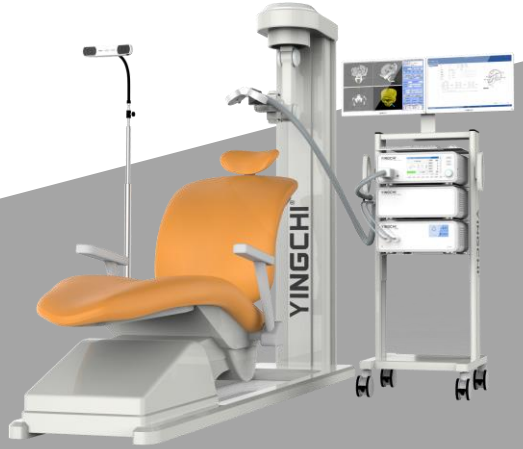
英智科技
YINGCHI

Healthcare and Happinese

TMS TECHNOLOGY

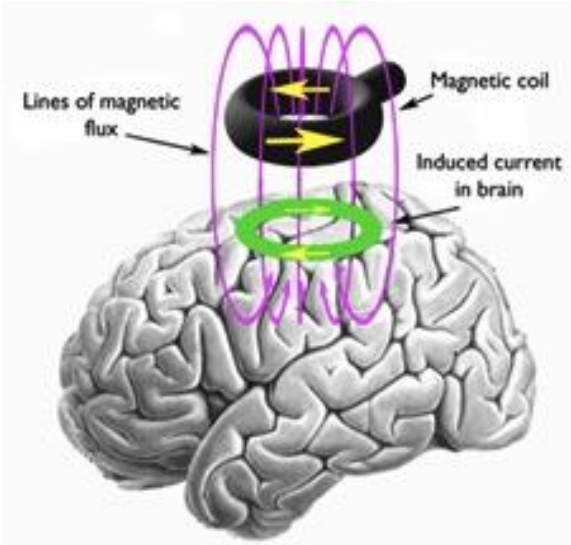
SHENZHEN YINGCHI TECHNOLOGY CO.,LTD

SPEAKER:



Why should the patients choose TMS?

TMS is **a painless** and **non-invasive** neuromodulation technique that allows different-frequency stimulation(high frequency or low frequency) through the intact skull bone and to modulate neurons of selected brain region(excitability or inhibition).



Generation III: M-Ultimate TMS

1. Centrual monitoring system
2. Intelligent robotic arm
3. Liquid-cooling circulation system
4. H-coil
5. Optical neuronavigation system
6. ppTMS
7. Dual-channel external MEP module

脉冲磁场刺激仪
M series Ultimate

Different configuration

S-series

M-series

M-series

Stimulation Generator

It can work independently without PC displayer;
Support to save and print the information of patient and protocol;
MEP determination; external triggering; combined with EEG simultaneously.

Stimulation Generator

1. Coil socket—various coil can meet different needs and easy to replace;
2. Temperature sensor interface—monitor the temperature of coil(＜41℃） in real time;
3. LEDs—indicate the work status: green for running normaly, red for fault indication;
4. The buttons link to protocols—the frequently-used protocols can be linked to the shortcut key,easy to select;
5. Single-pulse output button—output single pulse based on the selected intensity;
6. The button to select parameter and function—adjust parameter with rotary knob 9 together on 2nd function menu；

Stimulation Generator

7. The buttons of function menu—enter to the function menu and change functions;

8. Output control, confirmation key of operation—multiple-pulse output control, confirm/cancel operation;

9. Multifunctional rotary knob—parameter adjustment, information searching and so on;

10. Mobile storing device interface—（USB disk）to read, export, manage the patient/protocol information;

11. Extending function interface—external triggering, combined with EEG simultaneously;

12. Displayer screen—embedded interactive system;

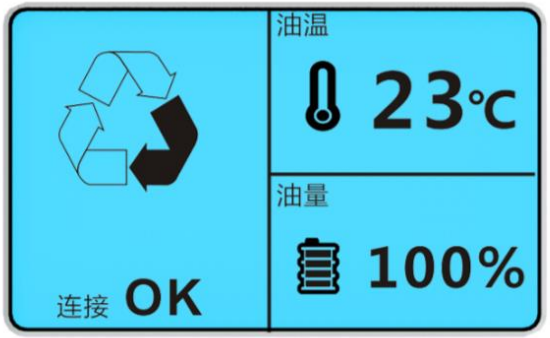
Intelligent Liquid-cooling Circulation System

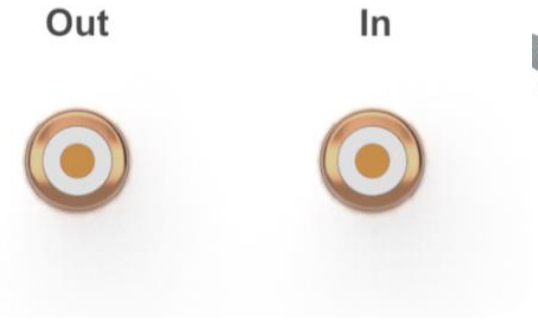
Generation I： 1985-1988： natural cooling, need ice packs to cool

Generation II： 1989-2005： air cooling, poor cooling effect and high requirement for environmental temperature

Generation III: 2006-now: liquid cooling, semiconductor-air cooling, high efficiency in cooling

Innovative Techniques





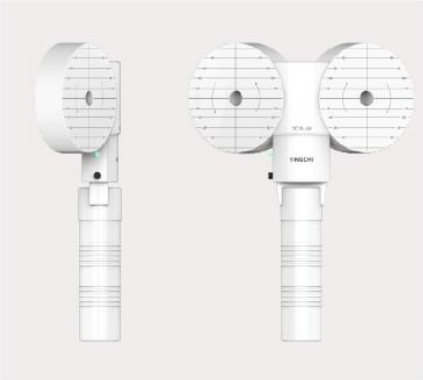
Cooling liquid monitoring—prevent weeping

Circulation status monitoring—prevent blocking

Temperature monitoring—high safety

Pluggable socket—easy to replace

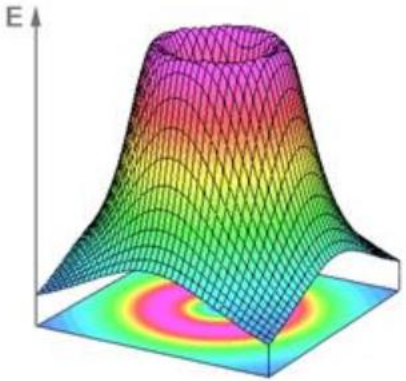
Customized Coils

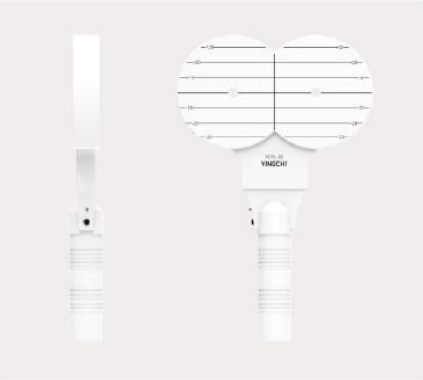


liquid-cooling double cone coil

natural-cooling cone coil

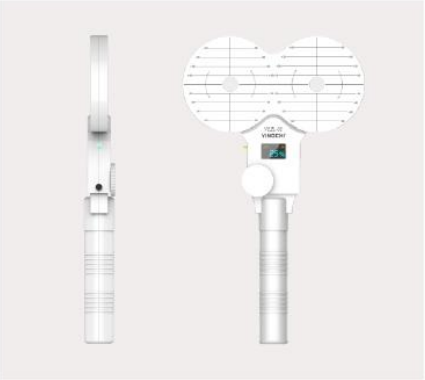
natural-cooling circular coil



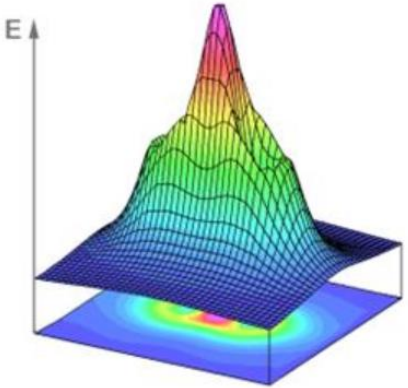


liquid-cooling double coil

air-cooling circular coil



natural double coil



Innovative Techniques

- Rotary knob—easy to adjust the intensity
- Temperature reveal—protect the coil
- Display the rest of pulse number

