

Sleep SMART

Nox T3 Device and T3 Setup

Helgi G. Helgason, MS, RPSGT, RST
Project Manager, FusionHealth
hgh@fusionhealth.com



Sleep



Recover



Perform

Overview

The T3 device from Nox Medical

Sensors and Components

Study Start and Stop

Application of Sensors

Troubleshooting

Cleaning Procedures

The Nox T3 Device

Type 3 - Home Sleep Apnea Testing Device

Nasal Cannula

RIP Belts (thorax and abdomen)

Nonin Bluetooth oximeter and Probe

Body Position and Actigraphy

ECG and Patient Ground



Sensors and Components

ECG Electrodes - 3 leads

- 1st ECG lead on right collarbone
- 2nd ECG lead on the left lower ribs
- Patient Ground on right hip bone

RIP Belts - 2 belts

Nox Abdomen Cable attached to Nox T3 device

- 1st belt over chest (thorax)
- 2nd belt over abdomen (belly button)

Wrist oximeter and finger probe

- non-dominant hand
- index finger or other fingers

Nasal Cannula

- into nostrils

Configuration is done in KOEO
one recording setup

One button starts the study

Same button stops the study

Sensors and Components



Additional Items:

USB Download Cable

Batteries

1 AA for T3

2 AAA for Nonin Oximeter

Paper Tape for Oximeter Probe

Nox T3 Battery Door Pen

Alcohol Prep Pad

Carry Case for each T3 Kit
T3 and oximeter paired

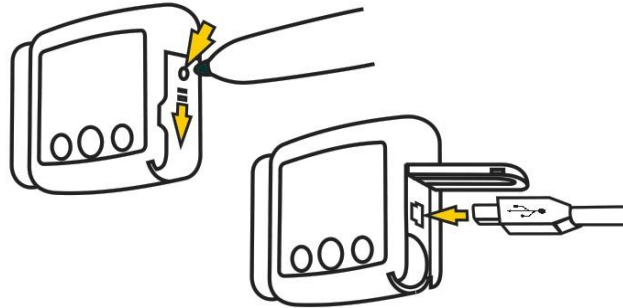


Connecting the Nox T3 Device to a Computer

Nox T3 Device

USB Download Cable

Battery Door Pen



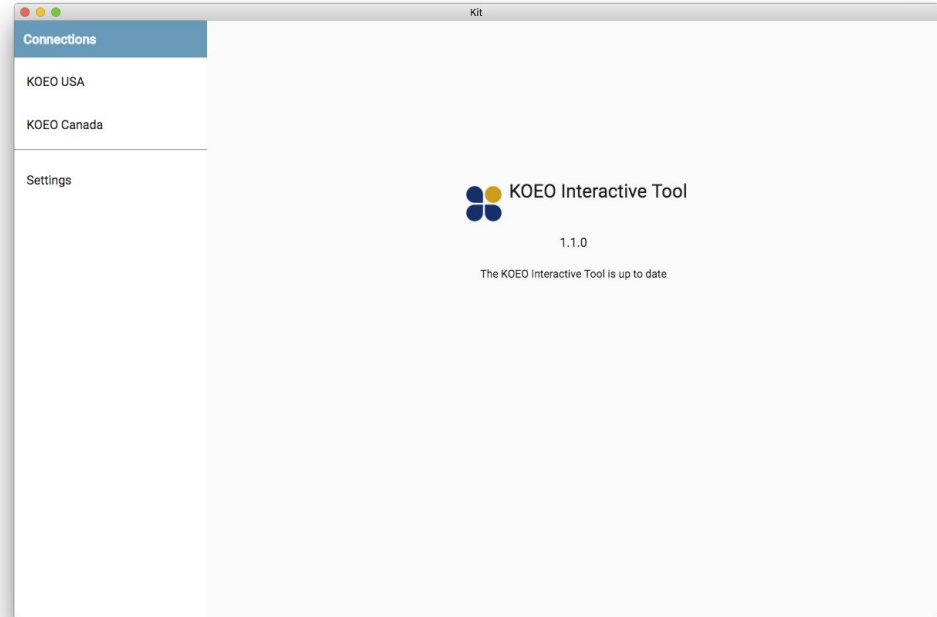
KOEO Interactive Tool (KIT)

The KOEO Interactive Tool is an application to help with the management of Nox T3 Devices and the upload of sleep studies.

