Using The HESS EKG App

Healthcare Education Simulation Station

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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.

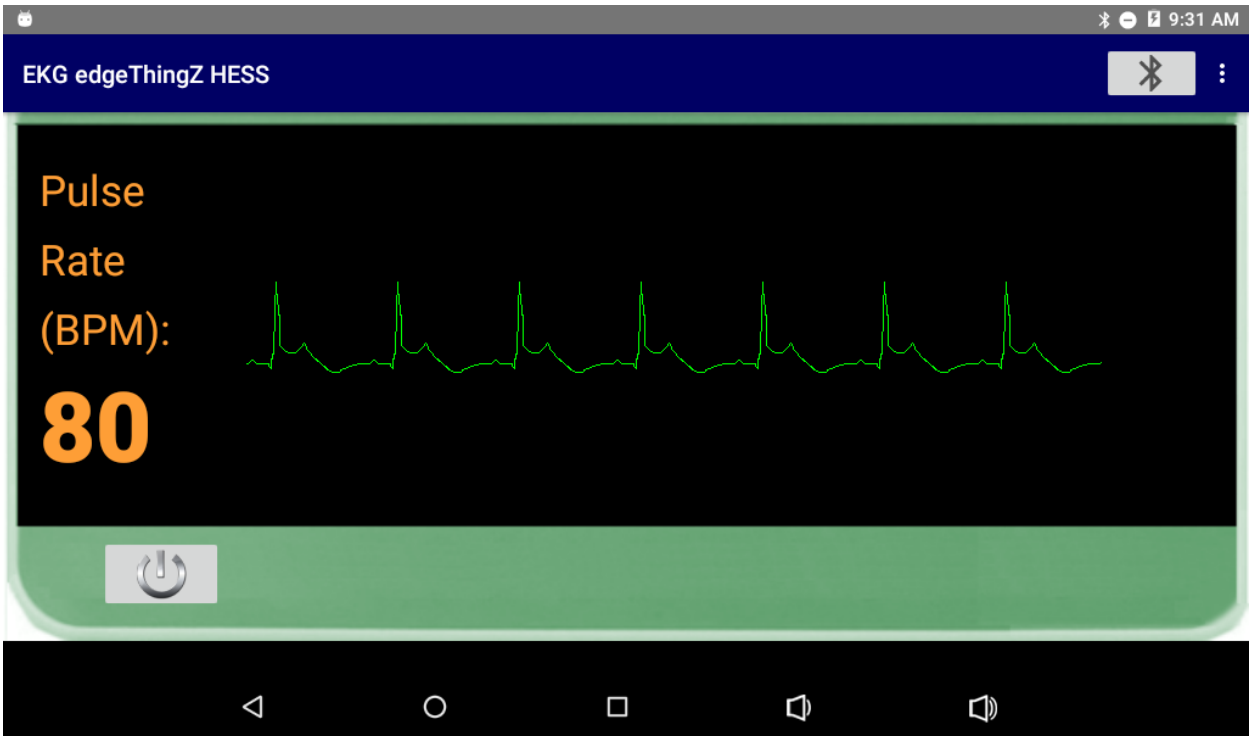
There is no representation and no responsibility for the accuracy of information contained within the HESS.

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

About The HESS EKG App

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

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



Tablets Suitable To Run The HESS EKG App

The HESS EKG 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 EKG App screen elements correctly.

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

HESS Vitals Accepted By The HESS EKG App

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

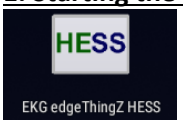
1. EKG Vitals

The EKG Vitals that the EKG App recognizes and uses are the EKG Pulse Rate (BPM), the Primary EKG Waveform, the Primary EKG Pulse Rate Irregularity Percentage, the optional Alternate EKG Waveform and the optional Alternate EKG Pulse Rate Irregularity Percentage.

If the optional Alternate EKG Waveform is used, the number of Primary EKG Waveforms to show in sequence can be set - along with the number of Alternate EKG Waveforms to show in sequence. The "sets" of Primary and Alternate Waveform sequences will then alternate on the EKG Vitals display.

Using The HESS EKG App

1. Starting the EKG App



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

2. Starting the EKG Vitals Display

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

HESS EKG App Settings

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

1. Pulse Rate Low And High Alarms

Sets values, that if the Pulse Rate (BPM) falls below or rises above, will trigger the EKG App to sound an audible alarm.

2. Device Address

The EKG 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 EKG App Usage Notes

1. Bluetooth Reset Button

If, after numerous attempts, the EKG 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 Heart Rates

The EKG App is "driven" by a simulated cardiac cycle. The EKG App will finish any currently established cardiac cycle before moving to new Vitals values even if the new Vitals transmissions have been successfully received. In cases of very low heart rates – such as 10 BPM or lower – it can take some time before changes appear. As an example, in an extreme case of a heart rate set to 1 BPM, the cardiac 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.