- Cooling way— liquid cooling, semiconductor-air cooling,natural cooling

Total pulse number: 20,000,000

TMS Neuronavigation System

precision:
0.25mm

Inport MRI/fMRI data,
3D modeling

build the coordinates of
head and coil

reprtitive stimulation
to spot precisely

Robotic Arm Neuronavigation System

英智科技 YINGCHI

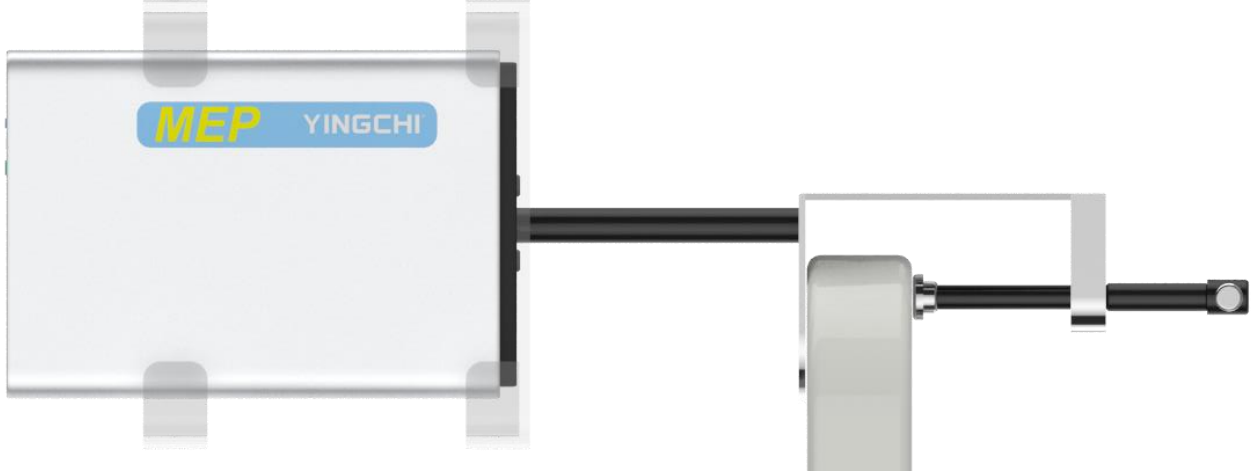
Intelligent robotic arm neuronavigation track the stimulation spot on head automatically

- The flexible driving joint
- Stimulate the stimulation spot one by one automatically
- Remember the coordinate of stimulation spot
- Six degree of freedom robotic arm

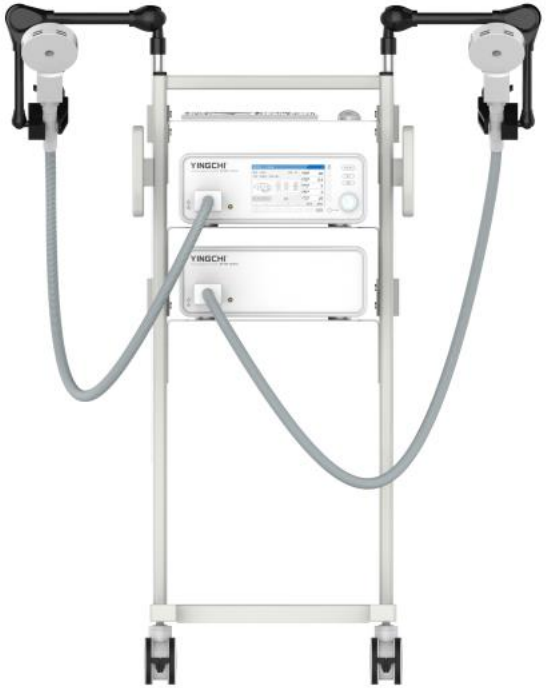
Wireless MEP Determination Module

- Wireless transmission to reduce interferce
- Dual channel to meet most clinical determination needs
- High sampling rate to catch the changes of myoelectricity waveform
- Support to determination report printing

The deep cone coil-deticated coil for lower limbs MEP determination



ppTMS



Paired pulsed TMS(ppTMS): the device output two pulses one time within the interval time **0-100ms** which is adjustable. The two pulses can output to one coil to stimulate one position or output to two different coils respectively to stimulate two different positions.

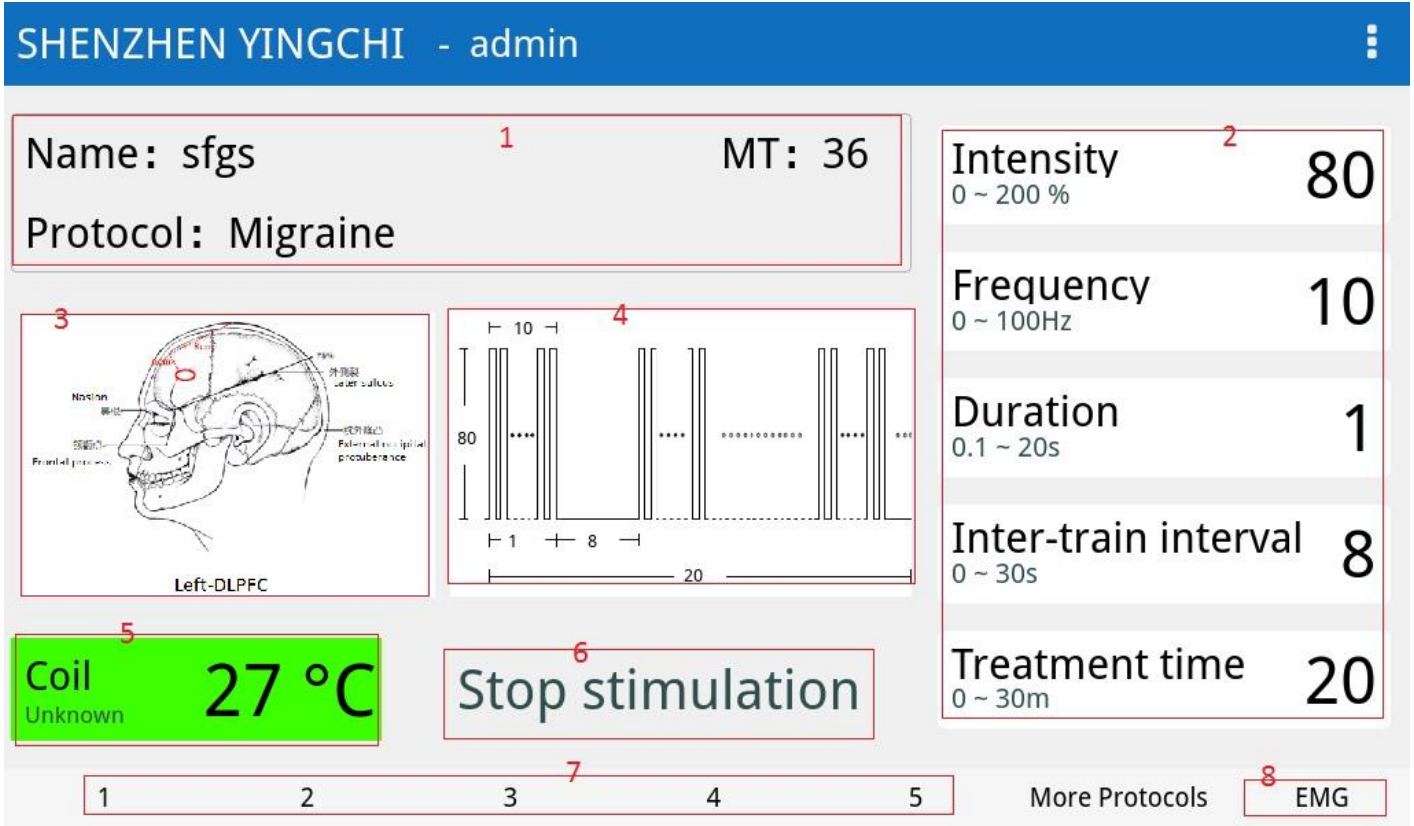
- ppTMS is applied to search of cortical excitability
- Two charge and discharge system enable to treat two patients simultaneously

