User Manual

SMART ICE S30B Laser Therapy System

Before operating this unit, please read this manual completely.

Contents

1.Precautions

Please read this user manual before using this system, and pay more attention to the safety precaution in this manual.

Please keep the user manual for future reference.

● Important safety instructions

When using this SMART ICE Photonics Energy System, it is necessary to comply with the following basic precautions.

● Danger

1) Absolutely forbidden to look at the treatment window directly through the Hand piece in case of retinal damage.

2) It is forbidden to emit laser to the same treatment site for a long time to prevent skin injury.

● Attention

1) Do not bend or turn round the optical fiber which connects the hand piece and the system control unit, or the optical fiber will be damaged.

2) Please put the hand piece on the Hand piece holder after use of the system

3) Please do not open the system case to adjust or fix the system without our permission. Only our company after sales staff or authorized professional staff could adjust or fix the system.

4) Please turn off the key switch, turn off the rocker switch, unplug the power cord if long time not use the system. Keep the system in a dry and cool environment.

5) Clean the system with alcohol if there is dust or greasy dirt on the system case.

1.1 System Security Device

SMART ICE physiotherapy devices are designed with some safety devices, and the operator must be familiar with their location and method of use.。

Key switch: The key switch is used to open and close the laser light output control system of the device. Only when use the key provided by our company can ensure the normal use of the equipment, which can prevent the illegal use of this machine.
Take the key from the special transparent accessory bag, insert the key into the key switch hole on the front panel of the main unit, and turn the key clockwise to "ON". After using the machine, turn the key counterclockwise to "OFF", and remove the key for safekeeping.

Emergency switch: The emergency switch is used to turn off the laser light output control system of the device in an emergency. In an emergency, click "Unlock" on the front panel of the main unit, and the device will stop emitting light. And the machine will restart working when clicking "Lock" on the front panel of the host.

Safety interlock: The safety interlock is used to open and close the laser light output control system of the device. Only when use the safety interlock provided by our company can ensure the normal use of the equipment, which can prevent the illegal use of this machine. Remove the safety interlock from the special transparent accessory bag, and insert the safety interlock into the safety interlock hole on the back of the main unit as shown with the red dot facing upward.

2. Product Introduction

2.1 Overview of SMART ICE

The SMART ICE physiotherapy instrument uses a semiconductor laser with a wavelength of 810nm + 980nm. The therapist can choose to use single wavelength or both wavelength according to his or her needs. The biological stimulation effect generated by the laser is mainly used to illuminate the human diseased tissue through the semiconductor laser beam to reduce or eliminate pain and improve Local blood circulation, tissue repair, rapid anti-inflammatory and other effects. This laser is in the near-infrared band, which can penetrate deep into the tissue and act on the body, so that the tissue can absorb light energy well and relieve pain.

Outline of the Machine
The SMART ICE physiotherapy instrument has three main components:
1. Laser system control device
2. Color touch screen
3. Treatment handle
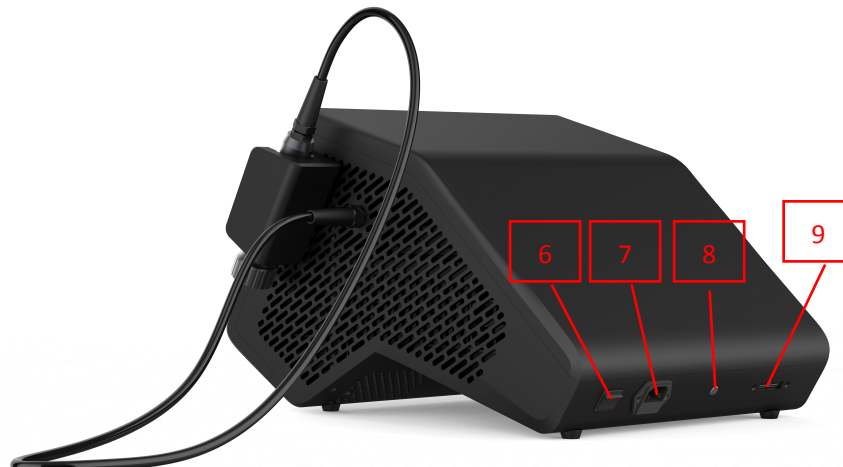
Item No.	Name	Item No.	Name
1	Display	6	Press button
2	Key switch	7	Power cord socket
3	Emergency switch	8	Safety interlock
4	Treatment handle	9	USB socket
5	Treatment handle hanger		

Treatment handle profile

Treatment handle button

2.2 Performance Parameters

Terms	Value
Type	Diode Laser
Wavelength	810nm+980nm
Max Power	15W+15W
Spot Size	Φ10mm
Working mode	CW /Single(Pulse) / Repeat mode/B mode
Power Supply	AC100-125V ,60Hz
Input Power	300W
Dimension	425mm*465mm*310mm
Weight	12kg

3 Instructions

3.1 Turn On The System

Step 1: Find the key switch and safety interlock in the special transparent accessory packaging bag.

