

The Parent Book

The Neonatal Intensive Care Unit

As the parent of a baby in our Neonatal Intensive Care Unit (NICU), you probably have many questions about the nursery and the care provided in it. We understand that this is a stressful time for you and we will try our best to lessen your concerns. We hope that this booklet will be helpful to you as you learn about your new baby and the care he/she requires. Please remember, the doctors and nurses welcome your questions and encourage you to speak with us often.

Where to Find Us and What We Do

The map below indicates the location and layout of Penn State Milton S. Hershey Medical Center. The NICU is located on the seventh floor of Penn State Children's Hospital. The nursery is designed and equipped for infants who need special care and observation. It is staffed 24 hours a day by doctors and nurses trained and experienced in the care of premature and sick infants.

How Does Your Baby Get to Penn State Children's Hospital?

If your obstetric care was provided at Penn State Hershey Medical Center, your baby will be transferred to the NICU as required. If you were referred to Penn State Hershey Medical Center later in your pregnancy because your obstetrician suspected a problem, the baby's condition will be evaluated at birth, and if necessary, the baby will be taken to the NICU.

If your baby will be born at a hospital other than Penn State Hershey Medical Center, transportation is arranged by your doctor in consultation with one of our neonatologists. Depending on the circumstances and the baby's condition, the baby will be transported either by personnel from the referring hospital where your baby was born or Penn State Hershey Medical Center transport team. Such transfers are made either by ambulance or by Life Lion.

Our Mobile Life Support Unit (ambulance) and Life Lion helicopter are mobile intensive care units equipped with a special incubator, ventilator, oxygen, monitors and other equipment necessary for your baby's care in transit. Upon arrival at the referring hospital, our team, specially trained to transport sick infants, will spend some time ensuring that your baby's condition is satisfactory enough to make the return trip to Penn State Children's Hospital at Penn State Hershey Medical Center. We always try to ensure that you have the opportunity to see your child and to talk with the team before their departure.

Telephone Communication

A doctor or nurse will call you with a condition report soon after your baby's arrival at Penn State Children's Hospital. We also will try to call you daily and more frequently if there are significant changes in your baby's condition. You may contact us by phone at any time and we urge you to do so whenever you desire. Our number is (717) 531-8941.

Who is Caring for Your Baby?

During your baby's hospitalization, you will come into contact with many different people. In addition to your baby's neonatologist, you will meet neonatal fellows, neonatal nurse practitioners, clinical nurse specialists, pediatric residents, attending and resident physicians from other services, nurses, respiratory therapists, medical technologists, other consulting pediatricians, pediatric surgeons and medical students. If your baby has a surgical problem, the primary physician will be one of the pediatric surgeons.

Staff neonatologists are pediatric doctors specifically trained in the care of sick newborns. Our six neonatologists usually rotate on a monthly basis. Neonatal fellows are pediatricians trained to become neonatologists. One of these doctors might be assisting with your baby's care.

Resident physicians are doctors training to become pediatricians or other specialists. The residents also rotate monthly. One specific resident will be responsible for evaluating your baby daily and discussing his/her care with the attending neonatologist.

A team of primary nurses will provide personalized attention throughout your baby's hospitalization. This group of nurses will plan your baby's care and will prove to be the persons with whom you will have the most contact and the greatest opportunity to discuss your child's treatment and progress.

Early in your baby's hospitalization you are also likely to meet a social worker and chaplain assigned to the NICU. The roles of these professionals are described more fully in a later section of this booklet.

All of these people work as a team. You will have most physician contact with one neonatologist, one fellow and one resident. However, if your baby's stay is prolonged, you might have considerable contact with nearly all of our staff members.

Because there are so many involved, you might want to write down the names of those primarily responsible for your baby.

Primary Care Team Nurses:

Nurse Practitioner: _____

Neonatologist: _____

Fellow: _____

Resident: _____

Other Doctors: _____

Clinical Nurse Specialist: _____

Social Worker: _____

Chaplain: _____

Visiting Your Baby

Please read the detailed visiting guidelines in the guest services book at your baby's bedside.

If you or any visitors have been exposed to any infectious disease or have concerns, please discuss these with a doctor or nurse before entering the unit. Those visiting inside the nursery will be instructed about washing to ensure that infections are not spread inside or outside the nursery. This does not mean that we do not want you to touch your baby. We encourage you to do so and to participate in your baby's care as much as possible, as his or her condition permits.

