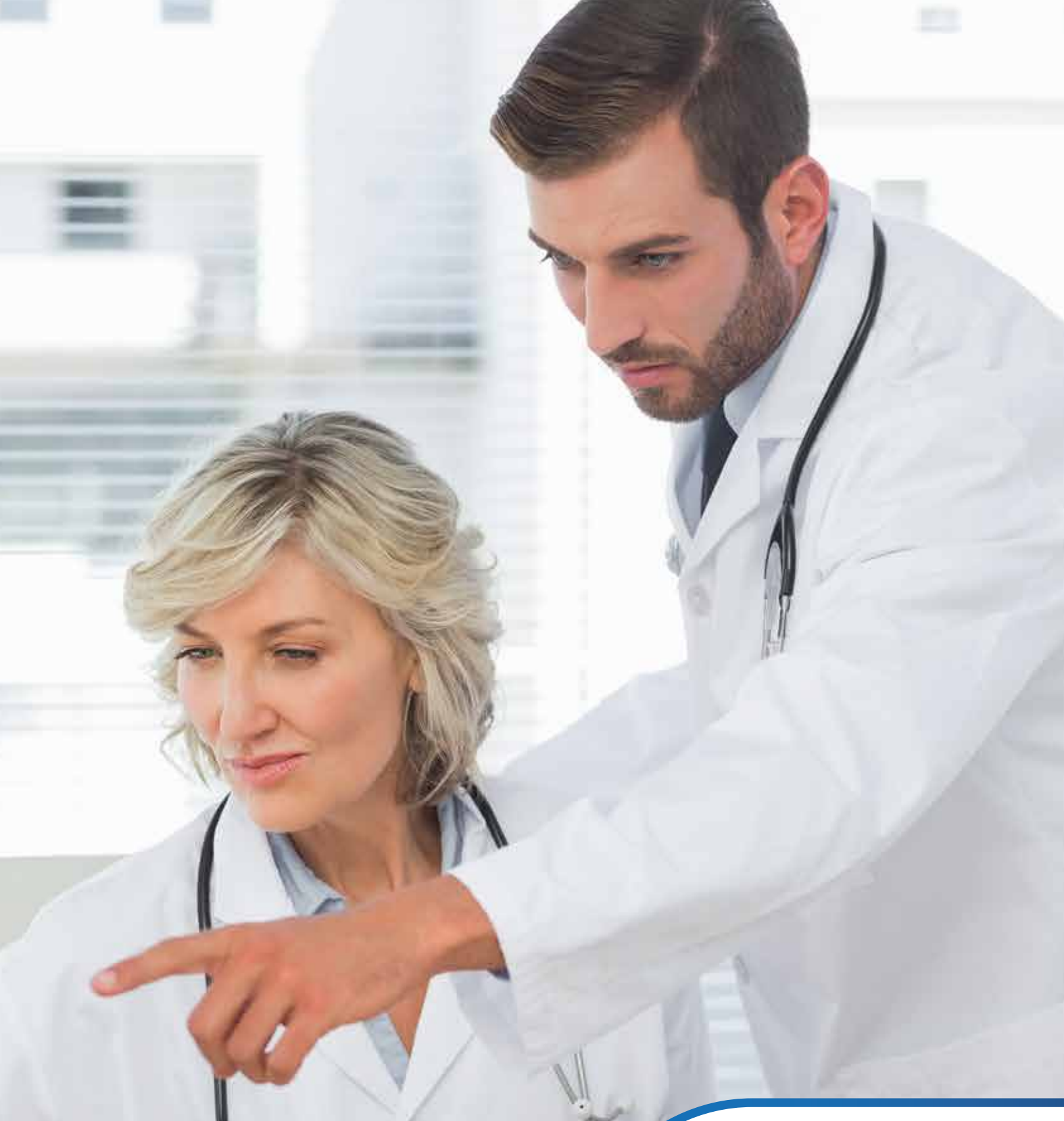
Bio-feedback Electrotherapy Kit

Dysphagia Stimulator

Balance Evaluation and Training System

Portable Micro-current Stimulator

Remote Monitoring and Rehabilitation System



# Diagnostic

Electroencephalograph (EEG)  
Electromyograph (EMG) System

Neurostyle offers high quality EEG and EMG systems which is designed to fit the most common needs of its customers while also making sure of continuous development of product features and technology.