Combined TMS-EEG/ERP

The combination of TMS with EEG is a development trend, which enable to evaluate the effect of stimulation. The synchronous record of EEG-TMS can track the short-term changes evoked by TMS.

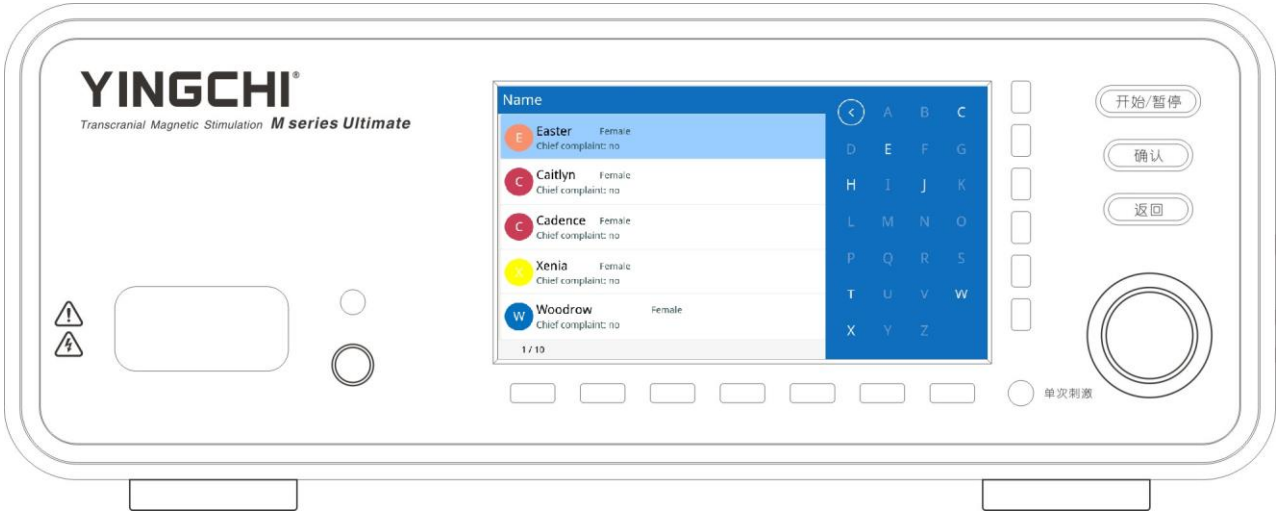
Exclusive technology, dedicated TMS electrode cap

Embedded Interactive System——Main Screen



1. Patient, protocol information;
2. Protocol adjustment;
3. Stimulation positioning map ;
4. Pulse demonstration;
5. Coil type, temperature display;
6. Work status of TMS device;
7. The shorcut keys link to protocol
8. MEP port;

Embedded Interactive System — Patient Searching



Search the patient according the initials of patient name by rotary knob, then confirm to select the patient.

Name

E Easter Female
Chief complaint: no

C Caitlyn Female
Chief complaint: no

C Cadence Female
Chief complaint: no

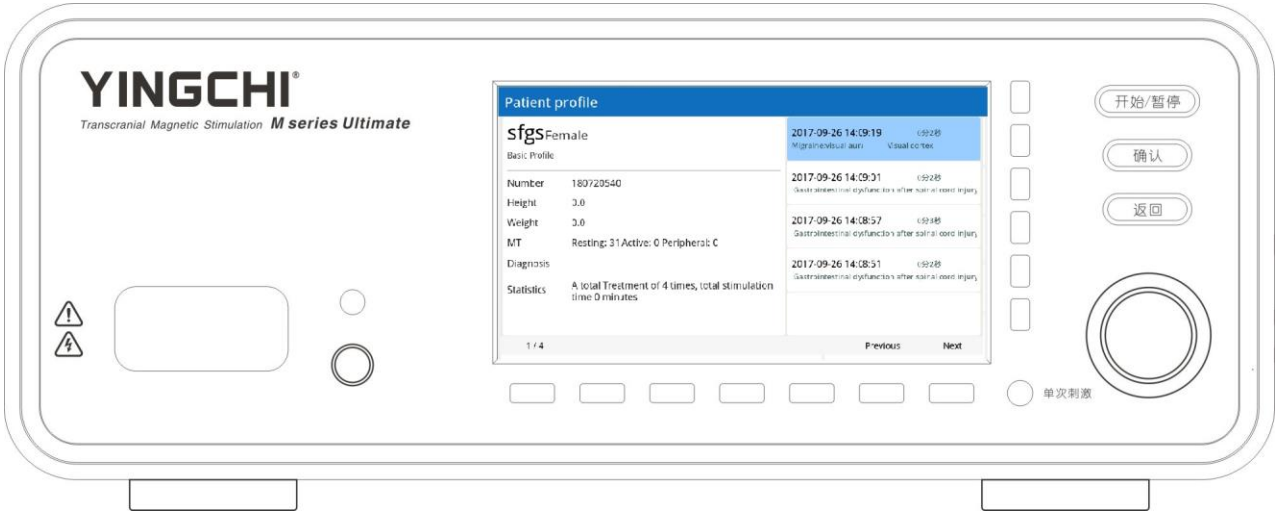
X Xenia Female
Chief complaint: no

W Woodrow Female
Chief complaint: no

1 / 10

A B C
D E F G
H I J K
L M N O
P Q R S
T U V W
X Y Z

Embedded Interactive System — Details of Patient



After selecting the patient, user will enter to patient's detail interface where you can view the details of patient information and all of his stimulation record; the protocol on the record can be applied to next stimuation.