When you enter the unit, most of the equipment and noises will be unfamiliar to you. The noises are from (1) monitors that record heart rates and breathing rates and alert us to changes in the baby's condition, (2) ventilators that help the babies to breathe, and (3) the activity of many people working to care for the babies. Please do not hesitate to ask questions; to the extent they are able, the nurses and doctors will answer any that you might have.

Phone Calls

If you cannot visit your baby, we encourage you to call anytime to obtain a report on your baby's progress. The nurse or doctor will give you an update. We will call you once a day at a time of your choice, to be posted at you baby's bedside. The phone number for the unit is (717) 531-8941. Information regarding the baby's condition will be given to parents only! Therefore, any interested relatives or friends should contact you regarding the baby's condition. Remember, we have your phone number and will notify you if an emergency arises.

Toys and Clothing

To help provide as pleasant an environment as possible for your baby, we encourage you to bring in a few small toys and clothing. This activity and personal attention will contribute to your baby's growth and development and will bring you closer to your child. Please label all toys and clothing with your baby's name so that they will not get lost in our unit supplies. Furry toys cannot be cleaned effectively and therefore we ask that they not be brought into the unit. **Balloons and flowers are not permitted in the unit.**

Social Services

The Social Services department exists to provide free and confidential information and to help you in dealing with the special, personal aspects of your baby's hospitalization. The social workers assigned to the NICU work closely with the doctors and nurses. They will be able to answer questions concerning special needs you and your baby might have after leaving the hospital, financial assistance and community resources that are available to you. The telephone number for Social Services is (717) 531-8306.

Pastoral Services

We understand that hospitalization frequently raises personal and spiritual issues for you and your family. The hospital chaplains are available to talk with you and to be of assistance in these difficult days. Though chaplains are trained to work with all faiths, you may request ministry from Protestant, Catholic or Jewish representatives. In addition to pastoral conversation and prayer, the chaplain is a resource for considering baptism, anointing and providing you with other spiritual services. There is a Meditation Room available to you at all times. Regular worship services are provided at places and times you can secure from your nurse. You are also encouraged to notify your own clergy, even if they are unable to come because of distance. The Department of Pastoral Services will assist in the contact if you wish. You may contact the chaplain by dialing 8177 from 8:00 a.m. to 5:00 p.m. weekdays, by dialing 0 and asking the Operator to contact the chaplain for you, or by asking anyone of the medical, nursing or social services staff.

The Hershey Ronald McDonald House, within walking distance of Penn State Children's Hospital, is available to parents of infants in the NICU. The two-story house has 20 bedrooms, kitchen, dining room, living room, recreation rooms, a laundry room, outdoor play area and parking facilities. A family will be asked for a minimal daily contribution, as they are able.

Reservations must be made. Contact your infant's nurse or social worker to help make these arrangements if you wish to stay at the house.

Cuddler Program

Many of the infants in the NICU need more stimulation and cuddling than their regular caretakers have time to give them. Volunteers, under the supervision of nurses, rock, cuddle or help soothe the infants. This may be especially true for the recovering infant when his parents are unable to visit as often as they wish because of transportation problems, other children at home or health reasons. When the nurses are busy with new admissions or with critically ill infants, they are sometime unable to cuddle and stimulate the convalescing infants as much as they feel necessary.

Staff and parents are grateful that someone is able to spend special time with infants when they are not able. The Cuddler Program helps meet the needs of infants, parents, nurses and the volunteers who enjoy children and wish to assist in the community in some way.

Financial Concerns

If you have questions about the cost of hospitalization or about the insurance coverage, the Financial Affairs Department, located on the first floor, East Addition, is open from 8:00 a.m. to 4:30 p.m. daily. You can call the hospital operation at (717) 531-8521 and ask to speak to a financial counselor or contact you baby's social worker.

Discharge Home or Referral to Your Community Hospital

When no longer in need of intensive care, but not ready to go home, your baby may be transferred back to the referring hospital or, if born at Penn State Hershey Medical Center after referral, to a hospital closer to your home. This allows you to be closer to your baby and to avoid excessive travel. We will contact your pediatrician or family doctor to make the necessary arrangements.