# NS-EEG-D

## Electroencephalograph (EEG) System

(EEG/PSG/ERP/Video EEG)

NS-EEG-D1 delivers high quality EEG signals through state-of-the-art hardware and software design, built-in impedance test module and anti-interference data transmission technology.

It can be used for routine EEG, Event-Related Potential (ERP) data acquisition and analysis, as well as professional sleep monitoring using Polysomnography (PSG) for medical and research institutions.

### Channel Options

24

36

48

60

### Functions

Routine EEG

Polysomnography

Event Related Potential



### System Key Feature

1. High quality signal with optical fiber isolation
2. DC battery power operation eliminates AC power line interference
3. Built-in impedance testing function
4. Ergonomically designed single shielded cup/clip electrodes with touch-proof connectors (1.5mm)
5. Choice of different configurations:
  - a. 24/36/48/60 channels unipolar EEG
  - b. 12 channels bipolar EEG
  - c. Synchronous acquisition, editing and display of EEG and video signals.
  - d. Synchronised EEG examination and PSG recording enable for more sophisticated clinical applications.
  - e. Incorporation of ERP consists of audio, visual and current stimulation

### Software Key Features

#### A. Acquisition & Settings

- User-friendly interface
- Intuitive Editing
- Multiple selections of instant events and long time events

#### B. Review & Analysis

- Viewing of individual EEG waveform during review phase
- EEG mapping, EEG tendency analysis,
- EEG spectral analysis
- Automatic spike recognition and spike-wave arbitrary setting functions
- Rapid event search and playback of abnormal wave occurrences
- Automatic report generation

## Polysomnography (PSG) / Sleep Study

This subtype provides Polysomnography (PSG) recording capability on top of routine EEG examination.



### PSG Key Features

1. Synchronised EEG examination and PSG recording enable for more sophisticated clinical applications
2. PSG hardware integrated into EEG amplifier – No additional hardware space, negligible weight difference, easy hardware management and connection.
3. Multiple channels available for PSG recording:
  - EOG
  - EMG
  - Air Flow
  - Snoring
  - ECG
  - SpO2
  - Thoracic and Abdominal Respiration (RESP)
4. Respiration leading tone is featured to gain patient's respiration frequency during deep respiration events

## Event-Related Potential (ERP)

This subtype provides Event-Related Potential (ERP) for examination of recognition ability of patients on top of routine EEG examination.

### ERP Key Features

1. Choice of acoustic, visual and current stimulation
2. ERP recognition potentials of P300
3. Stimulation synchronized with EEG waveform acquisition and configurable stimulation parameters and patterns
4. ERP data averaging function for better case assessment.
5. Diversified data measurement tools for ERP latent period and amplitude measurement
6. Multiple ERP(s) available to be replayed and compared concurrently



# NS-EEG-D1-W

## Portable/Ambulatory Routine EEG System

NS-EEG-D1-W is a professional digital AEEG device designed and developed to allow clinicians to perform all standard applications of routine EEG and long term EEG monitoring anywhere due to its portable and compact design. It also has low power consumption making it capable of supporting up to 72 hours recording with just four AA batteries. This device supports real-time EEG waveform recording and display via Wi-Fi and dynamic recording with Flash memory card.

### Channel Options

16

24

32

64

### Functions

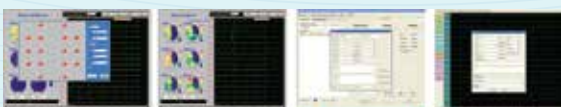
Routine EEG

Video EEG



### System Key Feature

1. Compact design – portable and easy to carry
2. Complete with EEG isolation – support maximum patient movement without distortion
3. User-friendly operation
4. Low power consumption – capable of supporting up to 72 hours recording with four AA batteries.
5. Supports real-time EEG waveform recording and display via Wi-Fi
6. Dynamic recording with Flash memory card
7. All-in-one electrode cable for easy connection
8. Use of DC power supply
  - Eliminates risk of electric shock to patients
  - Prevents signal interference
  - Removes the need to use ground wire or other shielding features
9. Fast data uploading capability – stored data in Flash memory card can be quickly transferred to the computer through USB 2.0/USB 1.1 Interface
10. Optional video system – Recording, Editing and Displaying of video synchronously with EEG signals