Patient profile

sfgs Female

Basic Profile

Number	180720540
Height	0.0
Weight	0.0
MT	Resting: 31 Active: 0 Peripheral: 0
Diagnosis	
Statistics	A total Treatment of 4 times, total stimulation time 0 minutes

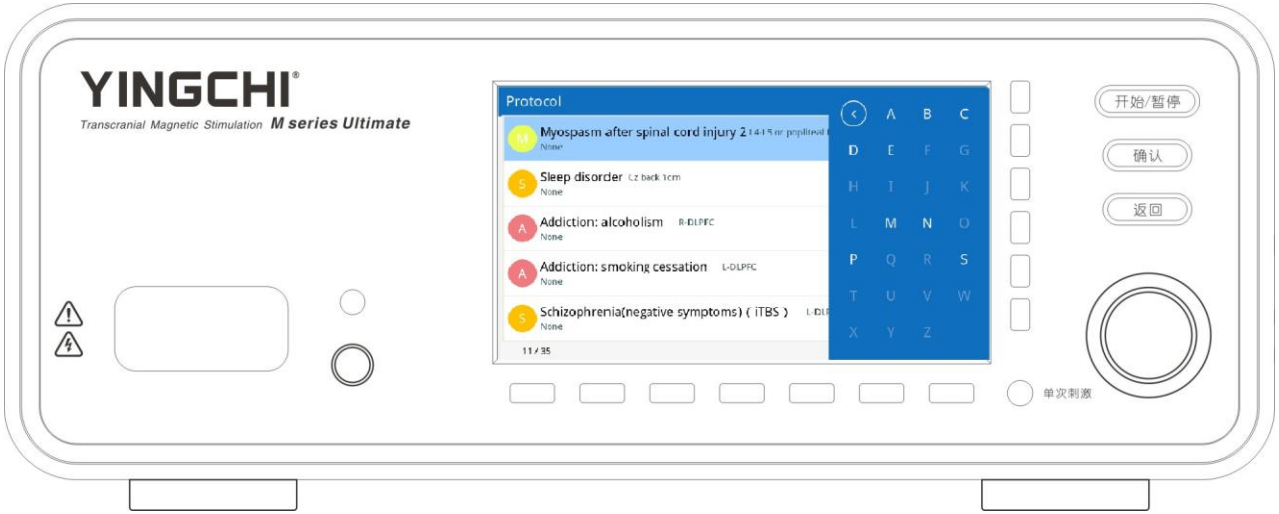
2017-09-26 14:09:19 0分2秒
Migraine:visual aura Visual cortex

2017-09-26 14:09:01 0分2秒
Gastrointestinal dysfunction after spinal cord injury

2017-09-26 14:08:57 0分3秒
Gastrointestinal dysfunction after spinal cord injury

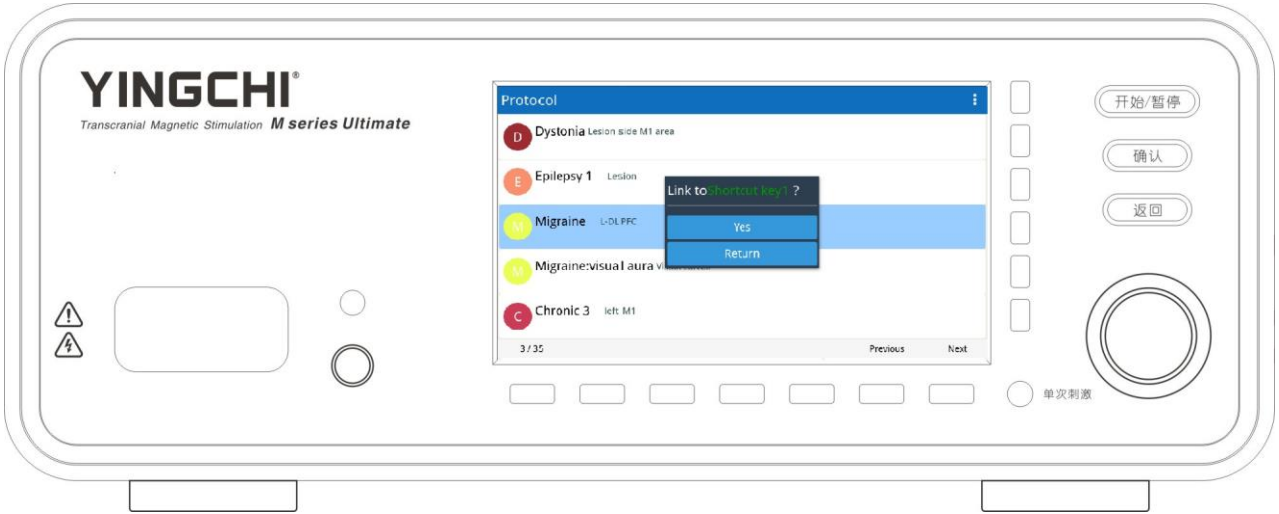
2017-09-26 14:08:51 0分2秒
Gastrointestinal dysfunction after spinal cord injury

Embedded Interactive System — Protocol Searching



Search the protocol according the initials of protocol name by rotary knob, then confirm to select the protocol;

Embedded System — Shortcut Keys Link to Protocol



After preselecting the protocol by rotary knob, a longish push on the preselected protocol can link it to the shortcut key;

Protocol

D Dystonia Lesion side M1 area

E Epilepsy 1 Lesion

M Migraine L-DLPFC

M Migraine:visual aura Visual cortex

C Chronic 3 left M1

Link to Shortcut key1 ?

Yes

Return

Protocol

M Myospasm after spinal cord injury 2 L4-L5 or popliteal f
None

S Sleep disorder Cz back 1cm
None

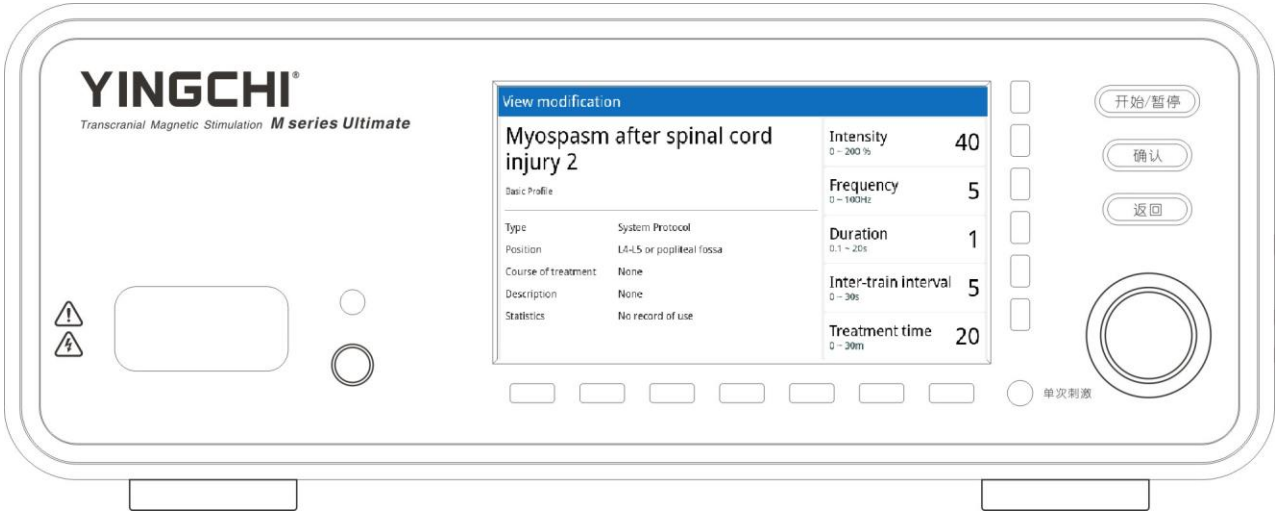
A Addiction: alcoholism R-DLPFC
None

A Addiction: smoking cessation L-DLPFC
None

S Schizophrenia(negative symptoms) (iTBS) L-DLF
None

A B C
D E F G
H I J K
L M N O
P Q R S
T U V W
X Y Z

Embedded Interactive System — View/Modify Protocol



After selecting protocol, user will enter protocol's detail interface where you can modify the stimulation parameter by the shortcut keys and rotary knob;