Some babies will be discharged directly home. We do not have a minimal required weight for discharge, but we require that your baby is feeding well, gaining weight and able to maintain a normal temperature.

Soon after your baby goes home, your doctor will receive a full report from us concerning your baby's care at Penn State Children's Hospital and condition at discharge. Together with your doctor, we will plan your baby's follow-up care.

Follow-Up Program

Medical care does not end when your baby is discharged. We strongly recommend that you see your pediatrician or family doctor within one week of discharge so that your baby can be checked. We also will schedule an appointment for your baby in either our Neonatal or Surgical Follow-Up Service, located in the University Physician Center from two to twelve weeks after discharge. An appointment can be made prior to your baby's discharge from the hospital.

In addition to our regular follow-up care, certain infants, because of their very low birth weight or other problems, continue in our special follow-up program. At scheduled return visits, these infants are assessed for growth, development, muscle tone, vision, hearing and general physical health by a medical team that includes a nurse, a neonatologist and a pediatric physician therapist. Other specialties are consulted as necessary. This program will be explained in greater detail if your child is to be followed in this way.

Special Considerations - Blood for Your Baby

When a baby is admitted to the NICU, blood tests are performed to follow the baby's condition closely. Because most babies admitted to the unit are very small, this blood must be replaced. Almost every baby admitted to the Neonatal Unit receives at least one transfusion of blood and blood components. Blood transfusion is quite routine in the unit. All blood products are vigorously screened by the latest laboratory standards for Blood Banks and we use transfusion practices that minimize risk to your baby.

The blood we give to your baby must be replaced in the Blood Bank so that blood is available for other infants. To cover costs of recruiting a volunteer donor to replace this blood, a replacement deposit fee is charged for each unit of blood, plasma or platelets. You can remove this charge from your account in several ways:

- Ask your family and friends to donate in your baby's name at Penn State Hershey Medical Center or any hospital that is a member of the American Association of Blood Banks. At Penn State Hershey's Blood Bank, donations can be made Monday through Friday between 8:30 a.m. and 4:00 p.m. or up to 8:00 p.m. on Wednesdays. Saturday appointments are available from 9:00 a.m. to 1:00 p.m. If your family or friends donate at Penn State Hershey Medical Center, please ask them to give your baby's name when donating. (Telephone (717) 531-8232 in advance.) If your family or friends donate at some other hospital, please ask them to give your baby's name and the name of Penn State Milton S. Hershey Medical Center.
- If you belong to a blood club or blood assurance plan, contact that agency and ask that replacement credits be released for you to Penn State Milton S. Hershey Medical Center.
- If you would be interested in having designated donor blood for your baby, please contact your baby's nurse or call the Blood Bank at (717) 531-8282 for more information.

- If you live in an area that is covered by an American Red Cross blood plan, we can ask the Red Cross to transfer blood credits to cover your account. There should be no cost to you for transfer of replacement credits. Contact our blood transfusion service coordinator at (717) 531-8232 to make arrangements.

The replacement deposit fees will be removed from your account as soon as donors or credits are received at Penn State Hershey Medical Center. If you pay this fee, but later arrange donation or transfer of credits, your account will be credited and the money you paid will be refunded to you.

If you have any questions or problems, call the transfusion service coordinator at Penn State Hershey Medical Center's Blood Bank at (717) 531-8232.

Your Baby's Developmental Care

Our care for your baby and how you can interact with you baby will largely depend on your baby's degree of immaturity or illness. The very ill or preterm infant cannot tolerate much handling and interaction, but does need and sense your presence, your love and your touch. As your baby grows and recovers, it is important that you get to know your baby's readiness for interaction and become comfortable with providing all of your baby's daily care needs.

You as parents are very important in your baby's care. At the bedside, we have some developmental care guidelines to help you understand your premature or ill infant's capabilities. Please review these with your baby's nurse so we can partner with you in providing individualized care for you and your baby.

Feeding Your Baby

You may not have made the final decision about how you will feed your baby. Formula or breastmilk can be used to feed your baby. If you have questions about what is best for you and your baby, please ask your nurse or doctor.

Providing colostrums (the first breastmilk) for a sick or preterm baby has many benefits: protection from infection, easier to digest, lower incidence of respiratory infections and allergies and it is something only you can do for your baby.