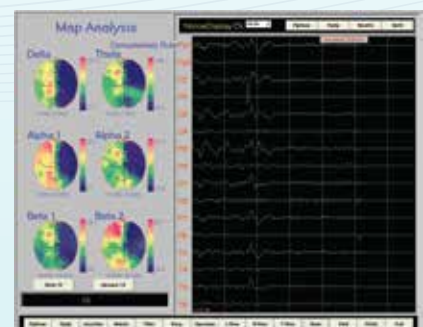
## Acquisition & Settings



1. Color of waveforms is in accordance to color of events
2. Instant event-marking with hot keys
3. EEG channels can be arbitrarily set-up – customizable channels layout during collection process and playback analysis
4. Channel Customization - Simple and intuitive
5. Events markers during recording – for timing of seizures and abnormal wave occurrences
6. Event localization during playback – marked events are listed and can be traced
7. Real-time EEG tendency chart synchronized with EEG waveform acquisition
8. EEG Tendency Chart with the following parameters displayable:
  - Energy curve
  - Peak value frequency
  - Side frequency index
  - Medium frequency index
  - Energy peak frequency
  - Relative Energy
  - Absolute Energy
  - Coma Index

## Replay & Analysis

1. EEG Mapping
2. EEG Tendency Analysis
3. EEG Spectral Analysis
4. Brain waves fast playback and fast positioning function
5. Automatic spike recognition with adjustable spike-wave parameters
6. Customizable combinations of parameters and filters during EEG data review
7. Automatically generates EEG case reports
8. Customizable print templates



# NS-EMG-C1

## Electromyograph (EMG) System (EMG/NCV/EP)

NS-EMG-C1 delivers high quality EMG signals through advanced hardware, software design and anti-interference data transmission technology. This device can be used for Quantitative EMG recording, Evoked Potential (EP) as well as Nerve Conduction Velocity (NCV) diagnostic examinations for medical and research purposes.

### Channel Option

2

4

### Functions

Quantitative EMG

Nerve Conduction Velocity

Evoked Potential



### System Key Feature

1. Pre-Amplifier operable with up to 4 EMG channels
2. High quality signal with reduced power line interference
3. Modular design enabling different combinations for different examinations
4. Ability to convert EMG format to surface EMG format
5. Offering 3 standard EMG modules, 4 EP modules and 8 NCV modules
6. Free software update for registered devices
7. Customizable system components for stationary or portable system set-up

### Software Key Features

1. User-friendly software interface
2. Easy to understand illustrations of electrode placements, stimulation positions and standard waveforms
3. Easy access to waveform data comparison
4. Ability to replay, review and generate reports for past cases
5. Available normal values for result analysis

## Evoked Potential (EP)

This subtype provides Evoked Potential (EP) for examination of patients on top of Quantitative EMG



### EP Examination Protocols Features

1. Auditory Evoked Potential (AEP):

- BAEP
- LAEP
- MAEP
- EcochG
- 40Hz

2. Visual Evoked Potential (VEP):

- EOG
- ERG
- FVEP
- PRVEP

3. Somatosensory Evoked Potential (SEP):

- LSEP
- SCEP
- TSEP
- USEP

4. Cognitive Evoked Potential:

- MMN
- N400
- P300

## Nerve Conduction Velocity (NCV)

This subtype provides Nerve Conduction Velocity (NCV) diagnostic examination capability on top of EMG examination.

### NVC Examination Protocols

1. Waveform caching function enables saving of multiple waveforms with the same examination point
2. Screen display of individual F-wave, H-wave and overlay
3. Display of latency and amplitude values with measurement lines for easy reference
4. Various Examinations Protocols available:

- Motor NCV (MCV)
- Sensory NCV (SCV)
- Repetitive Nerve Stimulation (RNS)
- Short Segment Conduction (SSCT)
- Sympathetic Skin Response (SSR)
- F-Wave
- H-Reflex
- Blink Reflex (BR)





# Monitoring

Intraoperative Monitoring  
(IOM) System

Neurostyle's Smart Intraoperative monitoring (IOM) system is a user-friendly device used to assist surgeons in avoiding any damages to the patient's nerves while undergoing specific types of surgeries.

