**Equipment**

**CMV—Conventional Mechanical Ventilator**
Also called the Respirator. A machine that helps the babies with breathing. It helps babies who cannot breathe enough on their own or helps the baby to take bigger breaths.

**High Frequency Ventilator (HFV)**
Also called High-frequency oscillatory ventilation
A type of ventilator that uses hundreds of tiny little breaths of air to keep the baby’s airways open. The HFV is often used if conventional mechanical ventilation is not able to support the respiratory needs of a critically ill infant.

**Continuous Positive Airway Pressure (CPAP)**
A type of breathing support which provides continues airway pressure to help stabilize the baby’s airways and keeps the lungs expanded. The baby does all the breathing on his or her own. The airway pressure is delivered through nasal prongs that are placed in the baby’s nose.

**Extra-Corporeal Membrane Oxygenation (ECMO)**
This is a lung/heart bypass system. It is used to treat near term or full term infants who have severe life threatening respiratory failure and or heart failure. Special tubes (catheters) are surgically placed in the veins or arteries of the neck. Blood passes through these tubes into the ECMO circuit where it is pumped through an artificial lung, the blood is then warmed and then the blood returns back to the infant. ECMO is used only in specialized NICU’s and only under very special circumstances.

**Endotracheal Tube (ETT)**
This is a small plastic tube which is placed through the baby’s mouth or nose into the trachea (windpipe). The ET tube is held in place with special tape and connects to a mechanical ventilator (breathing machine) with flexible tubing. An x-ray is used to check
the tube’s placement. When a baby has an ET tube, he/she is temporarily unable to make sounds or cry.

**Pulse oximeter**
A machine that indirectly measures the amount of oxygen in the baby’s blood through a probe taped to the baby’s skin. The probe is taped to the baby’s hand/finger or foot/toe.

**Nasal Canula**
This is a clear, plastic and silicone tube which is connected to a low continuous flow of oxygen. The end of the tubing (nasal prongs) sits at the tip of the nose in the nostrils. Tape or sticky pads are sometimes used to keep this tubing in place on the baby’s face.

**Infusion pumps**
Machine’s used to deliver a certain amount of either intravenous fluids or intravenous medications over a set period of time to the baby through the infant’s peripheral intravenous line or central venous line.

**Heart or Cardiorespiratory (C-R) Monitor**
This is an electronic device which records and displays the baby’s heart rate, respiratory rate, blood pressure and oxygen saturation continuously. Wires from the monitor are attached by adhesive patches to the skin of the baby’s chest or abdomen. This provides continuous vital sign results with alarms which are triggered when any of the vital signs being monitored are too high or too low.

**Blood pressure Monitor**
The infant’s blood pressure is measured periodically using a small cuff placed around the baby’s upper arm or leg. Some babies need continuous blood pressure monitoring. This can be done using a catheter (small tube) placed in one of the babies arteries.

**Suction**
Mucous and fluid can build up in the baby’s nose/throat/mouth or in the breathing tube and make it difficult for the baby to breath.
These secretions can be removed using a suction catheter where one end is attached to a vacuum/suction source and the other end is inserted into the region where the secretions are.

**Feeding Tube** (also referred to as: nasogastric, NG tube or orogastric, OG tube)
When an infant cannot breastfeed or take the bottle, a small plastic tube is inserted into the stomach through the mouth or nose. Either formula or expressed breast milk feeds are introduced through the feeding tube.

**Radiant Warmer**
This is an open air bed which provides easy access to the baby for care or any needed intervention. It has automatic temperature control and monitors the baby’s temperature with a skin probe that is attached to the baby’s skin.

**Incubator**
Sometimes referred to as an isolette®. This is a bed which is completely enclosed within a clear plastic walled box. It provides a warm and moist environment for the preemie infant who needs this type of environment due to their high risk of water and heat loss as a result of their thin and immature skin. It also protects the baby from the outside environment including noise and germs. The baby remains in the isolette until able to maintain their own temperature. Once this occurs the infant is moved to a bassinette or crib.

**Ultrasound**
The Ultrasound machine uses high-frequency sound waves and a computer to create images of blood vessels, tissues, and organs. Ultrasounds are used to view internal organs as they function, and to assess blood flow through various vessels. In the NICU, ultrasound may be used to examine the heart, abdomen, and internal structures of the baby’s brain. Ultrasound is painless and provides much information about a baby’s health.
X-RAY (Chest x-ray or abdominal x-ray)
Portable x-ray machines may be brought to the baby’s bedside in the NICU. X-rays use invisible electromagnetic energy beams to produce images of internal tissues, bones, and organs on film. X-rays are taken for many reasons including checking the placement of catheters and other tubes, looking for signs of lung problems, checking for signs of bowel problems, and for looking at any abnormalities of the bones.