Step 2: Insert the key switch into the key switch port on the front panel of the main unit. The safety interlock is inserted upwards to the INTERLOCK port on the rear panel of the main unit as shown in the figure below.
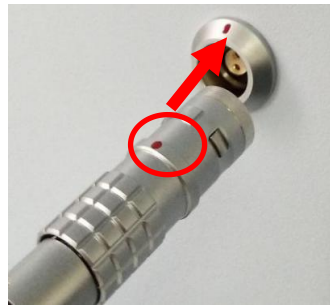

Figure 3.1 Key switch   Figure 3.2 Safety interlock

Step 3: Insert the power plug into the AC110V wall power, then press the press switch on the rear panel of the host to "I" to turn on the device, turn the key switch to "ON", click Unlock on the front panel of the host to ensure that the emergency stop switch is turned off, The system starts and the device enters the boot animation interface as shown in the figure.

3.2 Login System

The physician inputs username and password to login the system.
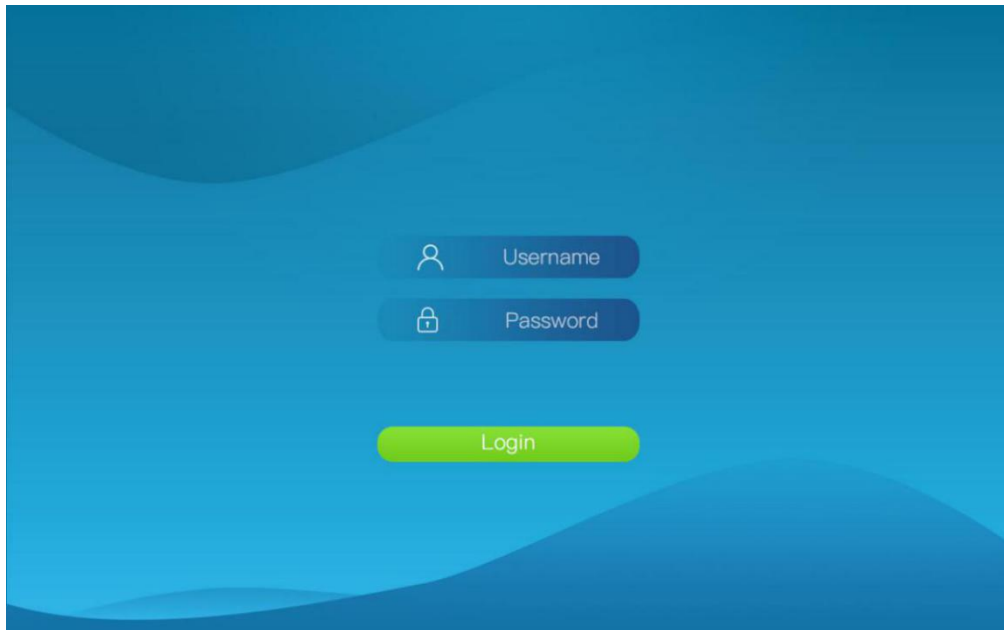
Note: User name: admin Password: admin123456

3.3 Treatments Data Setting

Click Logo "SMART ICE" on the upper left corner to enter the main interface, you can choose the appropriate treatment plan for the patient.

In this interface, you can make a treatment plan, there are four working modes, including CW mode, Pulse mode, Repeat mode, B mode, you can set the power, pulse width, Timer, etc. before thetreatment.
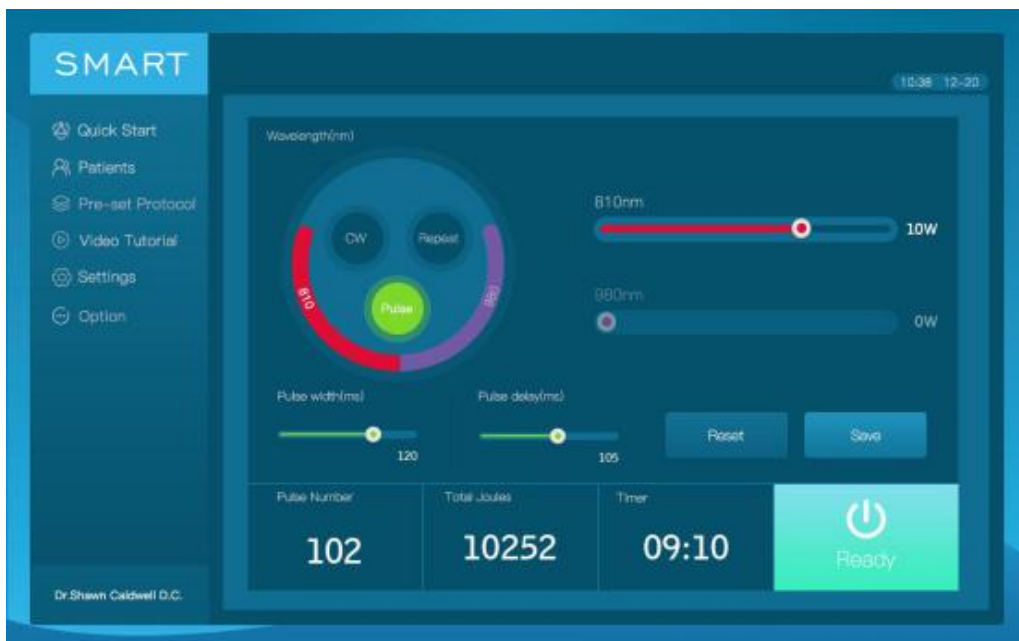
Note:

1. Click the "Reset" icon in the main interface to reset the treatment parameters to zero.

2. Click the "Save" icon in the main interface to save the set treatment parameters as a treatment plan. After entering the name, you can find this treatment plan on the "Pre-set Protocol" interface.

3, The following table shows whether the corresponding parameters can be set and displayed in the four modes:

	power	Pulse width(ms)	Pulse delay(ms)	Timer	Pulse Number	Total Joules
CW	Yes	No	No	Yes	No	Yes
Repeat	Yes	Yes	Yes	Yes	Yes	Yes
Pulse	Yes	Yes	No	Yes	No	No
B	Yes	Default 100	Default 100	Yes	Yes	Yes

3.4 Starting The Treatment

In the main interface, after setting the parameters, click "Ready" to enter the "Ready" state, press the button of the treatment handle, and the treatment head emits light to start treatment.

Note: After setting the treatment time, the interface will count down to display the remaining treatment time.

3.5 After The Treatment

When the treatment is completed, the interface will display a note to confirm whether to save the treatment record or not. Click Yes to save the treatment record.
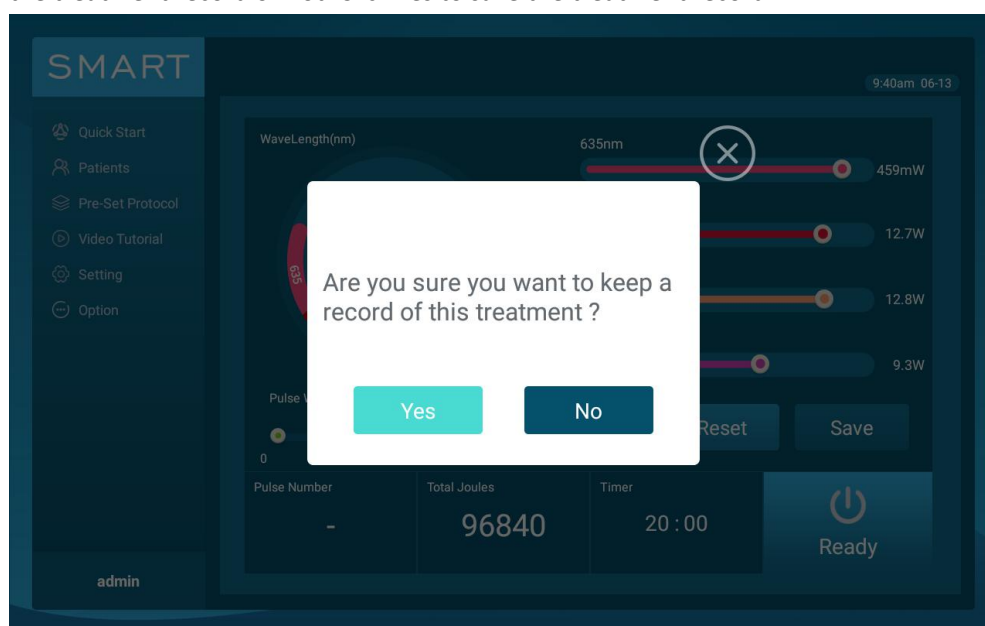
3.6 Other Functions