# NS-SIOM-XP

## Smart Intraoperative Monitoring (IOM) System

NS-SIOM-XP is an intraoperative monitoring system which helps reduce the risk of nerve damage during various types of surgery and identify nerve functions before the end of surgery through monitoring of triggered EMG activities in multiple cranial and peripheral nerves.

### Channels

4

8

### Clinical Applications

Facial Nerve Surgery

Thyroid Surgery

Spinal Surgery

ENT Surgery

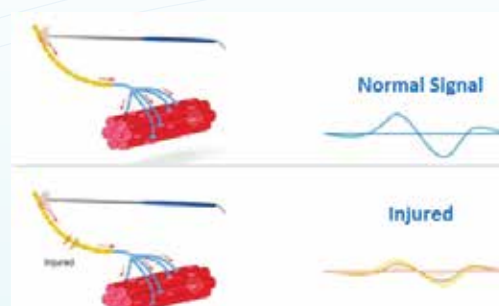
Selective Posterior Rhizotomy



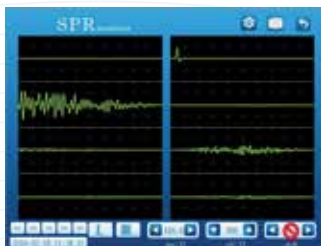
### Features

Smart IOM can support surgeons with the following functions

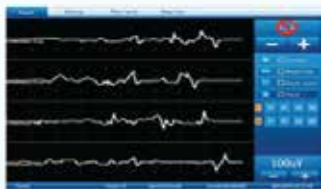
1. Identification of nerve and tissues
2. Confirmation of injected nerves and their locations
3. Monitoring of nerve integrity in real-time such as:
  - Thyroidectomy: Vagal Nerve, SLN, RLN detection during head and neck surgery by monitoring vocal cord muscle response from stimulus
  - Facial nerve monitoring during ENT, oral and maxillofacial surgery by observing the activities of orbicularis oris and orbicularis oculi muscles
  - In SPR surgery, the rootlets that cause spasticity can be identified by examining EMG responses of muscles in the lower extremities when each rootlet is electrically stimulated
  - Other motor nerves during various surgeries



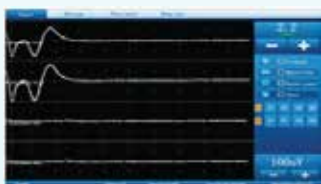
## System Key Features



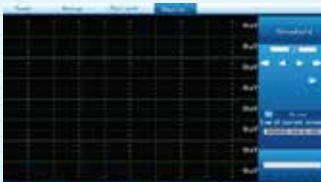
SPR Monitoring Mode



Monitoring Mode



Spontaneous EMG Mode



Replay

1. Versatile application – can be used for different types of surgeries
  - Variety of stimulation probes for different surgery types
  - Various types of Recording and GND electrodes
  - Smooth EMG Endotracheal tube design
2. Ergonomic design for fast and easy navigation
  - Quick change adjustment knobs (Stimulus or Volume levels)
  - 15-inch touch-screen display with enhanced visuals and waveform
3. Four simple user modules:
  - Test • Setup • Patient • Replay
4. Convenient marking function
5. Customizable Parameter settings
6. Create, Save and Import monitoring program templates for specific surgeries to simplify operation and avoid repeated setup
7. Real-time stimulation monitoring
  - Impedance
  - Stimulation Intensity
  - Connection status of electrodes and probes
8. Professional SPR monitoring
9. Various Prompts for different EMG trigger settings
10. Clinical Alert signal
  - Physiologic wave reaching pre-set threshold value
  - Electrode connection is off
  - Electric knife/ coagulation is working (to open mute function)
11. Technical Warning signal when device is not running properly (Communication or Battery failure)
12. Recording during surgery
  - Waveform Recording – records typical waveforms during different stages of surgery and reflects EMG trend during surgery's whole duration
  - Event Recording – records various events when exceeding pre-set threshold values