It is in this application that the Nox T3 device is configured for testing.

It is in this application that the Nox T3 studies will be uploaded to the scoring team.

The Nox T3 device will need to be connected to the computer via the USB Download Cable.



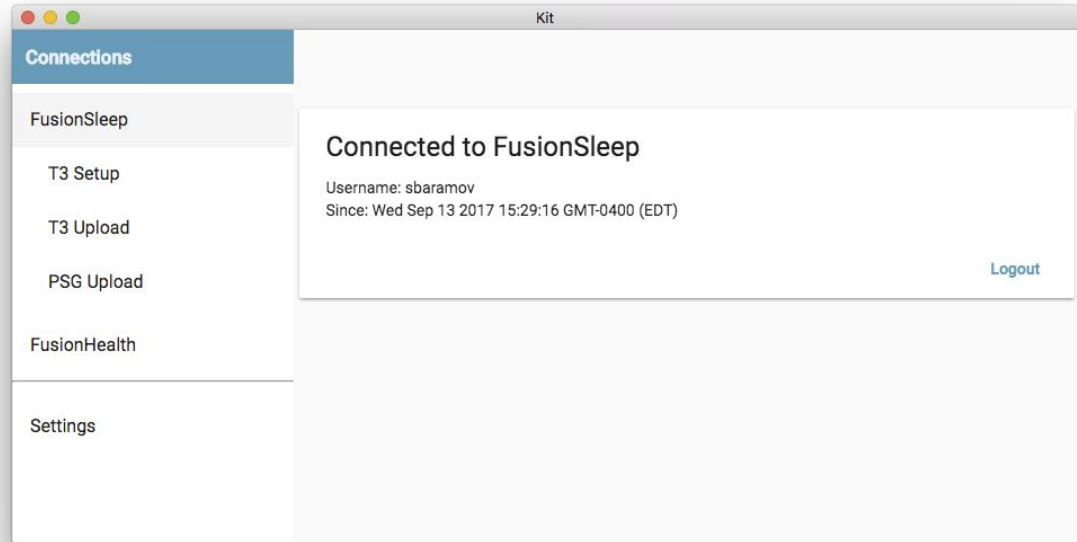
T3 Setup

After sign-in, the HOME screen comes to view.

The available actions are as follows:

- T3 Setup
- T3 Upload
- PSG Upload (not applicable)

The user can also access Settings

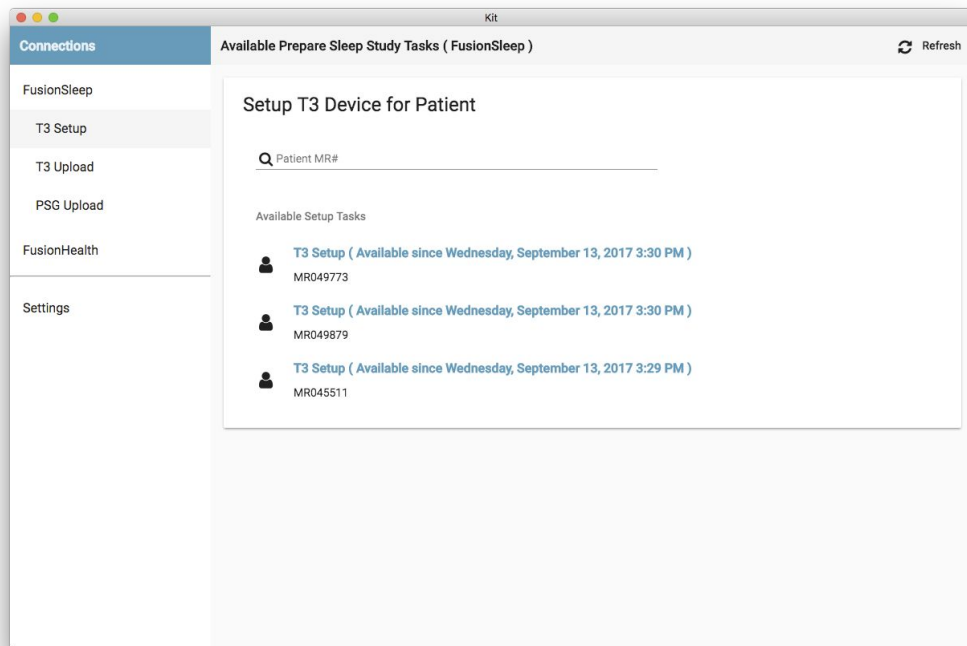


T3 Setup

Available setup tasks are listed by
Subject ID Number

Care must be taken to select the correct
action and Subject ID number

This action will link the T3 Study Data
to the subject



T3 Setup

Time Zone selection will ensure the appropriate time in the Nox T3 device.

