Operating the NESS H200 Wireless System

RF Communication Features

The Control Unit and Orthosis must be within RF communication range to communicate wirelessly. The communication range is approximately 10 feet. If RF communication fails, the RF communication indicator on the H200 Wireless Control Unit will FLASH RED .

Turning On the System

Press the on/off button on the Control Unit once. The system will start in standby mode. All display indicators on the Control Unit and the Orthosis will light up for a few seconds while the system performs a self-test.

When the system is on:

- The on/off button on the Control Unit will FLASH GREEN.
- The status light on the Orthosis will FLASH GREEN.

Turning Off the System

Press the on/off button once.

Testing Stimulation in the Orthosis

The ⛰ stimulation test button is for testing whether the Orthosis is positioned correctly on the arm. The button is located on the side of the Control Unit. See Figure 9-1.

To test stimulation in the Orthosis:

1. Make sure the system is in standby mode. The ⬭ trigger button should not be lit.

2. Press and hold the ⛰ stimulation test button to test stimulation of the extensor muscles. (Stimulation will turn on and stay on until the button is released.) When stimulation is on, the ⬭ trigger button will FLASH YELLOW RAPIDLY.

3. Release the ⛰ stimulation test button to turn off stimulation.

4. Repeat to test stimulation of the flexor muscles.

5. If the Orthosis is not positioned correctly:

    •   Turn off the system.

    •   Open the Orthosis wing and remove the Orthosis. **Do not slide the Orthosis on your arm.**

    •   Recheck the cloth electrodes to make sure they are positioned correctly and wet.

    •   Put the Orthosis back on.

    •   Close the Orthosis extensor wing until no clicking can be heard.

    •   Retest stimulation.

Selecting a Stimulation Program

To select Program 1 :

Turn on the system. Program 1 is selected automatically. When Program 1 is selected, the ⬚1 Program 1 indicator will be GREEN.

To select Program 2 :

1. Turn on the system.

2. Press the Program 2 button. See Figure 9-1. When Program 2 is selected, the ⬚2 Program 2 indicator will be GREEN.
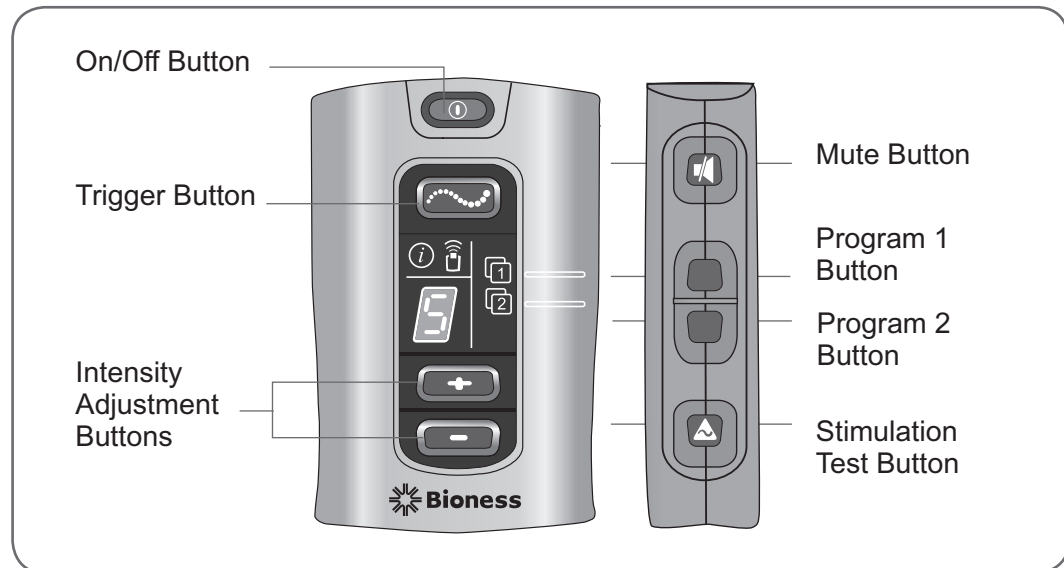

Figure 9-1: Operating buttons.

