FPSense- Neonatal Respiratory Function Monitor for training

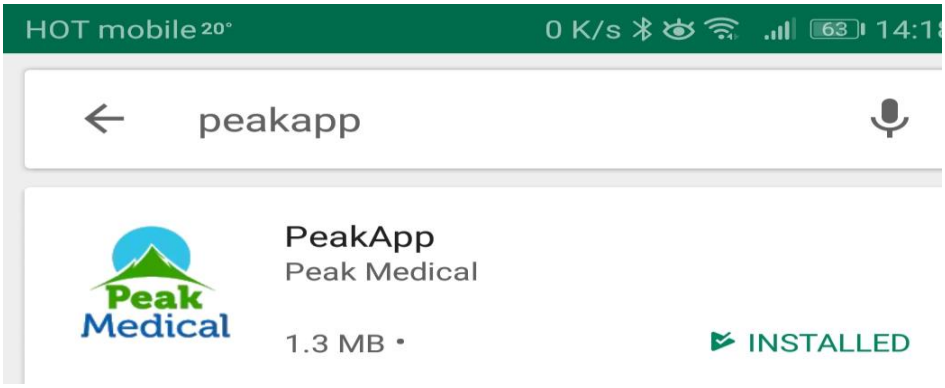
Instruction for use

FPSense is neonatal respiratory monitor for training that provides real time quantitative information including Pressure, Flow, Tidal Volume (calculated) etc. It may be used to teach correct mask-hold and positioning techniques, application of T-piece Resuscitators, Self-inflating Bags etc. during resuscitation **simulation-based manikin**.

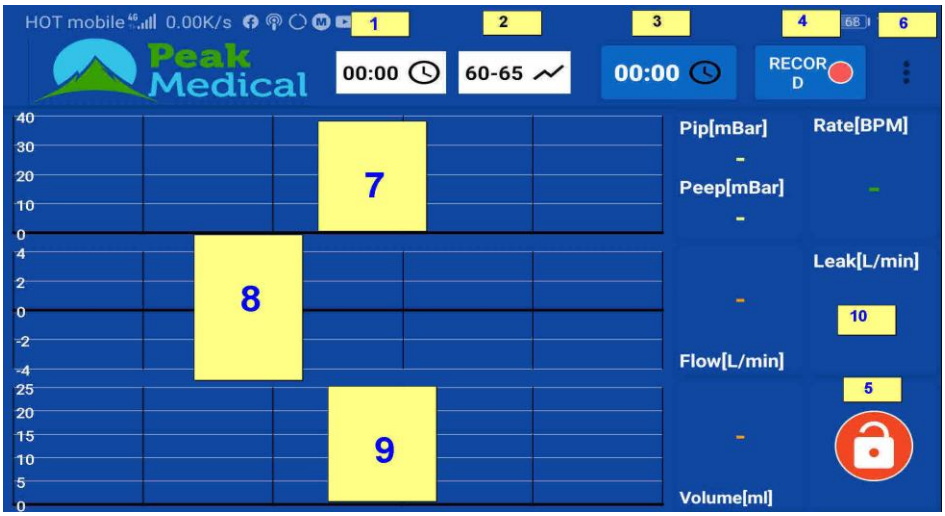
Warnings: 1. The monitor could be applied for simulations only!
2.Apply dry gas only
3.Don't wash
4. Store in dry clean condition away from heat and light

Preparation for use

1.Install ***FPSense*** software ***PeakApp*** from Google Play Store to your Android mobile device (operation system of the device should be of version 5.1 or higher and the device should be *OTG* compatible):



2. Connect FPSense to the interface (small plastic box) and the interface via cable to a *Micro USB* or *USB-C* port of your mobile device, if your device has *Micro USB* connection, use a dedicated adapter between the mobile device and plug *Type C*
3.Approve USB connection of the device
4.Main screen will appear:



5. **Control buttons and windows**:

1-Stopper window- displays the time of resuscitation for APGAR
2-Recommended saturation is changing with time
3-Start/Stop button of Stopper
4- Start/Stop of the data recorder
5- "Lock" of Tidal Volume calculator
6- Menu
7- Gas pressure vs. Time curve
8- Gas flow vs. Time curve
9- Calculated Tidal Volume vs. Time curve
10- Gas leak (not in use)

Operation Instruction

Connect the female side of FPSense to a face mask or ETTube .Attaché the male side of FPSense to a T-Connector, connected via a flexible tube to a neonatal resuscitator or self-inflated bag.

Touch the **Start/Stop** button of the stopper to actuate resuscitation time stopper. The Initial recommended value of saturation (60-65%) will be presented in the corresponding window. It will be changing as a function of resuscitation time. To stop stopper touch again **Start/Stop** button. To reset the time touch once more **Start/Stop** button.

If recording is required, touch the Start/Stop button of the data recorder, to stop recording touch this button again. As a result, will be created and saved data file.

Measured Gas Flow is presented by Flow vs. Time curve It should be in a range of **+/- 4 L/Min**. If the gas flow is more than 4 L/Min (usually as a result of leaks) it will be displayed as straight -line 4L/Min. If the Gas will be supplied with a constant pressure (PEEP) and Gas Flow will have non- zero value it will be an indication of the wrong face mask position or leak between the ET Tube and trachea.

The Average Tidal volume is calculated using Gas Flow and cycle time values during inhalation. If pressure/flow cycles are irregular (f.e., as a result of misuse of T-Piece or Bag) the calculated value will have significant error. If the cycles are regular, accuracy of the calculation could be improved by touching the calculator "lock" (6)

Calculated average Breath Rate also strongly depends on the regularity of pressure/flow cycles.

Recorded files could be played back using Menu /Recordings buttons

Table with recommended PIP, PEEP, BPM values for different gestation age of preemies could be displayed by touching of Menu/Info buttons

4. After use, minimize application window  and totally close the application. **If the application has not been totally closed the next activation of the application will be impossible.**

Remarks:

1. Leak calculator in the present version of the software is inactive
2. Accuracy of calculation of Tidal volume and Breath Rate strongly depend on the stability PIP cycling. Irregular PIP cycling will cause faulty values of Volume and Rate.

FPSense warranty

This product's warranty, provided by our company, covers a period of 1 year from the date of purchase. All faulty parts and/or functions, resulting despite the user's normal use, will be repaired and/or replaced at no charge during the warranty period. However, if any of the malfunctions are caused by user carelessness, inadequate maintenance, or natural disaster, we will provide repair and/or replacement services for a fee regardless of the warranty period. In the event, our product does not prove suitable for your application you can return the product for an exchange or refund. The customer is responsible for all shipping costs.