3.6.1 Quick Start

This feature allows patients to quickly experience the treatment. Click "Quick Start" on the left side of the screen, and then select the corresponding treatment time to enter the treatment interface.
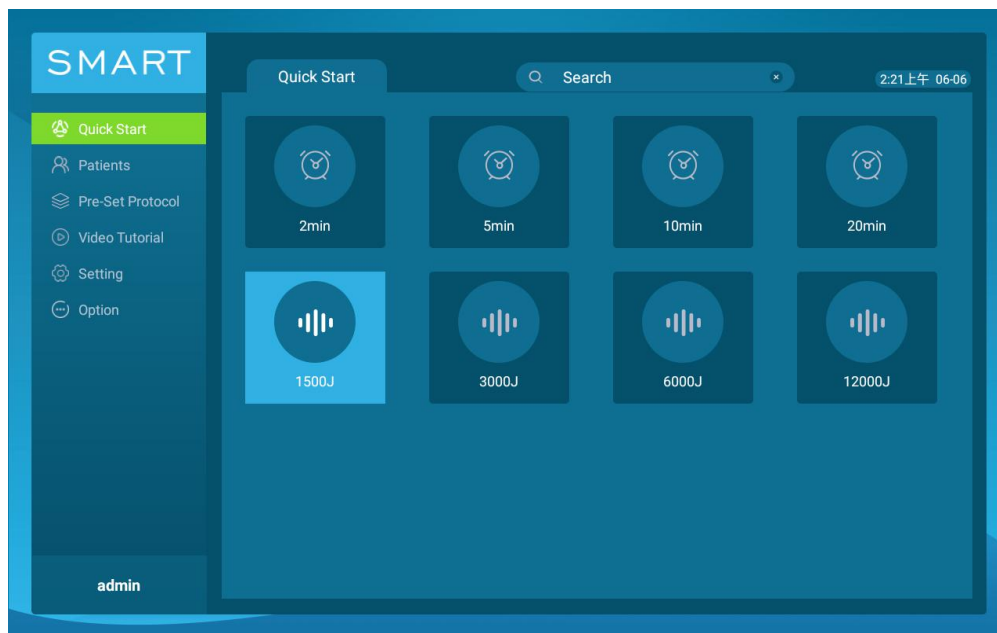