Changing Stimulation Programs

1. Press the ⬚ trigger button to pause stimulation.

2. Press the Program 1 or Program 2 button.

Starting Stimulation

Press the ⬚ trigger button on the Control Unit or the trigger button on the Orthosis. Stimulation will turn on.

- The Control Unit will beep.
- The Control Unit ⬚ trigger button will FLASH YELLOW.
- The Orthosis ⬚ stimulation light will FLASH YELLOW RAPIDLY.

3. Your hand will start moving per the program selected.

Note: Some of the programs contain rest periods. A rest period will last for at least one minute. During a rest period, stimulation will turn off and the Orthosis stimulation light will FLASH YELLOW SLOWLY. The Control Unit trigger button will continue to FLASH YELLOW.

Pausing/Resuming Stimulation

Functional Training and Motor Neuromodulation Programs may be programmed to run from 5 minutes to 120 minutes, as determined by your clinician. Personal Custom Programs may be programmed to run from 30 to 240 minutes, as determined by your clinician. Once started, these programs will continue until they are finished. However, they may be paused and resumed at any time.

To pause/resume stimulation:

Press the [◠] trigger button on the Control Unit or the trigger button on the Orthosis. When the program is paused:

• The Control Unit [◠] trigger button will be SOLID YELLOW.

• The Orthosis [◎◠] stimulation light will be SOLID YELLOW.

Note: Neuroprosthesis programs cannot be paused. Pressing the trigger button when stimulation is on starts the second phase of a Neuroprosthesis program.

⚠ **CAUTION: Remove the Orthosis to stop stimulation when the Control Unit is not operable or accessible and the Orthosis trigger button is disabled.**

Using a Neuroprosthesis Program

Your clinician may have assigned a Neuroprosthesis Program to the Program 1 or Program 2 button on your Control Unit. Neuroprosthesis programs are used to perform a specific task. There are three types of Neuroprosthesis Programs: Open Hand, Grasp and Release, and Key Grip.

Open Hand

To use Open Hand:

1. Press the Control Unit ⬚ trigger button or Orthosis trigger button to start stimulation. Your hand will open.

2. Your hand will remain open until you press the Control Unit trigger button or Orthosis trigger button a second time, turning off stimulation.

Note: Do not use the Open Hand program for more than 30 seconds at a time. Your muscles may begin to fatigue.

Grasp and Release

To use Grasp and Release:

1. Press the Control Unit ⬭ trigger button or Orthosis trigger button to start stimulation. Your hand will open.

2. While your hand is open, place it next to the object you want to grasp.

3. After several seconds, your hand will close, allowing you to grasp the object.

4. When you are ready to release the object, press the Control Unit trigger button or the Orthosis trigger button a second time. Your hand will open, allowing you to release the object.

5. Stimulation will then stop. Your hand will relax.

Note: If stimulation turns off abruptly, the object will release from your grasp.

Key Grip

To use Key Grip:

1. Press the Control Unit ⬚ trigger button or Orthosis trigger button to start stimulation. Your fingers will close and your thumb will open. There should be a gap between your thumb and the side of your index finger.

2. While your fingers and thumb are in this position, place the object you want to grip into the gap.

3. After several seconds, your fingers and thumb will close around the object.

4. When you are ready to release the object, press the Control Unit trigger button or the Orthosis trigger button a second time. Your hand will open, allowing you to release the object.

5. Stimulation will then stop. Your hand will relax.

Stopping Stimulation

Press the ⬚ trigger button on the Control Unit or the trigger button on the Orthosis. Stimulation will turn off.

Note: In a Neuroprosthesis program press the ⬚ on/off button to stop stimulation immediately.

Adjusting Stimulation Intensity

Each time you turn on your Control Unit, the stimulation intensity level will be "5." If necessary, you can adjust the stimulation intensity level when in standby mode or when stimulation is on.

To adjust stimulation intensity:

1. Press the ⊕ plus button on the Control Unit once to increase stimulation intensity one level.

2. Press the ⊖ minus button on the Control Unit once to decrease stimulation intensity one level.

The Control Unit will beep with each change in level. The new level will show in the digital display.

Note: An intensity level of "0" equals no stimulation.

Note: When the system is turned on the next time, the stimulation intensity level set by your clinician ("5") will be restored.