Patient Information will show the Subject ID Number.

Device Information will show the Serial Number of the Nox T3 device that is in use and firmware information of the device.

Clicking PREPARE in the upper right hand corner prepares the study.

The screenshot shows a web application titled "T3 Setup - FusionSleep". On the left is a sidebar menu with the following items: "Connections" (highlighted), "FusionSleep", "T3 Setup", "T3 Upload", "PSG Upload", "FusionHealth", and "Settings". The main content area is divided into several sections:

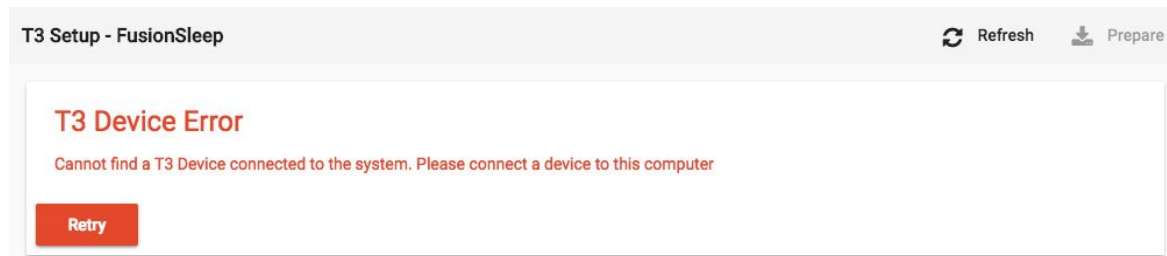
- Time-Zone Selection:** Contains a "Select Timezone" dropdown menu and a "Device Time" label.
- Patient:** A form with fields for "Prefix" (value: DR), "First Name" (value: Debra), "Prefix" (value: A), "Last Name" (value: White), "MR#", "Date Of Birth", and "Gender". The values are: MR# MR049773, Date Of Birth 1992-01-06, Gender Unknown.
- Device:** A section containing:
 - Serial Number:** 904005522
 - Digital Board:** Fields for "Version" (1.0), "Firmware" (1.4.0.2861), and "BIOS" (112).
 - Detail Firmware:** 1.4.0-Donbot_Suld PATCH3_f875ec4fe7c3 19.7.2013 10:39:20
 - Analog Board:** Fields for "Version" (3) and "Firmware" (72).
 - Local System:** A field for "The DEVICE\IN Location" with the value /Volumes/T3Results.

In the top right corner of the main content area, there are two buttons: "Refresh" (with a circular arrow icon) and "Prepare" (with a document icon).

T3 Setup

If no T3 device is connected via the USB download cable the following error message will appear.

To recover, simply plug in the Nox T3 device and click on the “Retry” button



Once the study has been configured:

Insert 1 NEW AA Battery

Close the Battery Door

Attach the T3 device to the subject and begin application of sensors

Sensor Application

ECG electrodes:

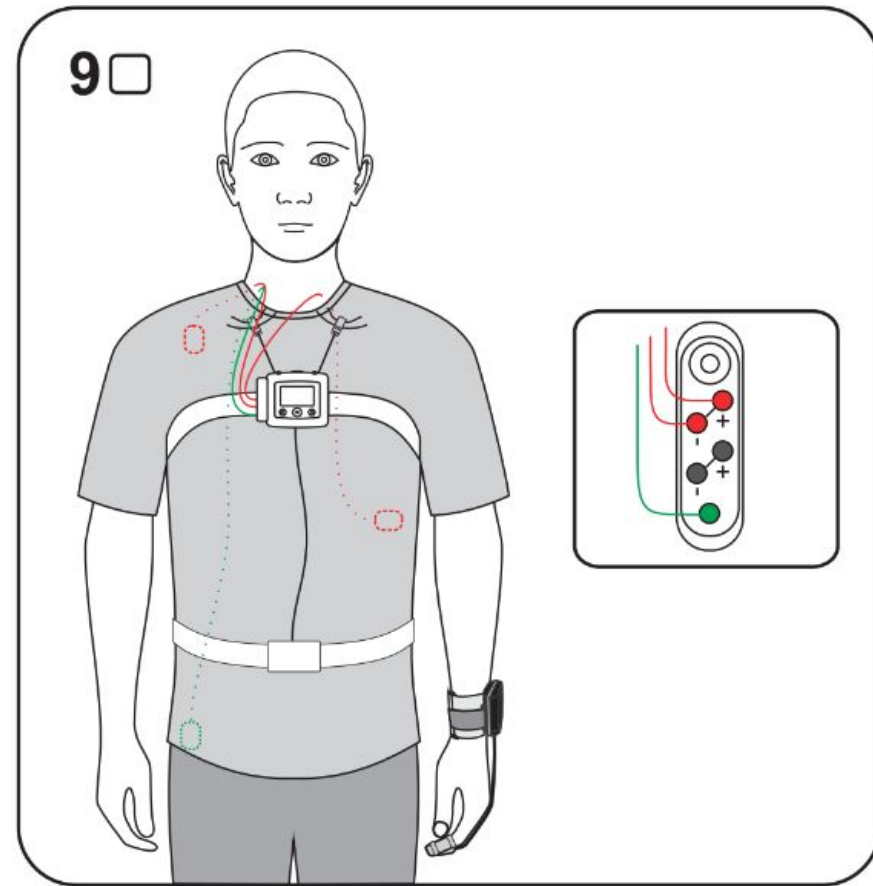
- on right collarbone
- left lower ribs
- patient ground on right hip bone

Belt over chest

Belt over abdomen - connected to Nox
Abdomen Cable

Wrist-worn oximeter and probe on index
finger/ring finger of the hand least affected
by stroke

Nasal Cannula



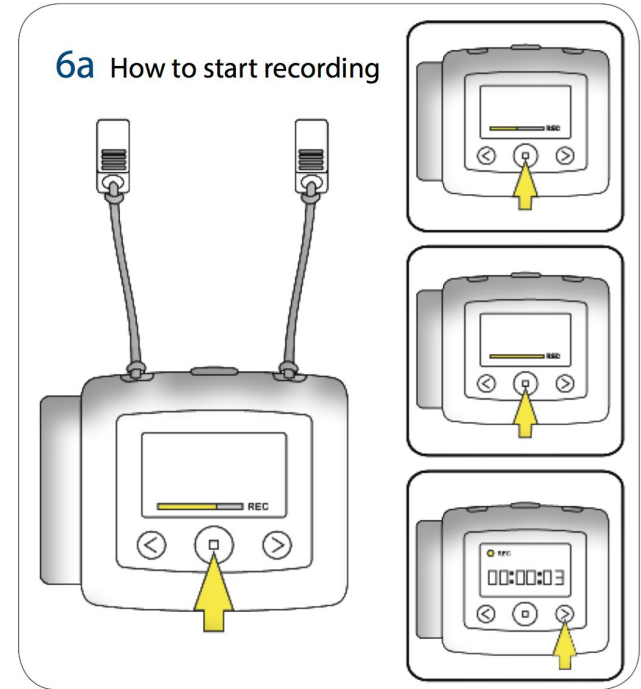
Starting the Study

Press once on the middle button to turn on display

Hold Middle Button Down to Start Recording

Hold until Progress Bar is replaced by a timer

Recording has begun



Verifying Oximeter Pairing

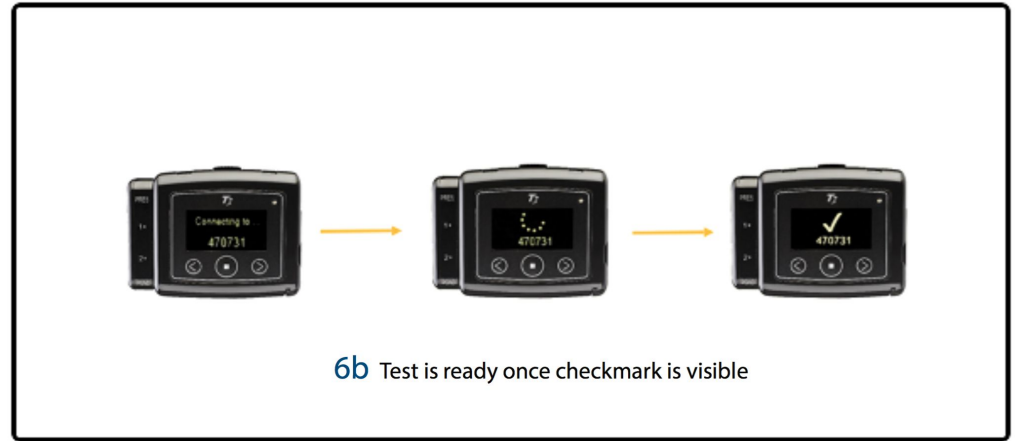
Once recording has begun and counter is visible press once on the RIGHT ARROW BUTTON.

