

**Swallow**  
SOLUTIONS  
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# **SwallowSTRONG**

## **Clinician Quick Start Guide**

*version 1.0*

# SwallowSTRONG Device Set-Up

**\* Before use, charge the device for 8 hours (overnight).**

## Components

### 1. SwallowSTRONG Interface

The SwallowSTRONG interface features a touchscreen and a port for connecting the converter cords and charger.



### 2. Converter Cord

The converter cord connects the SwallowSTRONG interface to the transducer box.

Note: The end of the cord that connects to the tablet may be difficult to plug in on first effort. Pushing hard on the cord to plug it in may be required.



### 3. Transducer Box

The transducer box connects to converter cord 2b and the mouthpiece.

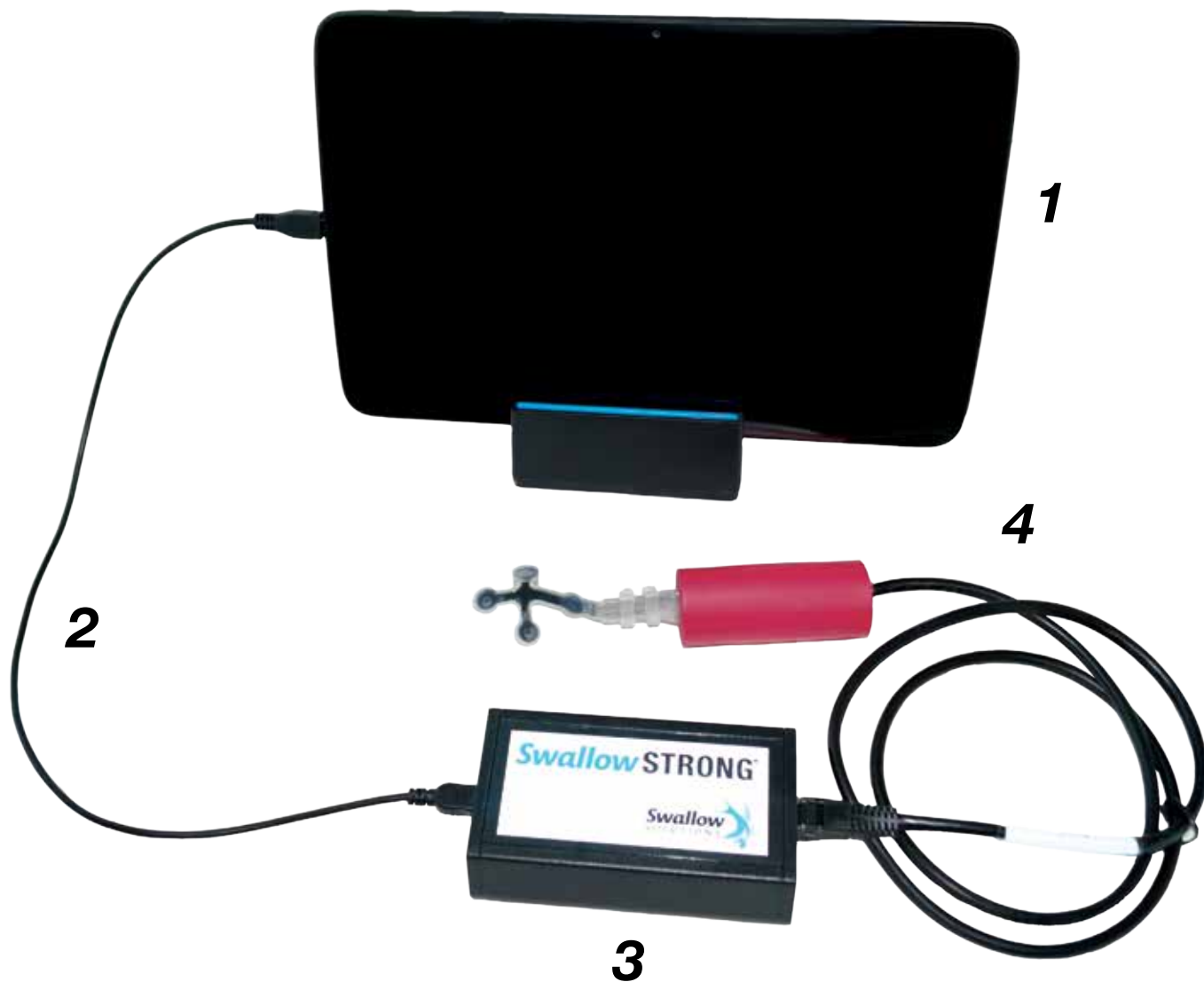


### 4. Mouthpiece

The mouthpiece should only be assigned to one patient. It connects to the device via the transducer box.