# Rehabilitation

Physical and Neurological  
Rehabilitation Systems

Neurostyle's advanced and innovative rehabilitation devices can help rehabilitation specialists provide high quality rehabilitation treatments to their patients, enabling them to recover faster and better

# NBETTER

## Brain-Computer Interface (BCI) Based Stroke Rehabilitation System

NBETTER is an innovative Stroke Rehabilitation system which can detect the imagination of movement of a stroke-affected limb using an EEG-based Brain-Computer Interface by providing visually engaging virtual feedback for brain exercise while simultaneously providing physical exercise through a synchronized Physical feedback device resulting to improvement in motor-function recovery after stroke. Clinicians can assess and monitor a patient's progress through internet/intranet access to a data server or through a direct local host access.

### System Components

EEG Systems

BCI-Software with Virtual Reality Games

Physical Feedback Mechanism

### Clinical Applications

Chronic Stroke Rehabilitation

Sub-Acute Stroke Rehabilitation



### System Key Feature

1. Brain-Computer Interface (BCI) based stroke rehabilitation system using EEG to acquire patient's accurate brain signals
2. Configured for rehabilitation in chronic and sub-acute stroke
3. Motor imagery with Virtual Reality feedback mechanism
4. Innovative algorithm that is clinically-tested to detect patient's motor intent
5. Physical feedback device is synchronized with Virtual feedback
6. Portable or Stationary system set-up
7. Suitable for deployment in hospitals, rehabilitation clinic or home
8. Applicable for Tele-Rehabilitation

### Software Key Features

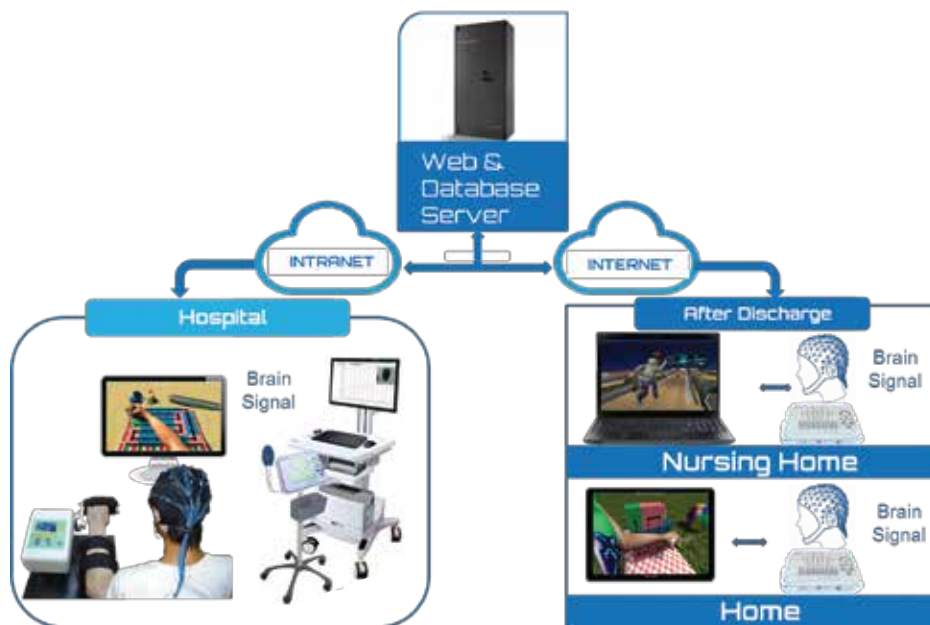
1. Innovative patient-specific Motor-imagery detection model
2. Unique proprietary server algorithm
3. Complete data record of the treatment processes
4. Remote clinician access for evaluation of patient's motor recovery progress and efficacy.

