

Using The HESS Capnometer App

Healthcare Education Simulation Station

Revised 7/1/2025

www.BetterNurseEducation.com

PLEASE READ

DISCLAIMER

The information in the HESS is not intended or implied to be a substitute for professional medical expertise, advice, diagnosis or treatment.

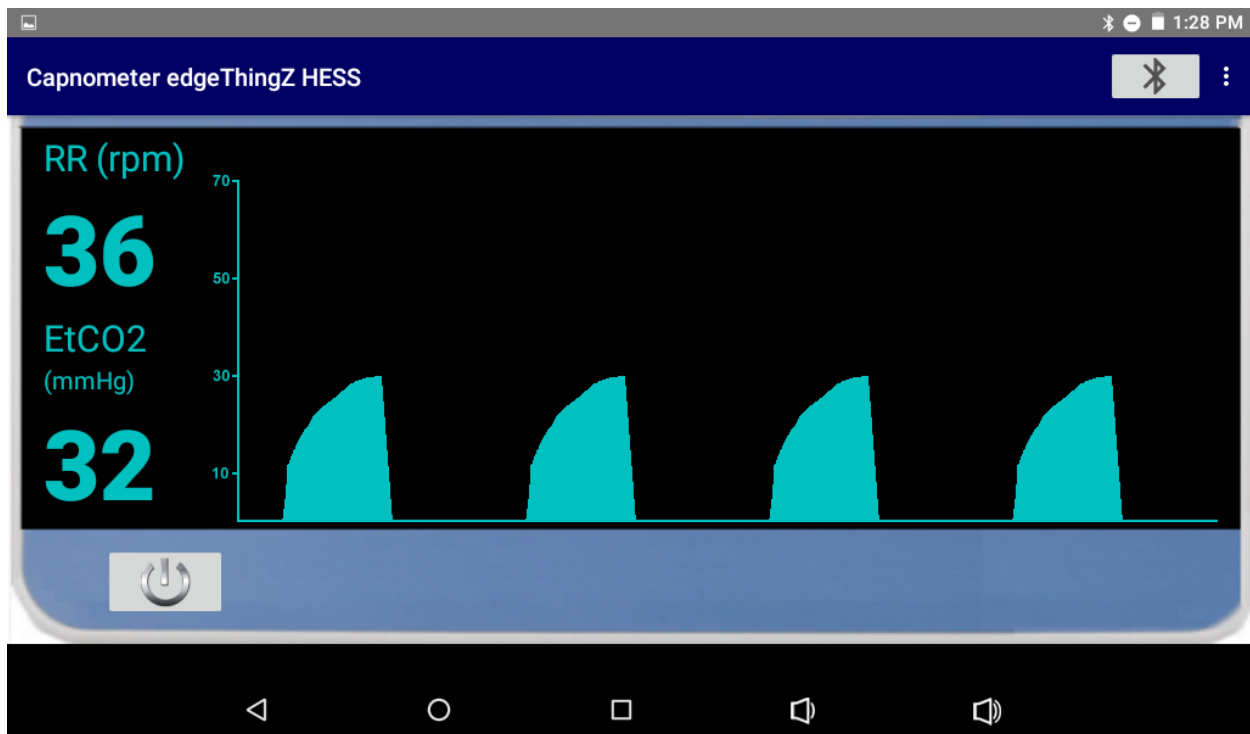
There is no representation and no responsibility for the accuracy of information contained within the HESS.

The HESS is only intended to be used as an instructional aide by qualified medical educational professionals.

About The HESS Capnometer App

The HESS Capnometer App was created to let healthcare professionals conduct learning exercises that involve a simulated Capnometer in a safe and “low stakes” environment.

The Capnometer App can be used to simulate Capnography vitals on both Manikins and Standardized Patients (actors) in a respiratory oriented learning exercise.



Tablets Suitable To Run The HESS Capnometer App

The HESS Capnometer App can run on Android tablets with Version 8 or above of the Android operating system and with a screen size of at least 7 inches.

Android tablets with screen sizes smaller than 7 inches may not display the Capnometer App screen elements correctly.

The Capnometer App can be run on larger screen sizes if the educational exercise dictates using a larger tablet – such as displaying the Capnometer App screen on a monitor or projector.

HESS Vitals Accepted By The HESS Capnometer App

The HESS Capnometer App will recognize and use the following vitals transmitted from the HESS Instructor tablet.

1. Capnography Vitals

The Capnography Vitals that the Capnometer App recognizes and uses are the Respiration Rate (rpm), the End-Tidal Carbon Dioxide - EtCO₂ (mmHG), and the Capnogram Waveform.

Using The HESS Capnometer App

1. Starting the Capnometer App



The HESS Capnometer App can be started by touching the HESS Capnometer App icon on the Android tablet.

2. Starting the Capnography Vitals Display



AFTER the Capnography Vitals have been transmitted successfully from the HESS Instructor App, the “power” button can be used to start and stop the respiratory waveform and the Vitals display.

HESS Capnometer App Settings

The HESS Capnometer App has the following Settings available via the Android “3 dots menu” in the upper right corner of the Capnometer App screen:

1. Respiration Rate Low And High Alarms

Sets values, that if the Respiration Rate (rpm) falls below or rises above, will trigger the Capnometer App to sound an audible alarm.

2. eTCO2 Low And High Alarms

Sets values, that if the EtCO2 (mmHG) falls below or rises above, will trigger the Capnometer App to sound an audible alarm.

3. Device Address

The Capnometer App receiving address for the Vitals – which must match the transmission address for the Vitals in the HESS Instructor App. Device Addresses are 4 characters made up of the characters 0-9 and A-F. **DO NOT USE** “0000” or “FFFF” as Device Addresses. “0000” and “FFFF” have special uses within the HESS. Using these special Device Addresses can cause unpredictable results.

HESS Capnometer App Usage Notes

1. Bluetooth Reset Button



If, after numerous attempts, the Capnometer App is still not receiving Vitals transmissions – even though the Instructor transmission and the Device receiving addresses match – the “Bluetooth Reset” button in the upper right corner of the screen can be used to reset the Android tablet’s Bluetooth functions. This often will resolve Bluetooth oriented issues without having to stop or disrupt the app.

2. Issues When Using Very Low Respiration Rates

The Capnometer App is “driven” by a simulated respiratory cycle. The Capnometer App will finish any currently established respiratory cycle before moving to new Vitals values even if the new Vitals transmissions have been successfully received. In cases of very low respiration rates – such as 5 rpm or lower – it can take some time before changes appear. As an example, in an extreme case of a respiration rate set to 1 rpm, the respiratory cycle would be 60 seconds in duration and it could take 1-2 minutes for changes transmitted to take effect. This can make the app appear unresponsive even though it is working properly.

3. When Done, “Power Off” Tablets – Don’t Just “Suspend” Them

The Android tablets should be completely “powered off” when stored or the battery will drain to 0% charge. Completely drained batteries can then take 20-30 minutes of charging just to get the tablet to power up for usage. Even if the tablet screen is dark it can be misleading because the tablet may only be “suspended”. Pressing the power button for ½ second will indicate if the tablet is completely powered off – by either “unsuspending” the tablet screen if the tablet is only “suspended” – or remaining dark if the tablet is completely powered off.