## **SwallowSTRONG** Device Set-Up



### **Fully Assembled SwallowSTRONG Device**

**NOTE:** The device comes with a charger (not pictured) that can only be plugged in when the mouthpiece is not in use.

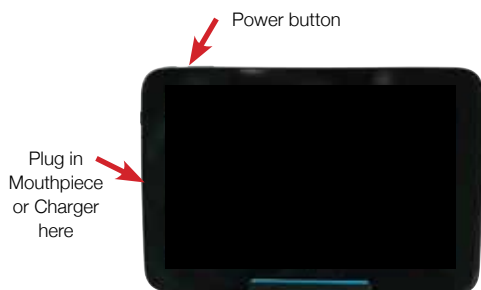


Figure 1. Orientation of the power button and port.



Figure 2. Swipe to the right to unlock screen.

Swallow Solutions logo. Touch and hold to navigate to clinician home page.



Figure 3. The logo appears on every page.

**5.** Set the device in the stand and press the power button. See *Figure 1*.

**5a.** Press finger with **mild pressure** on center bubble and swipe to the right. See *Figure 2*.

**6.** Tap the **'Swallow' icon** in the upper left-hand corner of the home screen.

**7.** The message **'Allow the app Swallow to access the USB device'** will appear. Tap **OK**.

**8.** The message **'Enter Mouthpiece Information Or Plug in a Mouthpiece'** will appear. The mouthpiece serial number will automatically populate in the white box. Tap **Submit to continue**.

**9.** Touch and hold the **SwallowSTRONG logo** on the top left corner of the screen to get to the clinician home page. See *Figure 3*.

**10.** See the treatment guide for typical therapy workflow.

The SwallowSTRONG uses a wireless internet connection (WiFi) to sync data from therapy to the SwallowSTRONG Management System (SSMS). If you have access to a WiFi connection, setting it up with your SwallowSTRONG device is quick and easy. Follow the steps below to establish the connection:

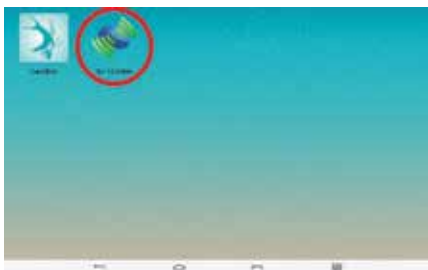


Figure 1. Home Screen. Access the WiFi setting by tapping the Wi-Fi icon. The Back and Home Buttons appear in the same position on every screen.



Figure 2. Depending on the version of your device, home and back buttons may appear differently. They can be found in the same position, along the bottom, on every screen.

**Step 1:** Power the device on and wait until the home screen appears. See Figure 1.

**Step 2:** Tap the **'Wi-Fi'** icon to open the WiFi setting. See Figure 1 - Red Circle.

**a:** First, make sure the box in the upper right corner is checked.

**b:** Select **'scan'** to search for available networks.

**Step 3:** Select the name of the network to which you would like to connect, and enter the password if necessary. Once connected, a message saying **'Connected'** will appear near the bottom of the screen.

# SwallowSTRONG Mouthpiece Molding

*There are a few simple steps to setting up your mouthpiece. Follow these steps to ensure your mouthpiece is properly molded.*



### Step 1:

Press the left and right sensors **toward the middle** (to get them out of the way initially).



### Step 2:

Visualize the oral cavity to get an idea of the **palatal and vaulted length**.



### Step 3:

**Adjust the teeth guides** to a distance that will accommodate the upper teeth/gums.



### Step 4:

**Pre-mold the mouthpiece** using your gloved fingers to approximate the degree of vault.

# SwallowSTRONG Mouthpiece Molding



### Step 5:

Using trial and error, adjust the mouthpiece so the **anterior sensor is against the alveolar ridge** (at this point, ignore the other sensors).



