Let's Talk About ...

ICU monitors

Your child will be watched carefully while they are in the intensive care unit (ICU). The care team will attach several monitors to your child and watch them closely. These monitors help your child's healthcare providers get information about how your child's body is working.

You may feel overwhelmed when you see your child attached to so many wires and tubes. It is a normal reaction. Read on to learn what the monitors do and how they help keep your child safe.

Why do the ICU monitors beep?

An alarm will sound if a monitor senses your child's movement or there is a slight change in the information the monitors gather.

The monitors can be seen from the nursing station. If the alarm sounds, a member of your child's care team will check on your child and turn it off. Most alarms do not signal a crisis. They gather information so the care team can help your child get better.

What does the cardiac-apnea monitor do?

The machine that shows different line patterns is called the cardiac-apnea monitor. Your child's healthcare providers watch the numbers and the wave of the lines shown on the monitor. They give information about your child's condition.



A cardiac-apnea monitor tracks many different measurements, including:



Heart rate (HR): Electrodes (wires) attached to your child's chest, monitor the heart's rhythm and rate. The number shown next to the wave form is the heart rate in beats per

minute. Heart rate may also be called an electrocardiogram (ee-LEK-tro-CARD-ee-oh-gram), EKG, or ECG.



Respiratory rate (RR): The same electrodes that record heart rate also sense your child's chest movements. They record the number of breaths per minute (respiratory rate).



Oxygen saturation (Oximeter/ SATS): A soft clamp on your child's finger, foot, or ear measures the amount of oxygen in the blood. Infrared light on one side of the

clamp passes through and gives the receiving pad information. The pad then sends the information to the monitor.



Temperature (T/Temp): Healthcare providers often need a continuous, accurate temperature when caring for your child. The number on the screen is your child's internal

temperature in Celsius. Ask your child's healthcare provider to tell you their temperature in Fahrenheit. To monitor your child's temperature, a healthcare provider will either:

- Insert a tiny tube, called a urinary catheter, into your child's urinary tract
- Put a soft probe in your child's rectum or esophagus
- Arterial blood pressure (ABP): Arteries are tiny blood vessels that carry blood from the heart to the rest of the body. A healthcare provider inserts a catheter into your child's artery to measure the amount of pressure in the arteries.

The catheter may also be used to draw blood. Your child's ABP is shown with a number and wave motion on the cardiac-apnea monitor.

• Central venous pressure (CVP): The veins carry blood from the body back to the heart. A healthcare provider inserts a catheter into a large vein, usually in the arm or leg, and then guides it to a vein near the heart. A machine then measures the pressure in the vein and sends the information to the monitor.

What does a carbon dioxide monitor do?

When we breathe in and out, we keep a good balance of oxygen and carbon dioxide (CO2) in our blood. Your child's care team may want to know if your child has too much or too little CO2 in their blood. There are two ways to measure this:

- An ETCO2 (end tidal carbon dioxide) sensor is connected to your child's ventilator and measures the amount of carbon dioxide in the exhaled air.
- A TCO2 (transcutaneous) monitor is taped to your child's skin and measures the amount of carbon dioxide in the skin membrane.

What does an EEG monitor do?

An EEG, or continuous electroencephalography (e-LECK-tro-en-sef-a-LOG-raf-ee), monitor measures the brain's electrical activity. It is used to detect abnormal brain activity. Wires, called electrodes, are placed on your child's scalp (head) or just under the skin to measure brain waves.

What does a regional oximetry monitor do?

A regional oximetry monitor measures how much oxygen the body is using in different areas. The monitor probe is a sticker, and a healthcare provider usually puts it on your child's forehead and back. The care team might refer to this as "NIRS" or "INVOS." The value tells them how well the body is using oxygen.

What should I do if I have questions?

The information in this handout is very general, so ask your child's healthcare provider if you have questions about your child's monitors.

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