View modification

Myospasm after spinal cord injury 2

Basic Profile

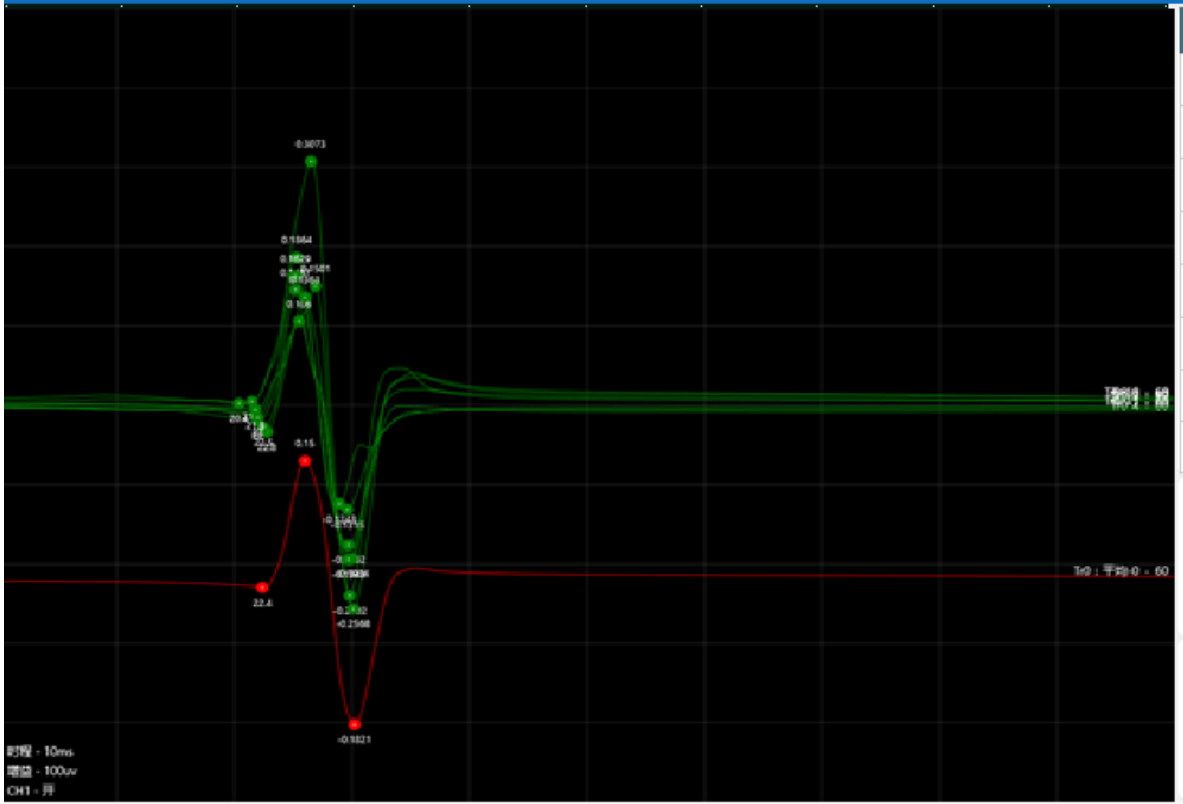
Type	System Protocol
Position	L4-L5 or popliteal fossa
Course of treatment	None
Description	None
Statistics	No record of use

Intensity 0 ~ 200 %	40
Frequency 0 ~ 100Hz	5
Duration 0.1 ~ 20s	1
Inter-train interval 0 ~ 30s	5
Treatment time 0 ~ 30m	20

Embedded Interactive System — MEP Function

The intergrated MEP function — no need PC to assist the MEP determination;

EMG - connected



#	O	P	T
Tr0-1		0.3073	
Tr0-2		0.1060	
Tr0-3		0.1864	
Tr0-4		0.1457	
Tr0-5		0.1501	
Tr0-6		0.1629	
Tr0-7		0.1363	

Stimulus delay
-100~1000ms
0

Intensity
0~100%
31

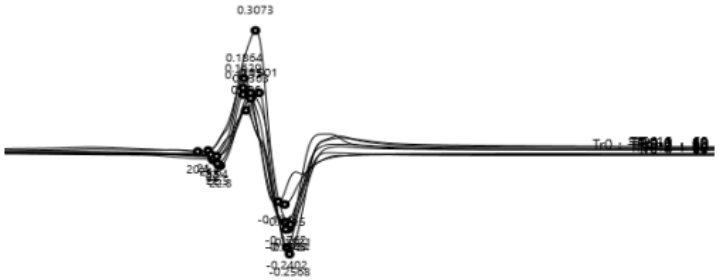
7 waveforms

Clear

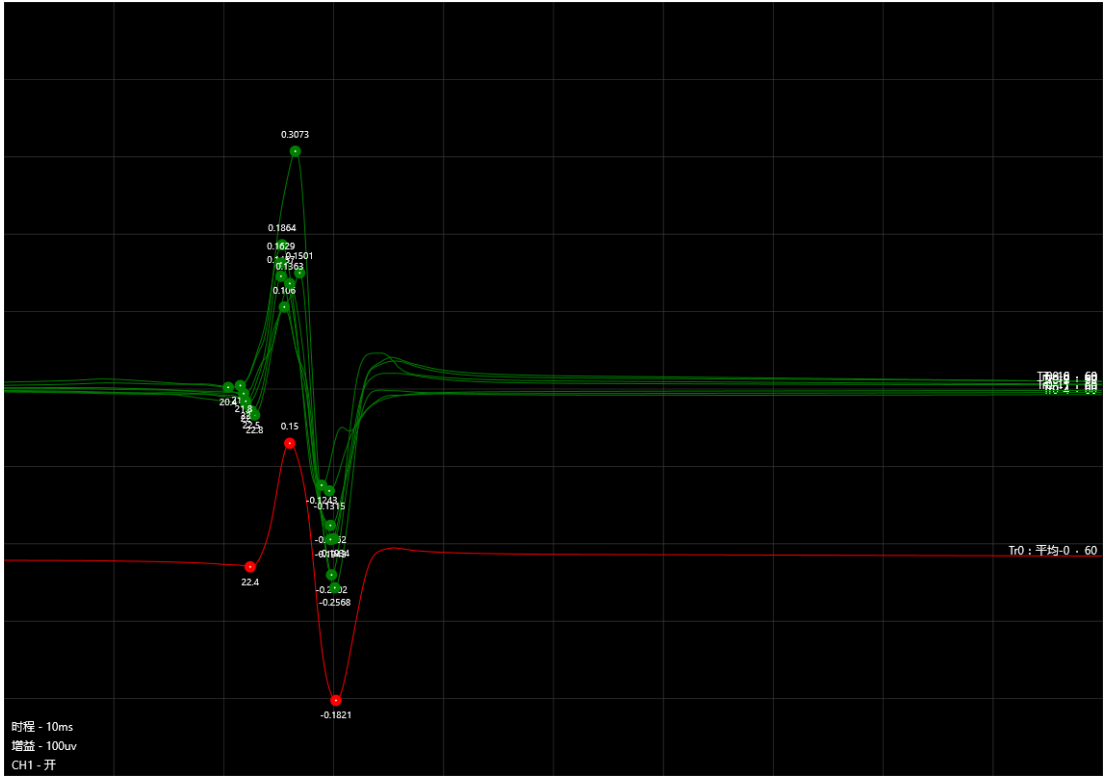
Save

肌电检测报告

检测日期：2016/5/2 10:33:26		住院号：	
姓名：99	编号：20160502105354	性别：女	年龄：0
病区：	床号：		
项目：MT 正中神经 拇短展肌(右)			