The handle should be oriented horizontally as shown.

### Step 6:

Press the middle of the mouthpiece **against the hard palate** by applying pressure with your finger (you can also remove the mouthpiece and adjust it with your gloved fingers in more of a trial and error method).



Properly molded mouthpiece.

### Step 7:

**Adjust the posterior sensor** so it is flush against the hard palate.

### Step 8:

**Widen the right and left sensors** to meet the lateral aspects of the palate.

## Getting Started: Typical Clinical Workflow

**Molding the Mouthpiece**

**Training**

**Determine Therapy Targets**

**Therapy Session**

### 1. Molding the Mouthpiece

Custom-molding the mouthpiece usually takes 10-20 minutes. It is important to take your time to get a good fit. See *Figure 1*. Ill-fitting mouthpieces will move around and **pressures will be less reliable**. Watch the mouthpiece molding video on [www.swallowsolutions.com/training](http://www.swallowsolutions.com/training) for a **step-by-step demonstration**, and refer to the mouthpiece molding guide.



Figure 1. Properly molded mouthpiece.

#### Key aspects of a good mouthpiece fit are:

- a. The **entire mouthpiece** is flush against the hard palate.
- b. The **anterior upper teeth/gum** fit snugly between the movable teeth guides.

**Helpful Hint:** Look closely at the patient's hard palate and pre-mold the mouthpiece using your fingers first to get the shape in the general ball-park. Then make adjustments as needed. Use your gloved index finger and press on the center of the mouthpiece while in the patient's mouth.



## 2. Training

Navigate to the **Clinician Home Page** by touching the logo in the upper left corner of any screen for 2 seconds. See *Figure 2*.

**Tap the box** marked Training to enter the module. See *Figure 3*.

### Goals of Training:

- Teach the patient to **press against the specific sensors** with their tongue. As they press against the sensor, the waveform will increase in amplitude.
- Once the patient can successfully press against the sensor, ask them to hold the press for **3 seconds and then release**. Repeat this task with each sensor you plan to target until the patient can consistently press on command.



Figure 2. Clinical Homepage.

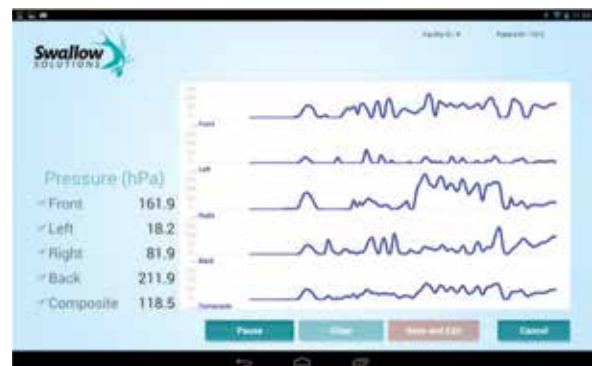


Figure 3. Training screen.

**Helpful Hint:** Pressing the back of the tongue against the back sensor can be challenging for some patients. Having the patient say words like 'hug' and 'hawk' can be facilitative. As they produce the sound, have them watch the waveform go up with the final /g/ and /k/. Once they can hit the sensor consistently, have them focus on holding the position for a 3-second press duration. Some patients learn to press the sensors in just a few tries and others require several sessions to learn the technique. Ultimately, you want the patient to be able to press each sensor without saying the words.

## 3. Setting the Protocol

Navigate back to the **Clinician Home Page** by touching the logo in the upper left corner of any screen for 2 seconds. **Tap the box** marked Protocol to enter the module. Watch the Setting Therapy Parameters video on [www.swallowsolutions.com/training](http://www.swallowsolutions.com/training) for a **demonstration**.