3.6.2 Patients Data

Click "Patients" on the left side of the screen. In this interface, you can query the patient by entering the phone number, and click the corresponding number icon to display detailed treatment information. On the patient treatment information display interface, you can view the treatment records of each stage of the patient, such as treatment mode, time, power setting, total joules, etc.
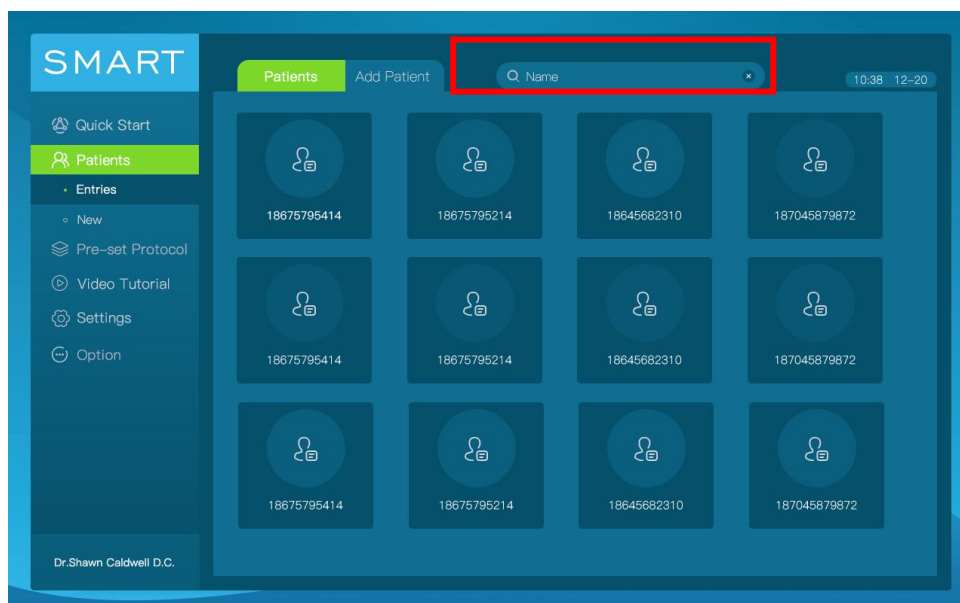
Click to add new patient information, inputting name, choosing gender, inputting phone number, first treatment time, etc., and click the Save icon to save.
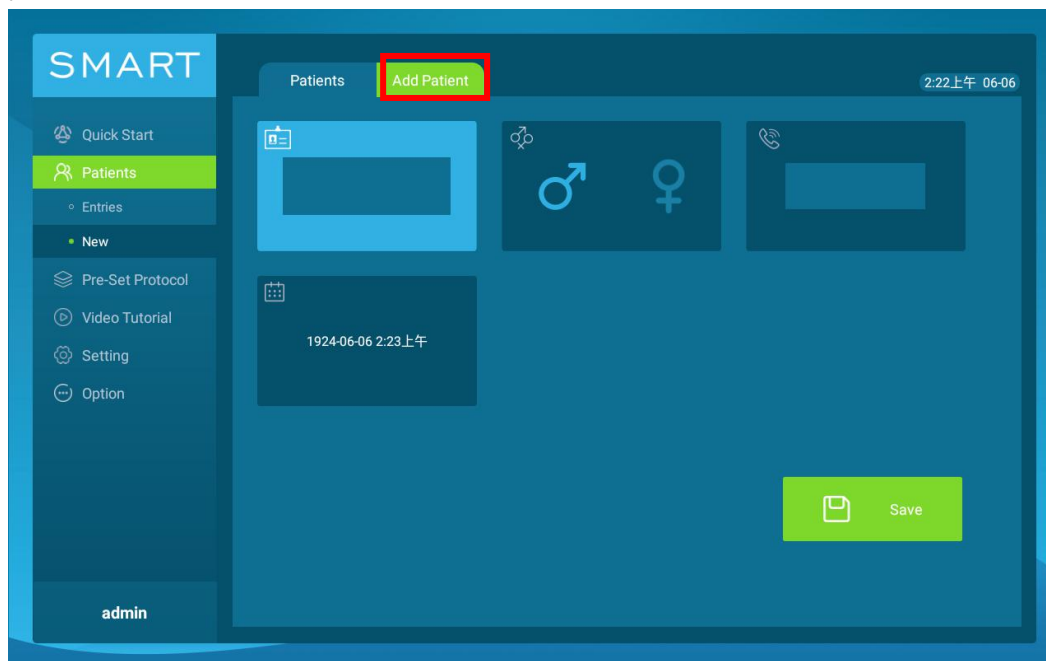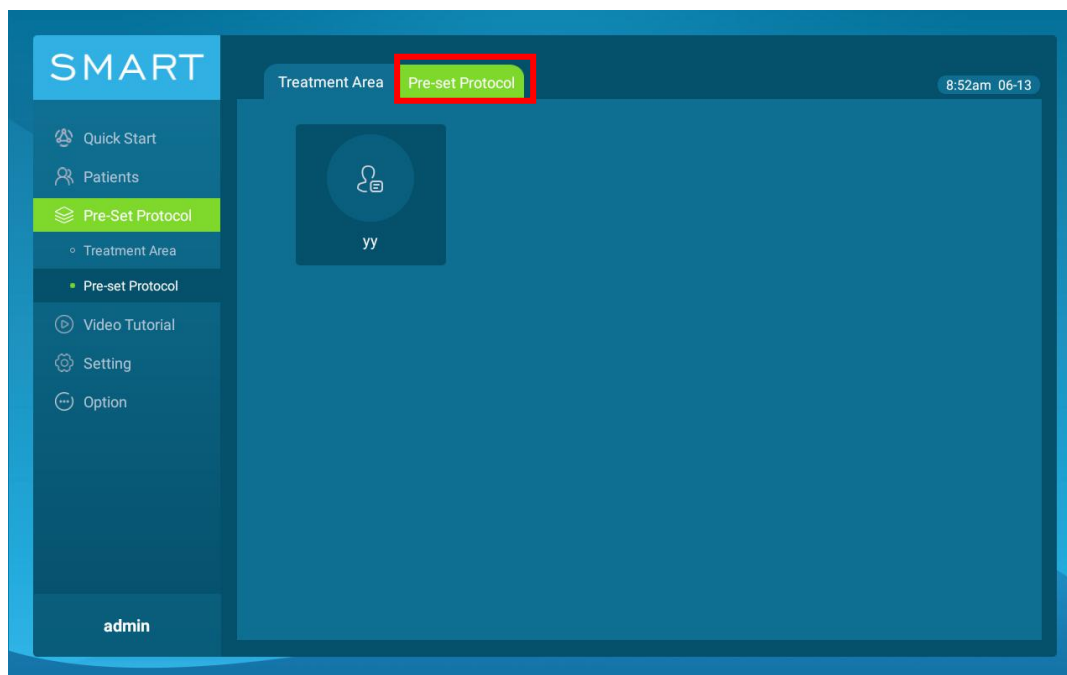

