

## Use Case 1:

Name: Heart Rate Variability Check

Primary Actor: Patient (User)

Actor(s): Session database

Goal: Patient completes session and is displayed coherent heart-rhythm summary readings

### Main Success Scenario:

1. User turns on HeartWave.
2. Active pulse reading light turns on.
3. User adjusts challenge level and breath pacer settings by going to Menu→Settings.
4. User initializes a session by going to Menu→Start Session.
5. Screen shows heart-rhythm pattern through main HRV graph (HR vs time) with key metrics such as coherence score, length, and achievement in real time.
6. The coherence light is red or blue, with an incoherent heart-rhythm pattern.
7. The user stabilizes their breath with slow and steady breaths, achieving a more pattern-like range in HRV.
8. Coherence light changes to green and the HeartWave beep activates.
9. When the user is finished using the machine, they end the session by going to Menu→End Session
10. User is shown summary view (challenge level, % of time in different coherence levels, average coherence, length of session, achievement score, entire HRV graph)
11. Session is added and stored to the device's memory/database
12. User turns off device

### Extensions:

6a. The coherence light is already green and user's HRV is coherent and does not require further stabilizing.

7a. The user is having difficulty regulating their breath.

7ai. The user follows the optional breath pacer setting using the pattern in strip of lights.

8a. The light remains blue or red.

8ai. The user must continue trying to regulate their breath.

8b. The signal of the device is interrupted and program stops updating data.

8bi. The signal returns.

## Use Case 2:

Name: Managing Session History

Primary Actor: Patient (User)

Actor(s): Session database

Goal: The user views/deletes a session from the log history

Precondition: The user has completed at least one session with the HeartWave

Main Success Scenario:

1. User views the log history by going to Menu→View Log History.
2. User selects a session by using the arrow keys to navigate the log, and selects a session with the selector.
3. User views the session data.

Extensions:

- 1a. User optionally deletes sessions by using arrow keys to navigate to the delete option.
  - 1ai. User confirms their action.

## Use Case 3:

Name: Reset Device

Primary Actor: Patient (User)

Actor(s): Session database

Goal: The user resets the device to factory settings

Precondition: The user has data stored on the device

Main Success Scenario:

1. The user turns on the HeartWave device.
2. The user follows the path of Menu→Settings.
3. The user presses the reset option.
4. The user confirms they would like to clear all data from the device.

#### Use Case 4:

Name: Charge Device

Primary Actor: Patient (User)

Goal: The user charges the battery to 100%

Precondition: The user notices the battery % is low

Main Success Scenario:

1. The user navigates to the charge device option by going to Menu→Settings→Charge Device
2. The user selects 'Charge Device'
3. The device charges back up to 100%