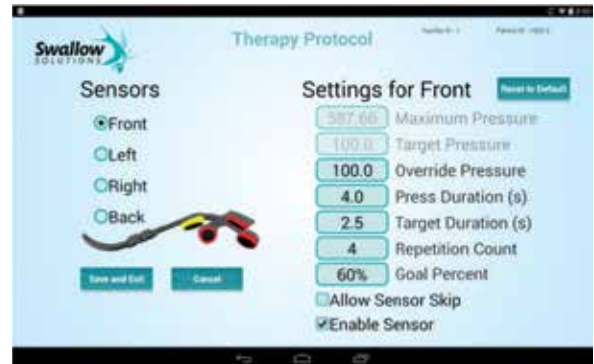


Figure 3. Therapy protocol.

### A therapy protocol has three critical aspects:

- a. Number of sensors enabled** – typically, patients strengthen using 2 of the 4 available sensors. To have a sensor be the focus of strengthening, choose the sensor name (front, left etc.) and check the box at the bottom marked ‘Enable’. The device comes with the default settings of the front and back sensors enabled. If you plan to have the patient strengthen the front and back of the tongue (most common), you do not need to change any settings.
- b. Press duration** – do nothing with this now – we will come back to it. *See #5 Therapy.*
- c. Number of repetitions** – The default is 10 press repetitions. Typically, this is not changed, but you have the option to change this for each sensor.

**Helpful Hint:** The front and back sensors are set as defaults because they are used most commonly. The left and right sensors are used primarily for patients with unilateral paresis and/or partial glossectomy.

## 4. Determining Therapy Targets

Therapy targets are set in the Therapy module which is accessed via the **'Exit to Therapy' button** in the bottom right corner of the Clinician Home Page. Once there, you will be **automatically directed** to determine therapy targets if you are using a new mouthpiece. If you want to determine new therapy targets with an existing mouthpiece, tap the button with the target icon at the bottom of the therapy screen. Watch the Determining Therapy Targets video on [www.swallowsolutions.com/training](http://www.swallowsolutions.com/training) for a **demonstration**.



Figure 4. Determine therapy targets.

### Key points about determining therapy targets:

- a. The patient should be consistently able to complete the task **before starting this module**. See #2 Training.
- b. The number of times the patient will be instructed to press as hard as they can against the sensor is **determined by the variability** of the values.
- c. The Therapy Max may not be the highest pressure measured, but rather **represents the highest value** that can be consistently reached.
- d. Once the Therapy Max is identified, that number will be used to **customize the therapy target** as a percentage of the max.

**Helpful Hint:** Allow patients to rest between maximum presses. If they get too fatigued, the variability will increase and the number of presses they will be instructed to complete will increase (becoming a vicious cycle). They will be instructed to press maximally no more than 9 times, but a well-trained and well-rested patient often identifies their Therapy Max in 4-5 presses. Recommended rest times are 30 - 60 seconds, but this may vary by patient. Use your clinical judgment.

## 5. Therapy

The Therapy module starts automatically when the SwallowSTRONG software opens. It also can be accessed **via the Clinician Home Page**. The program will provide **on-screen instructions** to the patient and clinician to complete the entire therapy process using the **customized therapy targets** determined in #4 above. See the Quick-start Therapy Guide for instructions to patients and watch the Setting Therapy Parameters video on [www.swallowsolutions.com/training](http://www.swallowsolutions.com/training) for a **demonstration**.



Figure 5. Therapy screen.

### Key points about therapy:

- The program will **automatically instruct** the patient to complete tongue presses on sensors which are enabled and that have therapy targets. They should try to keep the **needle in the green zone**. See Figure 5.
- The patient should be **instructed to rest** between presses for 10-20 seconds. If needed, a mandatory rest between presses can be added in the **Configuration Module** (accessed via the Clinician Home Page).
- Start with a therapy practice session. It is at this session that the clinician will determine the **optimal press duration**. The press duration is the amount of time that the patient should keep the needle in the **'green zone'** to get a thumbs up. Basically, the clinician identifies the threshold for positive reinforcement. The longer the press duration, the more challenging the therapy. The press duration can be **accessed via the Protocol Module**. See #3 above.

**Helpful Hint:** Setting an appropriate press duration for therapy is a key to success. Take your time to find a duration that is appropriate. Often the first practice therapy is completed in a second session (or next day) and not immediately after determining therapy Targets due to fatigue. Too long of a press duration and the patient will become frustrated. Best to err on the side of too short of a press duration. Remember, a shorter press duration does not mean the patient is working less, but rather getting reinforced more often. As a patient gains more lingual control which typically happens in the first 2 weeks, the press duration can be increased.