3.6.3 Pre-set Protocol

Click "Pre-set Protocol" on the left side of the screen, and then click the "Treatment Area" icon in the interface. Develop a treatment plan, according to different treatment sites, body type, skin color, pain level, and pathogenesis.
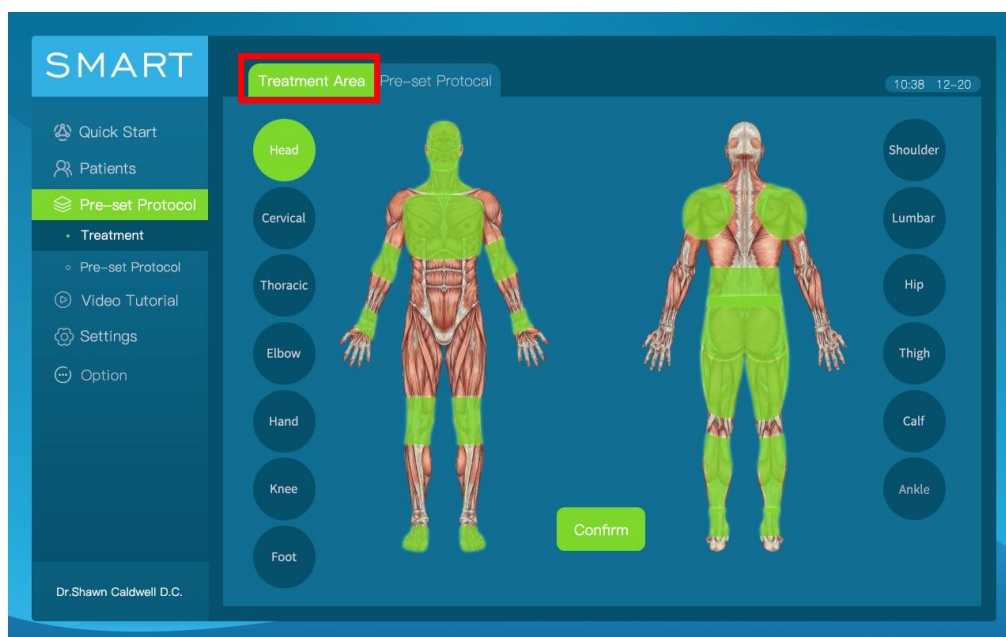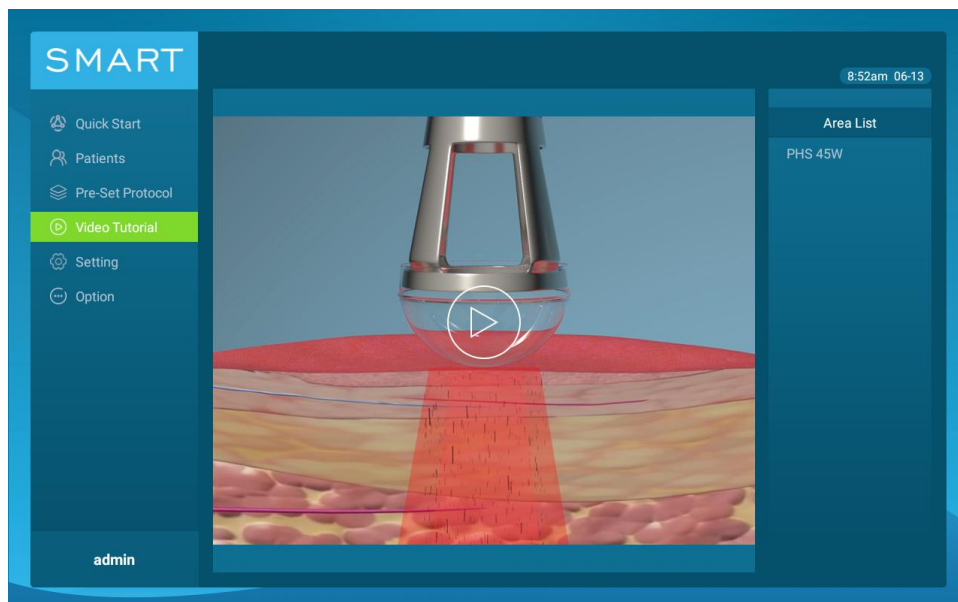
Click the "Pre-set Protocol" icon in the interface, you can find treatment plan you made.


3.6.4 Video Tutorial

Click "Video Tutorial" on the left side of the screen and click the video name, you can watch the tutorial video.