We at Penn State Children's Hospital support breastmilk as the "formula of choice". Whether you plan to breastfeed or choose to provide breastmilk for your baby for the early feedings, starting early to express breastmilk is very important in establishing an adequate supply. Your nurse can get you started with a breastpump and show you how to collect and store breastmilk for your baby. Pumping 8-12 times a day for the first week or so after the birth of your baby will help to achieve an excellent milk supply.

It would be helpful for you or a family member to bring in any expressed breastmilk you have so that it will be available when your baby can start feedings. Small feedings are often started on the first or second day of life, even for sick and premature babies.

Your Baby's Eyes

The retina is the lining of the eyeball that receives vision and relays it to the brain. It is one of the last structures to mature and barely is complete at nine months after conception. This means that a premature infant's retina is still developing.

Inside the uterus, the fetus lives with less oxygen than it will require after being born. The fetus' developing retina is also exposed to less light inside the uterus before birth. For reasons not yet fully understood, the blood vessels in the part of the retina that is still growing sometimes develop abnormally in some premature babies, especially those that are very small. This condition is called retinopathy of prematurity (ROP). If a baby is born prematurely, the underdeveloped retina might be exposed to greater amounts of oxygen than nature intended.

Particularly if a baby's lungs or circulation are not functioning as well as they might, it is often necessary to add oxygen to the supply of air the baby breathes. When this is included as part of treatment, the neonatologist and ophthalmologist (eye doctor) will examine your baby's eyes. Note, however, that retinal abnormalities can occur in premature babies who have never received additional oxygen. Much elaborate equipment is used, and every effort is made to protect your child's eyes. All infants who are born at less than 32 weeks gestation or have a birth weight less than 1500 grams (3 pounds, 5 ounces) will have an eye examination.

The majority of those premature babies who develop retina blood vessel abnormalities will heal by eight months of age. Of those who do not completely recover, some will develop nearsightedness (myopia) or other visual defects and will require corrective lenses (glasses) early in life. More severely affected babies might have permanent scarring of the retina causing vision problems not correctable with glasses.

The eye disease of prematurity usually becomes detectable between the ages of four and twelve weeks. It can be detected only when an ophthalmologist examines the retina after the pupils have been dilated (widened) with eyedrops.

A normal examination between six and twelve weeks of age is very reassuring, but in some cases problems can show up later. If abnormalities are found, further examinations will be recommended.

Any baby at risk for retinopathy of prematurity will have their eyes examined if they are still in the hospital at six weeks of age and again at twelve weeks of age. If your baby is discharged before six weeks, his eyes should be checked in our ophthalmology outpatient department at eight or nine weeks of age. An appointment will be made for you.

Your Baby's Hearing

Any babies considered to be at risk for hearing deficits will have a hearing screen done prior to discharge or transfer in most instances. Some infants may be transferred before they are old enough to be tested. The referring physician will be told of the need for a hearing screen. The results of these hearing screens will be reported to the infants' neonatologist who will discuss the results with you, most likely on your return to clinic for a follow-up visit.

If you are aware of any family history of hearing problems at birth, please tell your infant's neonatologist.

Back To Sleep

The American Academy of Pediatrics has recommended that infants be placed on their backs to reduce the risk of sudden infant death syndrome. When your baby moves to a bassinet, we will help you to position your baby on his/her back for sleeping. Toys, stuffed animals and extra blankets will be removed from the bed. When you take your baby home, "back to sleep" positioning should be continued. It is important for your baby's development that there is plenty of "tummy time" when your baby is awake. Putting your baby on his tummy helps strengthen the upper body and head while you are playing together.

Tests to Protect Your Child

Pennsylvania law requires that all newborns receive tests for phenylketonuria (PKU) and hypothyroidism, sickle cell disease, maple syrup urine disease (MSUD),* and other diseases that might cause mental retardation if they are not diagnosed and treated early.

These tests are provided by the Pennsylvania Department of Health at no cost to parents. These tests are done with the same drops of blood obtained by pricking the baby's heel and are performed at two and fourteen days of life and before discharge.

If any of these tests suggest a potential problem, you will be notified by your doctor and community health nurse. The doctor will make arrangements for other tests and for prompt examination and treatment of your baby. If you are not notified, you can assume that the results are normal.

The hospital will record the results on your infant's chart. You or your doctor may obtain the results from Health Information Systems at the hospital.