Additional clinical questions can be directed to **Jackie Hind, MS/CCC-SLP, BCS-S** at [jahind@swallowsolutions.com](mailto:jahind@swallowsolutions.com), or view dates and times for Clinical Office Hours at <http://swallowsolutions.com/product-information/clinical-office-hours>

**Thank you** for your recent purchase of the **Swallow Strong Management System (SSMS)**. There are a few simple steps to setting up your SSMS account and enabling your SwallowSTRONG tablets to send the data to the SSMS.

## Setting Up Your Account on the SSMS from Your Computer

### Step 1:

You will receive an email sent to the address you provided to Swallow Solutions. See *Figure 1*. The email will include your username, password and a link to the SSMS. Access your email from your computer or other email enabled device.

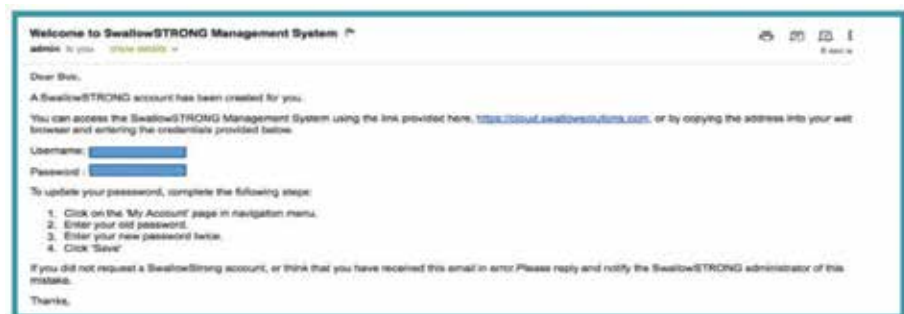


Figure 1. The email you will receive to activate your SSMS account. Access via computer, or other email enabled device.

### Step 2:

Click on the link in the email or type the address into your browser to open the SSMS. Enter your username and password. See *Figure 2*.

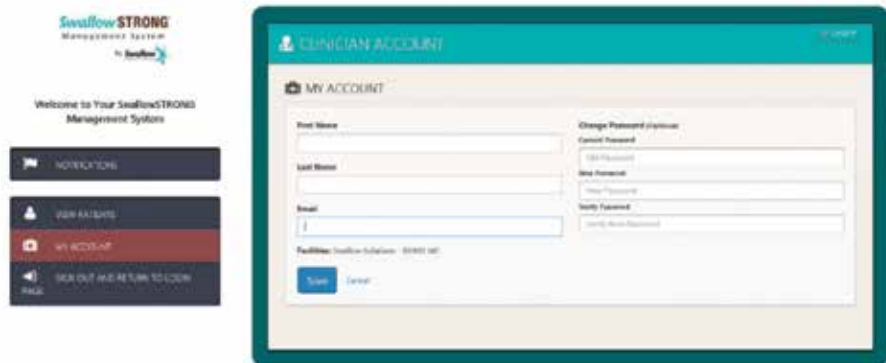


Figure 2. Continue to use your computer and enter the password provided.

## Step 3:

The SSMS system will open automatically to the **Clinician Account page**. Once open, enter your name and password. See *Figure 3*. At this time you should **change your password**. Your password must be **8 characters** in length and **include at least** one uppercase letter, one lowercase letter and one number.

Figure 3. Fill in your information and change your password.



## Setting Up Your Device to Sync with the SSMS

1. **Power on** the SwallowSTRONG device.
2. Click the **WiFi icon** and make sure your tablet is connected to your local WiFi. See *SwallowSTRONG WiFi Guide*.
3. Connect the mouthpiece to the tablet. See *Initial Set-Up Guide*.
4. The message **'Allow the app Swallow to access the USB device?'** will appear. **Press OK** to enter the SwallowSTRONG software.
5. The message **'Enter Mouthpiece Information or Plug in a Mouthpiece'** will appear. The mouthpiece serial number will fill in automatically in the white box. **Tap Submit** to continue.