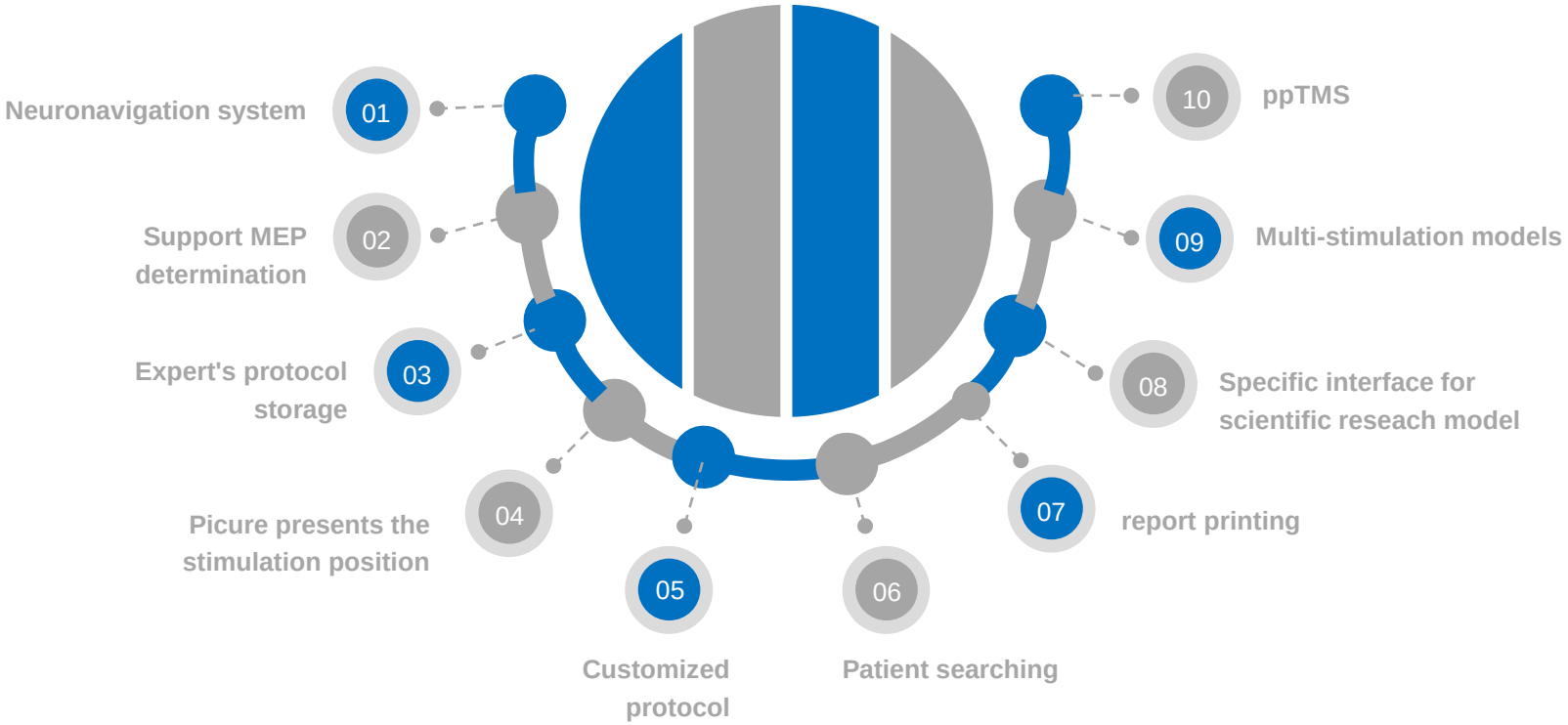
部位	潜伏时(ms)	正常潜伏时(ms)	幅值(mv)	正常幅值(mv)
Tr0-4	21.5000		0.3073	
Tr0-6	22.8000		0.1060	
Tr0-7	20.4000		0.1864	
Tr0-8	22.0000		0.1457	
Tr0-9	22.5000		0.1501	
Tr0-10	22.0000		0.1629	
Tr0-11	21.8000		0.1363	
Tr0：平均-0	22.4000		0.1500	



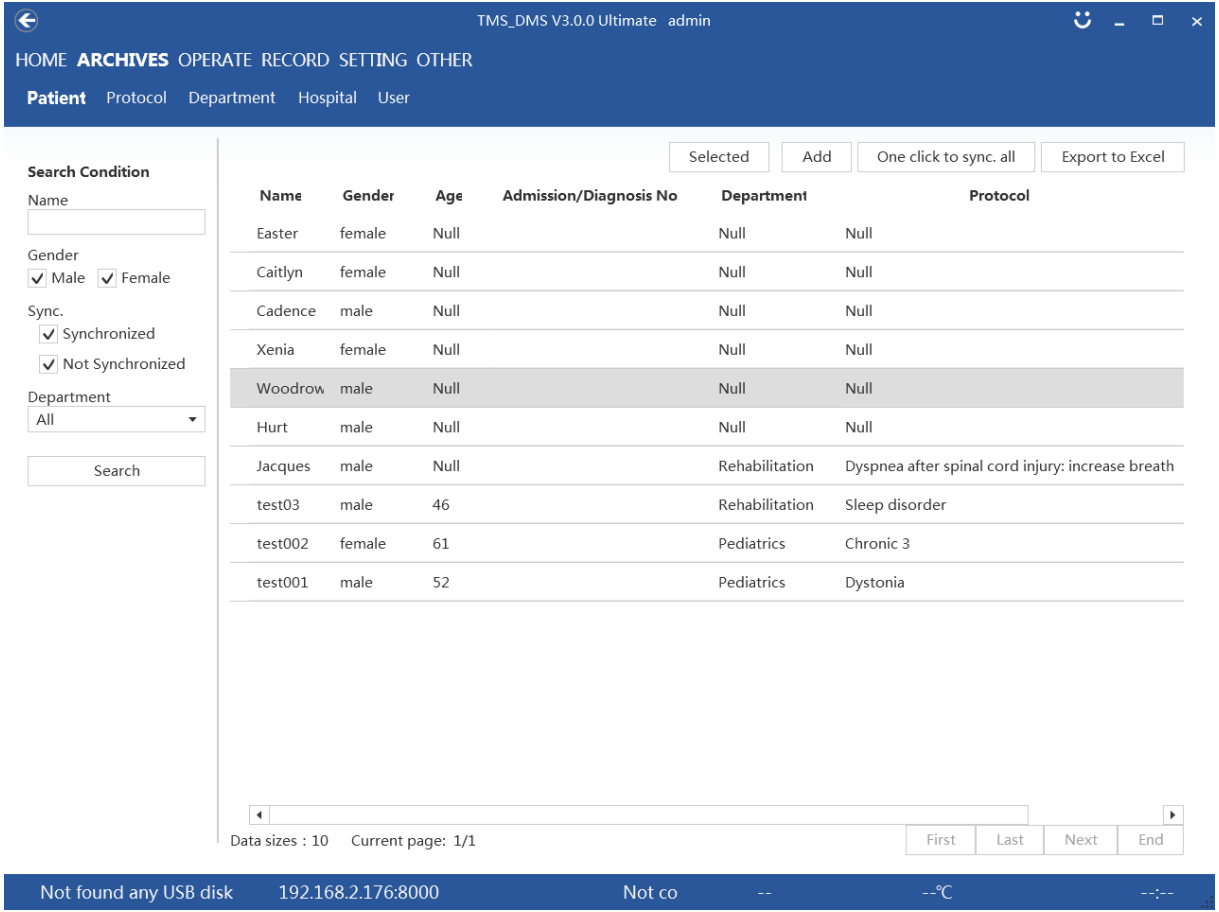
nervi medianus musculi abductor pollicis brevis