### Site Application Features

1. Coupled with EEG hardware and impedance test to acquire high quality neuro-signals.
2. Calibration sessions to guide patients on adapting to Virtual Reality environment
3. Supervising sessions to gauge the motor-imagery capabilities of patients
4. Rehabilitation therapy game models adapted to patient's progress

# A New Approach to Stroke Rehabilitation

Build new motor control pathway in the brain directly



**N** EUROSTYLE  
**B** RAIN  
**E** XERCISE  
**T** HERAPY  
**T** OWARDS  
**E** NHANCED  
**R** ECOVERY

## NBETTER BCI Process

1. Patient visualizes Virtual Reality limb movement
2. Brain signal acquisition through EEG
3. nBETTER software processes brain signal to Perform Motion-feature Extraction and Classification
4. Control Interface triggers synchronized Virtual and Physical feedback to patient



NBETTER Server Interface



Patient Progress Assessment



# REHABKIT

## Bio-feedback Electrotherapy Kit

REHABKIT is a portable limb functional rehabilitative assessment and training system. It serves as a multi-functional pack for healthcare professionals to conduct rehabilitative assessment, training and therapy through a great variety of evaluation functions and comprehensive training with engaging bio-feedback games.

### Channel

2

### Functions

Surface EMG Evaluation

Muscle Training

Force Evaluation

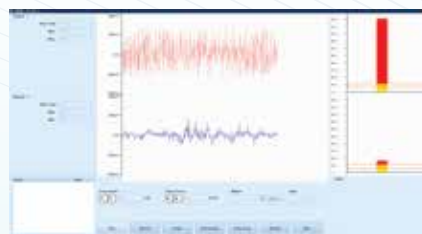
Grip Evaluation & Training

Electical Stimulation



### System Key Features

1. Windows system main unit with optional 10 inch high definition LCD display touch screen
2. 2 channels for non-invasive assessment, training and stimulation
3. Digitized muscle strength measurement and training with built-in multimedia games which help provide encouragement to patients and maintain interest during rehabilitation
4. Stimulation modules such as TENS, Prescriptive Stimulation, Freestyle Stimulation and EMG Feedback Stimulation are available
5. Built-in Surface EMG assessment and analysis
6. Innovative Pinch Strength Evaluation, Grab and Release Evaluation and Training
7. Option to connect to PC for case management, data storage and analysis, and tendency review



Surface EMG



Games for Training



Muscle Selection

# BALANCE-A

## Balance Evaluation and Training System

Balance-A is an evaluation and training system that provides multi-parameter analysis of human balance ability through measurement of accurate data from the seat and stand pressure plates. It utilizes Bio-feedback and Special gravity path training to help patients recover normal balancing ability.

### For patients Suffering from

Neurological Disorders

Neuromuscular Disorders

Vertigo

Alzheimer's - Falling

Osteoarthritis



Seat Pressure Plate



Stand Pressure Plate

### Key Features

1. Accurate data measurement with 8 sensors on the Stand Pressure Plate and 4 sensors on the Seat Pressure Plate.
2. Adjustable seat height for people with different heights.
3. Multi-functional system
  - **Balance Evaluation**
    - Analysis of different Human balance ability parameters such as center of gravity and swing coefficient
  - **Balance Training:**
    - Provides special gravity path training for some rehabilitation evaluation such as stroke and brain injury.
    - Bio-feedback to help patients make adjustments accordingly
4. Robust interactive modes and visuals to make training process more enjoyable and to help motivate trainee's enthusiasm.
5. Data acquisition for:
  - Sitting      ● Standing
  - The transition process between sitting and standing



Balance Training    Balance Evaluation

# MYONET-A

## Dysphagia Stimulator

MYONET-A is a portable device used to treat Dysphagia by promoting recovery of damaged nerves through low-frequency electrical stimulations which can effectively strengthen muscle movement for swallowing and improve the swallowing ability of patients.

### Stimulation Output

2

#### Components

Stimulator Hardware

Electrode Cabin & Pads



### Features

1. Non-invasive, safe and smart design, easy to carry and simple operation
2. 2 channels stimulation that can treat 2 groups of muscles or 2 patients simultaneously
3. Low-frequency electrical stimulation for a good treatment
4. Have a wide range of stimulus intensity: 0-25 mA
5. Applicable Departments: Rehabilitation, Neurology, Acupuncture and Pediatrics

### Clinical Applications

1. Can be used for evaluation, treatment and training of Dysphagia and Dysarthria caused by non-mechanical damage
2. Mainly used for Dysphagia caused by physiological conditions such as neurological disorders, neuromuscular disorders, neurodegenerative disease, and dermatomyositis.