Muting/Un-Muting the System Audio Alerts

Press the ◁》 mute button briefly. The mute button is located on the side of the Control Unit. Audio alerts are listed in Table 9-1.

Note: When the system is turned on the next time, the default volume setting will be restored.

Types of Audio Alerts	Muting Allowed
Faulty electrode contact	Yes
Changes in software state	Yes
Power supply detected	Yes
Charging error	No
Software/Hardware Error	No
Battery depletion threshold reached	No
Orthosis electronic registration successful/unsuccessful	No

Table 9-1: Types of audio alerts.

Removing the Orthosis

To remove the Orthosis:

1. Press the Control Unit ⬭ on/off button to turn off the H200 Wireless system.

2. Carefully unfasten the wrist strap and slide it away from the wrist strap attachment bar. See Figure 10-1.
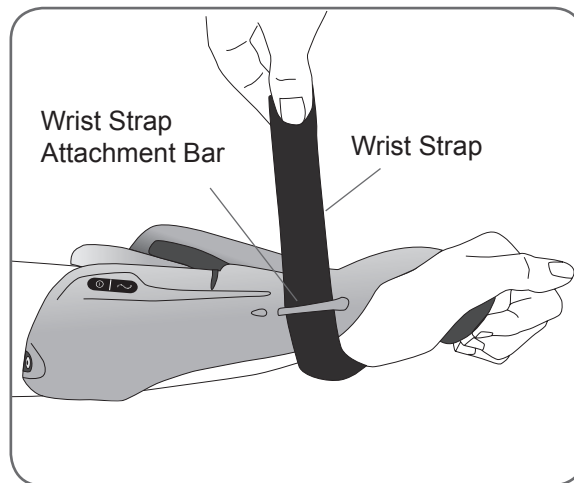

Figure 10-1: Unfastening the wrist strap.

3. Pinch the wing release handle and wing arm together and open the extensor wing. See Figure 10-2.
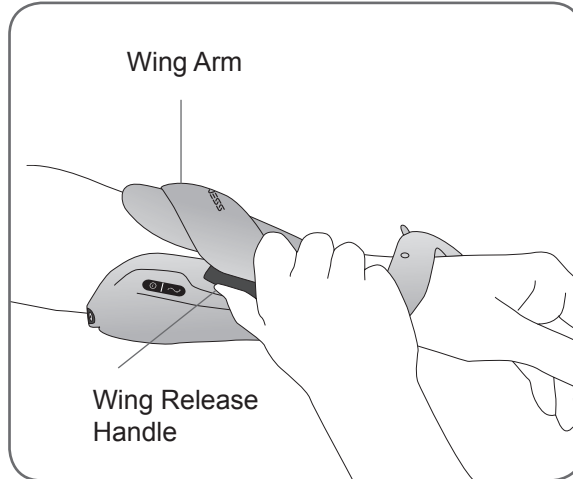

Figure 10-2: Opening the extensor wing.

4. With the extensor wing open (See Figure 10-3), remove the flexor support from under your forearm.
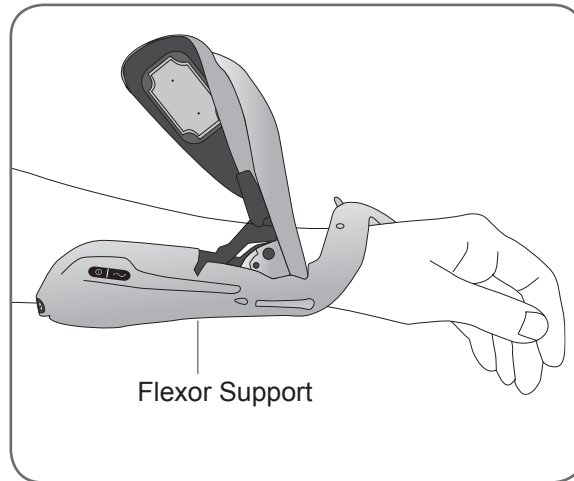

Flexor Support

Figure 10-3: Removing the flexor support.

5. Then lift the flexor support up and over your forearm, and remove the spiral end of the Orthosis from your hand.

6. Remove the H200 Wireless cloth electrodes from the Orthosis.

7. Store the cloth electrodes and Orthosis where they can air dry.