3.6.5 Account Management

Click "settings" on the left side of the screen, and then click "Account" to view system users. The system has a default manager account. The manager can create or delete a doctor account, but
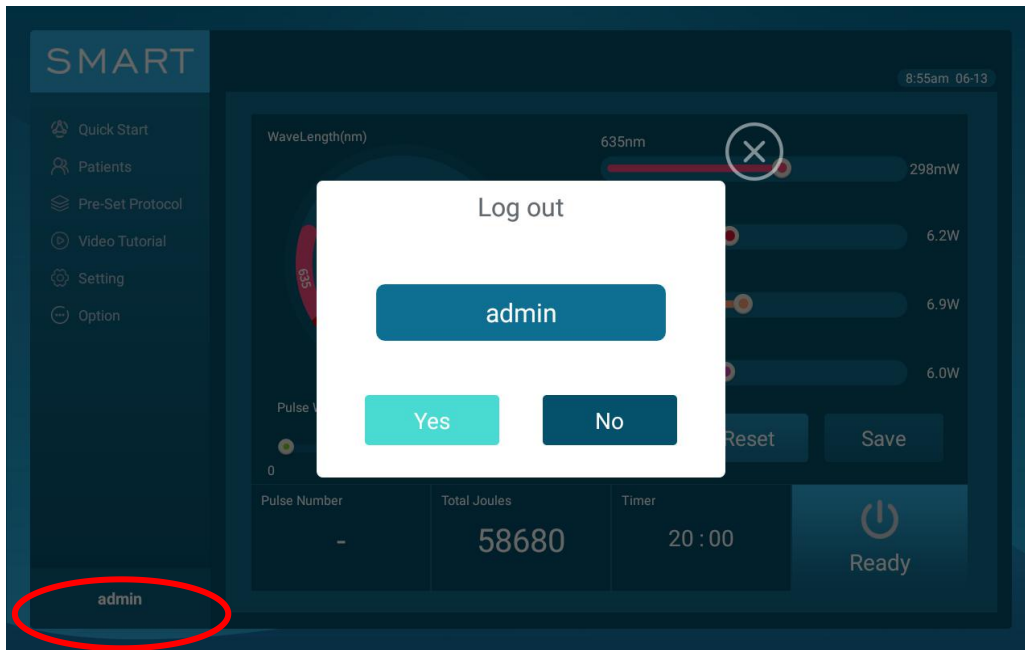
the doctor cannot perform this operation.
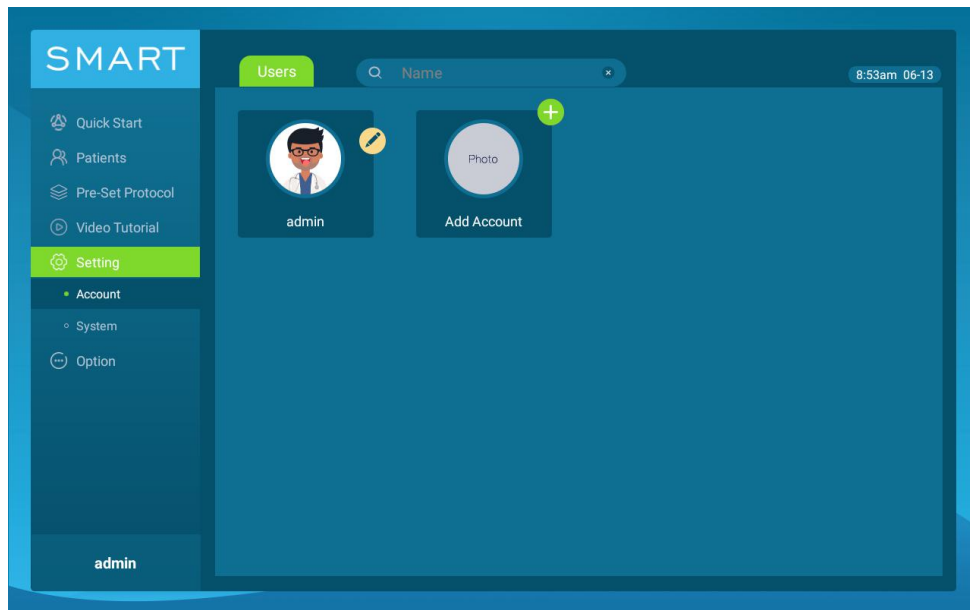
Note: **Add new account；** **delete account；** **edit account information (name, avatar)**