# Home Care

Micro-current Stimulator and Remote Monitoring /Rehabilitation System

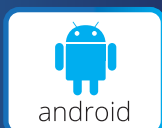
Neurostyle's portable, affordable and user-friendly home care devices allows good quality healthcare treatments to become available at the comfort of a patient's home.

# SOMNORMAL

## Micro-current Stimulator

NS-Somnormal-3 is a pocket-sized micro-current stimulation therapy device designed for treatment of Insomnia and Anxiety. Using clinically proven CES technology, this product helps to improve sleep quality and cycle by stimulating the brain's cerebral cortex to regulate the body's functions to a natural balance making it active during the day and inhibited at night.

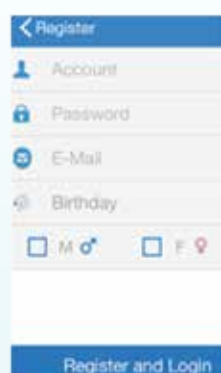
### Mobile App Operating System



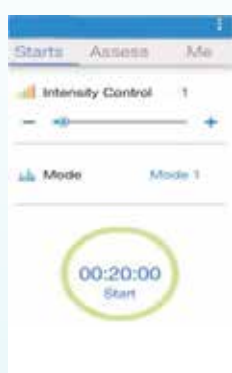
### Clinical Applications

Insomnia

Anxiety



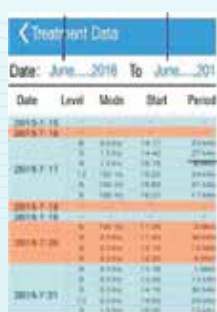
Registration / Login



Treatment



Sleep Assessment



Treatment Data

### System Key Features

1. Compact-sized and easy to use
2. Can be operated using Android or IOS smart phones and tablets
  - 'Somnormal' Mobile App can be downloaded from Google Play or Apple App Store
3. Mobile App easily links the stimulator device to smart phones or tablets via Bluetooth
4. Treatment data and history are automatically recorded in the app for future reference.
5. Sleep assessment functions are available within the Mobile App and assessment data is recorded in the phones/tablets.
6. Can be used for regular treatment
  - Non-drug treatment
  - Does not cause dependency
7. Adjustable current intensity

# M6

## Remote Monitoring and Rehabilitation System

M6 is an innovative Bluetooth connectable system designed to provide a perfect combination of remote rehabilitation and remote monitoring which allows patients to perform rehabilitation at the comfort of their own homes.

### Functions

#### Patient Monitor

ECG

RESP

NIBP

SPO2

TEMP

PR

#### Rehabilitation

Surface EMG Evaluation

Electrotherapy Stimulation

Biofeedback Trainings



### Key Features

1. 24-hours standard 6 parameter (vital signs) monitoring: ECG, RESP, NIBP, SpO2, TEMP, PR
2. Combination of active and passive training for better treatment.
3. Combination of SEMG and multi-media training to make treatment more enjoyable.
4. Upgradeable Central Management Software system for convenience in analysis and making adjustments, ideal for Telemedicine.
5. Bluetooth wireless connection for tablet to remote monitoring & rehabilitation hardware.

### Clinical Applications

#### 1. Remote Patient Monitoring:

- Elderly and disabled patients
- Patients with Cardiovascular and Cerebrovascular disease

#### 2. Remote Rehabilitation:

- Stroke patients
- Patients with limb hemiplegia
- Patients with cognition disorder
- Patients with poor balance coordination abilities or low muscle strength for lower extremities
- Patients with spinal injuries



Software Interface



Vital signs Monitoring



Stimulation Parameters Setting



Multi-media Games Training

# NEUROSTYLE

## PRODUCT CATALOG

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Products manufactured by Neurostyle have CE markings as declaration that it meets the requirements of the applicable EC directives.