6. The message **'Prepare to Calibrate Sensors'** will appear. Instead of following on-screen instructions at this point, **press and hold the SwallowSTRONG icon** in the upper left corner of the screen to navigate to the Clinician Home Page.
7. Tap on the Configure button.
8. In the Configure module, scroll down to **Device Settings**. Check the box to the right of **'Swallow Strong Management System.'** See Figure 4.

Figure 4. Check the box for Swallow Strong Management System, circled in red above.



9. Enter username and password.
10. Select the facility name that is associated with the device.
11. The message **'Assign Patient to Mouthpiece'** will appear. See Figure 5. Select whether the patient is a new patient or an existing patient, and **tap Submit** to continue.

NOTE: The tablet will synchronize data daily. If you want to synchronize immediately, go to the Clinician Home Page and touch the box 'Sync to Server.'



Figure 5. Select the appropriate option and tap 'Submit.'



**Purpose:** Use this guide as a reference to the **SwallowSTRONG Management System (SSMS)** online tools for the clinician.

## Step 1:

Using your desktop or laptop computer, go to the website:

**<https://cloud.swallowsolutions.com/Home/Login>**

## Step 2: Log In

Enter your user name and password.

NOTE: The first time you log in, please reference the email that was sent from Swallow Solutions.

## Step 3: Clinician Account Screen

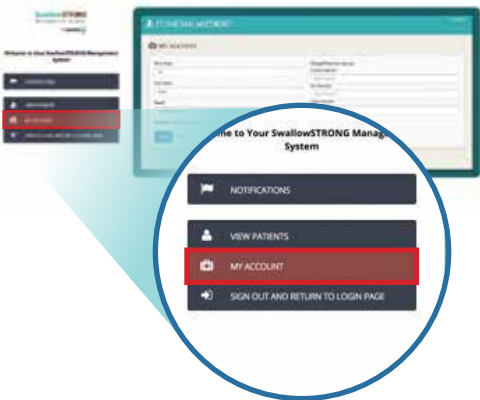
Click on **My Account** on the left side of the screen (see red highlighted box). This screen shows your name and email and also allows you to change your password.

## Step 4a: View Patients

Click on the **'View Patients'** menu option (see red highlighted box) on the left side of the screen.

## Step 4b: View Patient Details

Locate your patient by finding the **Patient Code #** assigned by SSMS and the Mouthpiece Number. Then click on the **'View Patient Details'** button on the right column.



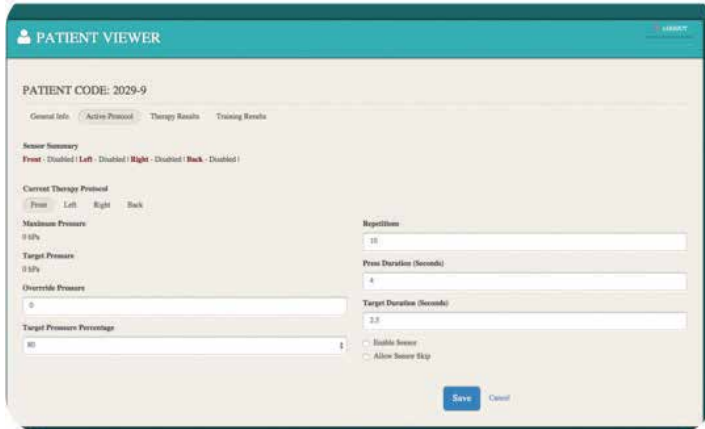




## Step 5: Patient Viewer

There are four tabs below the PATIENT CODE Number: General Info, Active Protocol, Therapy Results and Training Results.

## Step 5: Patient Viewer Screenshots



Active Protocol



Therapy Results: Maximum Pressure



Training Results

Data will only appear here if it was 'Saved' in the Training Module (Clinician Home Page)

Therapy Date	Front Sensor		Left Sensor		Right Sensor		Back Sensor	
	Target kPa	Actual kPa	Target kPa	Actual kPa	Target kPa	Actual kPa	Target kPa	Actual kPa
2023-10-10 10:00 AM	10.0	9.5	10.0	9.8	10.0	9.9	10.0	9.7

Therapy Results: Therapy Report

The Therapy Report can be copied and pasted into your notes.