First, Nox T3 is connecting to the Nonin Oximeter via Bluetooth.

The number shown is the serial number of the oximeter.

Second, the spiral indicates a connection attempt.

Third, the check mark appears once connection is complete and successful.



Nox T3 device and oximeter are paired in KOEO.

Users CANNOT mix and match T3 devices and oximeters.

Serial Numbers are locked in by the configuration files.

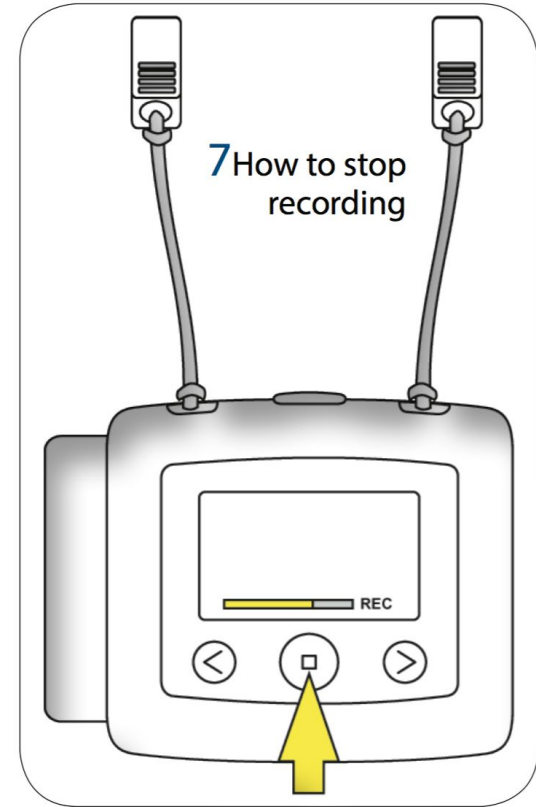
Stopping the Study

To Stop the recording, press once on the middle button on the Nox T3 device. This will turn on the display and put the counter into view.

Hold down middle button until the progress bar is replaced by a STOPPED TIMER.

Once the timer has stopped, the recording has stopped

Remove sensors from the subject



Troubleshooting

If an “X” appears when pairing Nox T3 and the oximeter

This means that the pairing of the Nox T3 Device and the oximeter has not been achieved and the programming of the oximeter failed. It will be necessary to start the pairing process again. Before that can be done, the Nox T3 study needs to be stopped and the oximeter needs to be restarted. To restart the oximeter, remove the batteries and re-insert the batteries into the oximeter. Then hold the button on the oximeter for at least three (3) seconds. Restart the Nox T3 study.

Battery Replacement

If the AA battery of the Nox T3 device depletes before the study is over, you can replace the battery and restart the study. If the two AAA batteries deplete in the oximeter, you can replace them. It will not be necessary to stop and restart the Nox T3 Study.

The Display Turned Off

After 30 seconds of inactivity, the screen of the Nox T3 Device will turn off in order to save battery power. This is normal and does not impact the collection of sleep data. To check whether the device is still recording, press the middle button on the face of the Nox T3 Device to turn on the display. If the Nox T3 Device is recording, the timer will still be counting

If the Study needs to be stopped or aborted

If the diagnostic study needs to be stopped or aborted, simply turn off the Nox T3 device and remove all the sensors. The study should still be uploaded to KOEO where it can be invalidated and a new study process can be launched, if the study is to be repeated.

Cleaning Procedures

No Part of the Nox T3 System requires sterilization

Discard all single-use items and tape

Cannula

RIP Belts

ECG monitoring electrodes

Nox T3 Device

Clean the device with an alcohol prep pad.

Cables

Clean the the three ECG snap-on leads and Nox Abdomen Cable with alcohol prep pads.

The Pulse Oximeter and finger probe

Wipe down the oximeter and probe with an alcohol prep pad.

Questions?