PC Interactive System

Multi-version can meet different requirements of clinic and scientific research

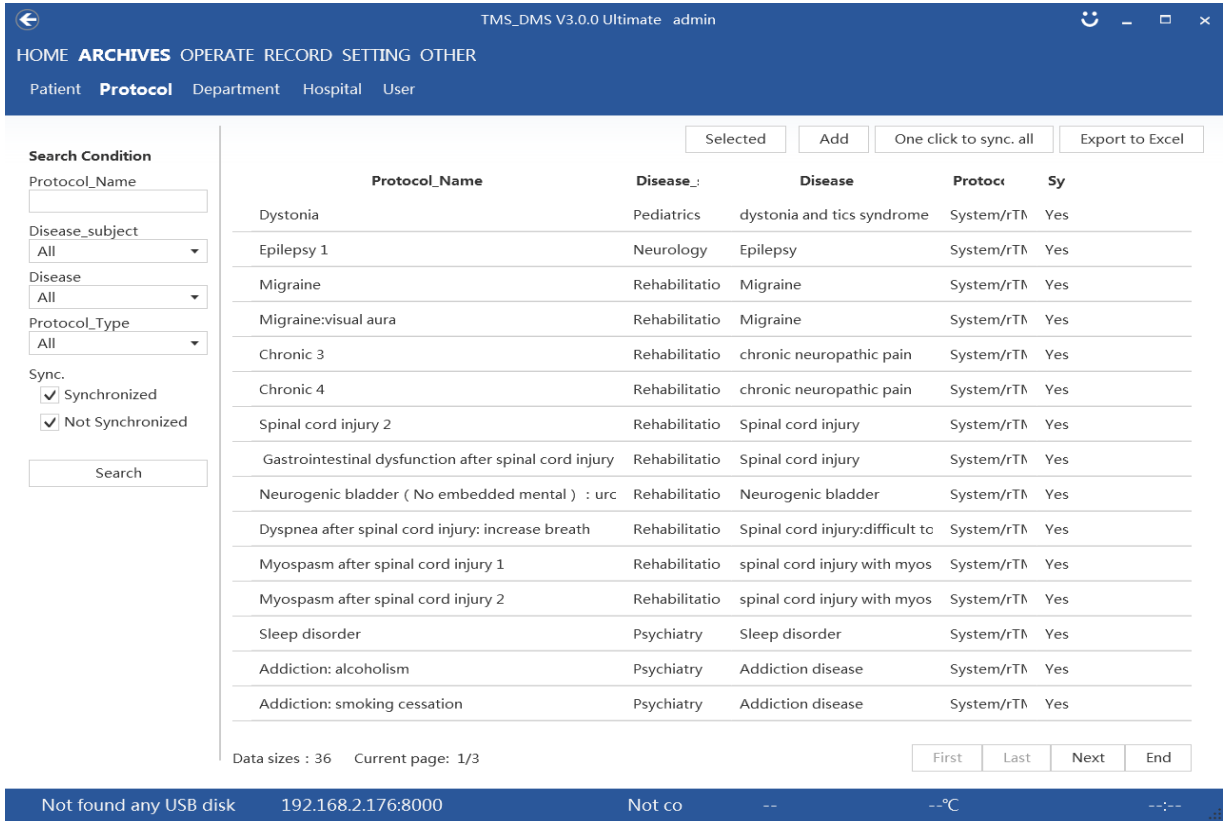


PC Interactive System — Patient Management



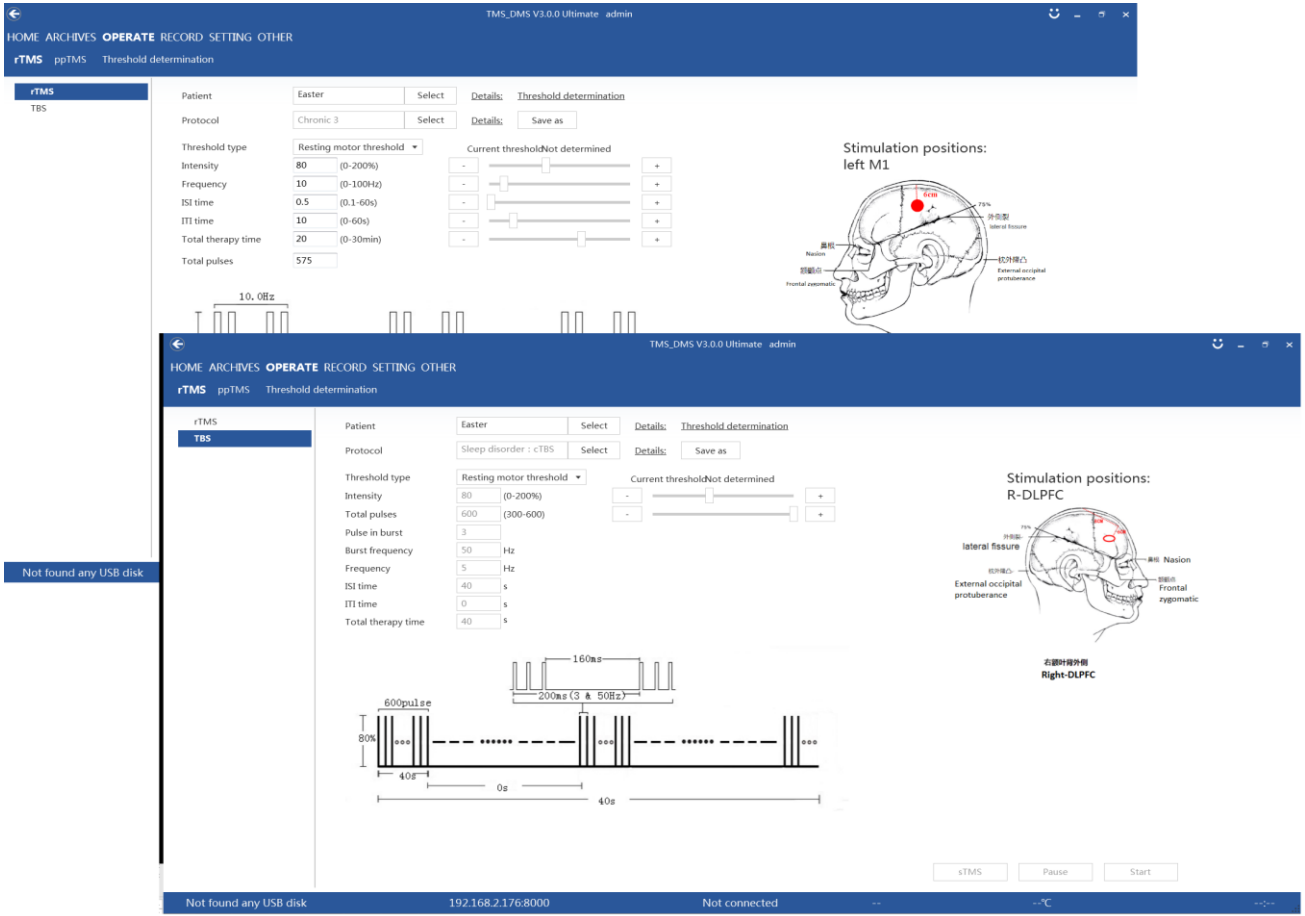
User can search, add, delete, modify patient information and synchronize it to USB disk or export to Excel.