Click the account avatar icon to change the account password.
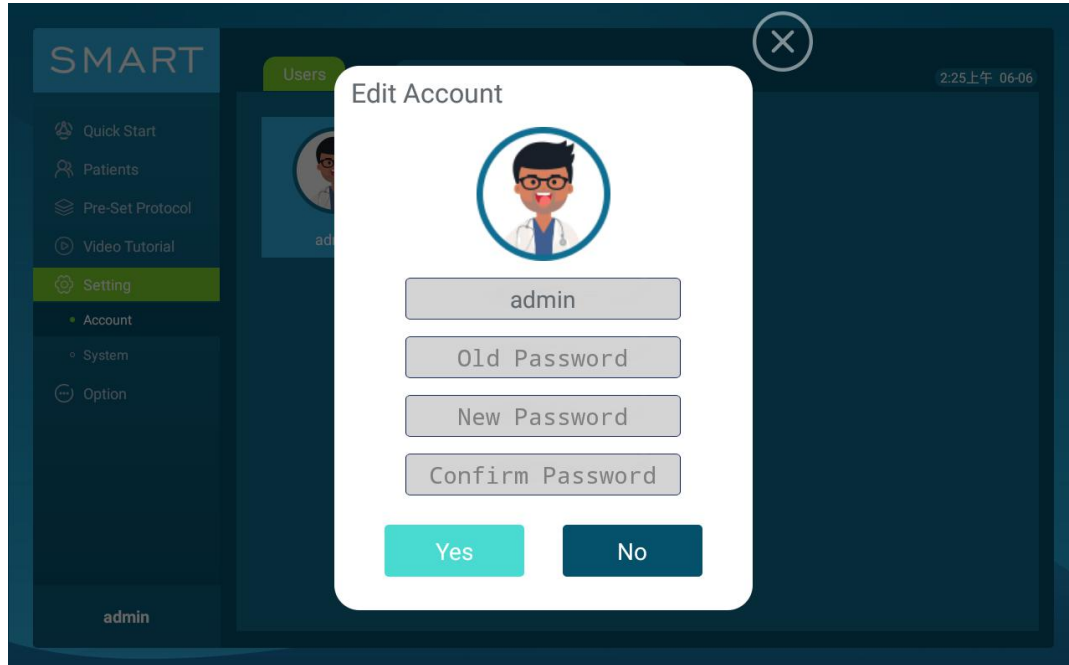
Click the name in the lower left corner of the interface to exit the current account。

3.6.6 System Settings

Click "settings" on the left side of the screen, and then click "System". The interface will display the device model, the SN number of the host and the treatment head, and the system software version number.

On this interface, you can adjust the sound volume, set the current display time of the system, and update the system by inserting a USB flash drive and clicking "USB Update".
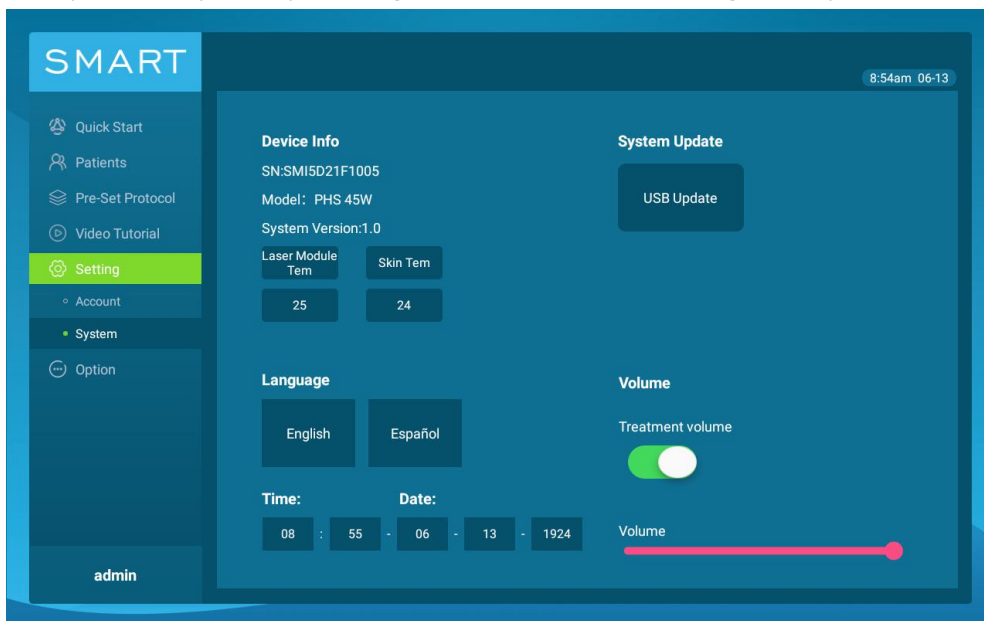
4. Maintenance and Fault Diagnosis

Phenomenon	Possible reason	Solution
No display	Unconnected power supply	Check the power supply is properly connected
Click the button on the screen, the system does not respond		Please contact our Customer Service Department.
The system cannot enter the main interface		Please contact our Customer Service Department.
The screen shows E-STOP	Emergency stop button is lock	Click unlock button on the front panel
The screen shows E-KEY	The key switch is off	Turn on the key switch
The screen shows E-SKIN	The skin temperature is too high	Suspend the light to be used after the temperature drops
The screen shows E-LD	The laser temperature is too high	Suspend the light to be used after the temperature drops

5.   Product List

No	Name	Number
1	Laser system control unit	1
2	Therapy hand piece	1
3	Power cord	1
4	Key switch	1
5	Interlock	1
6	Safety goggles	1