PC Interactive System — Protocol Management



User can search, add, delete, modify protocol and synchronize it to USB disk or export to Excel.

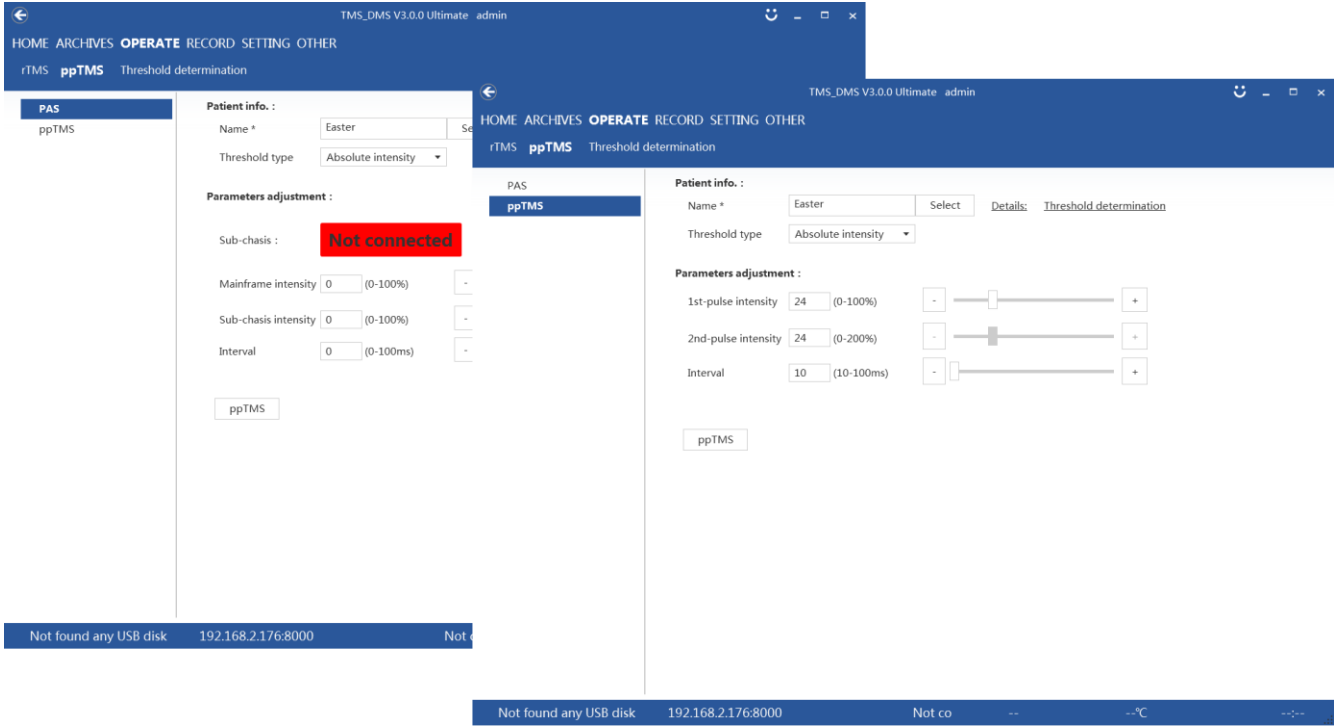
PC Interactive System — rTMS



Single-pulse stimulation, normal model, TBS model;

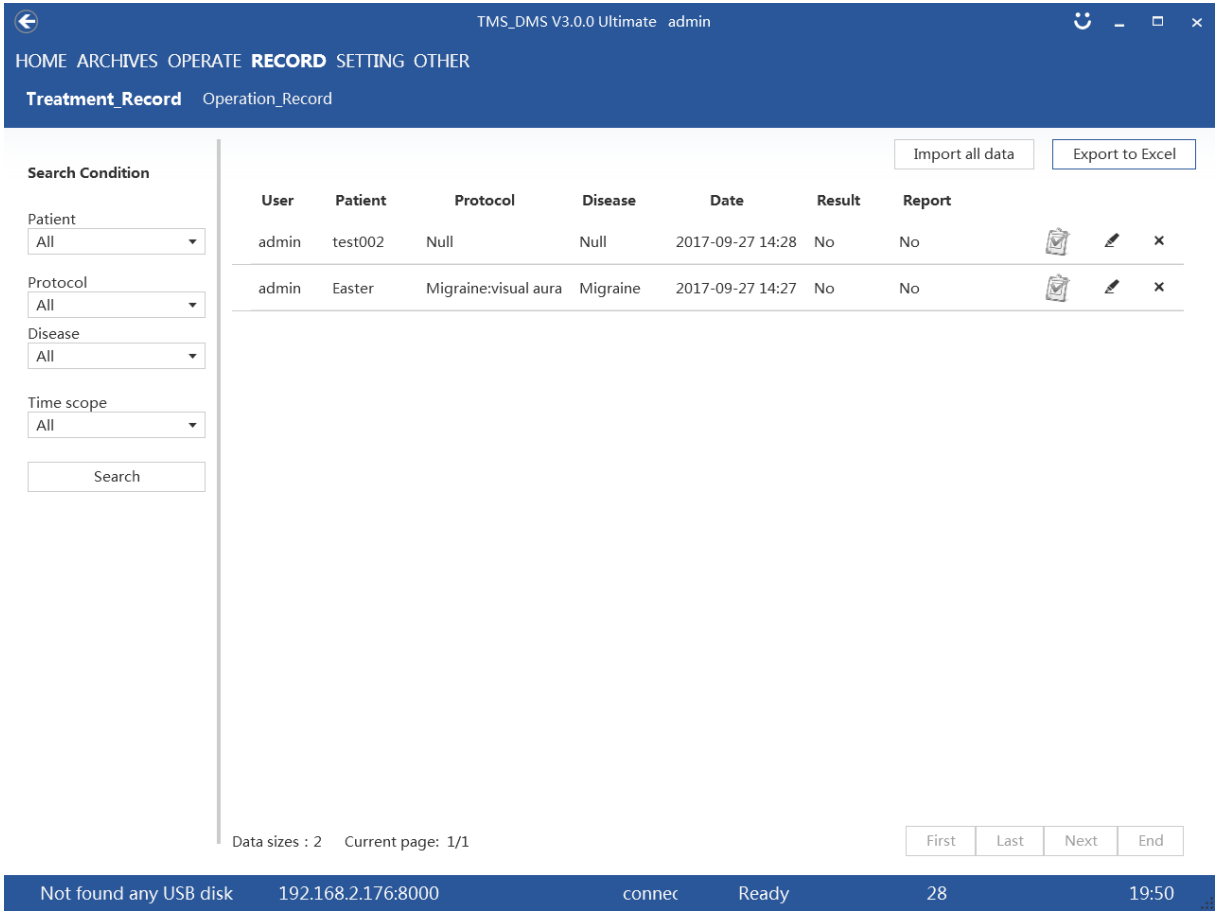
stimulation position reference;

PC Interactive System — ppTMS



ppTMS: paired pulses TMS [two coils output paired pulses or single coil output a paired pulses].

PC Interactive System — Record Management



User can search, delete, inport, export the stimuation record and generate it to report on this page

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THANK YOU

THANKS FOR YOUR ATTENTION!

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