If you have any questions, ask your physician or nurse. Information concerning these diseases is available in the hospital nursery, by writing to the Pennsylvania Department of Health, Bureau of Children's Services, P.O. Box 90, Harrisburg, PA 17102, or by calling the toll-free State Health Line at (877) 724-3258.

*Exception is made for religious beliefs. If so, we are required to include a statement signed by the parent in the newborn's chart.

Vaccinations

Vaccinations against certain infectious diseases are an important part of all children's medical care. These may be started while your baby is in NICU. The doctors and nurses will discuss appropriate vaccines for your infant and ask for your consent to give these shots.

Research and Education

Our primary goal in the NICU is to provide the best possible care for your baby and you. As we care for your infant and the other patients in the NICU, we continually strive to refine the therapies we provide. To better understand how best to manage the unique problems of our patients, the doctors and nurses at Penn State Children's Hospital sometimes carry out projects to provide answers to specific questions that arise during the daily management of sick infants.

As a parent, you may be asked if you would allow your baby to participate in one of these projects. You are always free to accept or decline participation for your baby and no infant is ever enrolled without written permission. Although the information gained from such research is very helpful to all who manage sick infants, the safety and well being of the babies in our NICU always comes first.

Another important mission of the Penn State Children's Hospital is to educate the doctors, nurses, therapists and others who will care for sick infants in the future. Accordingly, students visit our NICU to observe the care given to the babies by professionals who have already completed their training. All students are supervised by the attending physicians and head nurses during their experience in our NICU.

Things You Might Want To Know

Ask your infant's nurse or see the parents information bulletin board posted in the unit for further details about the following:

- Social Worker
- Local motel accommodations
- Ronald McDonald House
- Hospital baby photo
- Photographing your baby with your camera
- Parent Education
 - Infant CPR instructions
 - Other videos

Understanding Our Language

While we encourage you to spend time in the unit with your baby, we sometimes forget that much of what is said might be unfamiliar or perhaps alarming. Below we have defined some of the terms you are likely to hear. You might want to read this section from beginning to end, or you may wish to use it as a reference when you have any questions. Again, we remind and encourage you to ask us about words and expression we use that you do not understand.

ABDOMINAL FILM: An x-ray picture of the abdomen, showing the stomach and intestines (see KUB).

ACIDOSIS: Too much acid in the body (see pH).

ANEMIA: The condition of too few red blood cells or a low level of blood hemoglobin.

ANTIBIOTICS: The drugs used in treating bacterial infections either to kill bacteria or slow their growth.

APNEA: The condition of not breathing; very common in premature infants but usually lasting only a few seconds; if more severe, might require specific treatment, such as a ventilator or medications.

BAGGING: Pumping air or oxygen into a baby's lungs by squeezing a bag of air into a mask placed over the baby's mouth and nose, or through an endotracheal tube.

BILILIGHTS: Another name for Phototherapy.

BILIRUBIN: A yellow pigment normally present in blood of babies. If levels become too high the condition is referred to as jaundice and the baby will be treated with bililights (phototherapy).

BLOOD GAS: A laboratory measurement including pH (measure of acid), pCO₂ (carbon dioxide), and pO₂ (oxygen) in the blood; most important measurement of how the lungs are functioning.

BRADYCARDIA: A heart rate that is slower than normal.

BRONCHOPULMONARY DYSPLASIA: A lung condition that requires long term use of oxygen or a ventilator. This condition is usually the consequence of an earlier lung problem (e.g. hyaline membrane disease, pneumonia, etc.), and resolves slowly. It is also referred to as chronic lung disease.

BROVIAC CATHETER®: See Central Line.

CARDIAC CATHETERIZATION: The introduction of a plastic catheter through a vein into the heart to make a precise diagnosis of congenital heart disease. Dye is injected and x-rays that show the heart and surrounding blood vessels are taken.

CARDIOLOGY: The specialty that deals with the heart and circulatory system.

CATHETER: A plastic tube inserted into an artery or vein for administering fluids or for removing blood for analysis (for example, an umbilical artery catheter).

CENTRAL LINE: A catheter placed in a large central vein to give fluids; may be inserted in the operation room or in the NICU. Called by various names including Broviac®, L-Cath, Per-Q-Cath®, PCVC.

CHEST FILM: An x-ray picture of the chest showing the heart and lungs.

CHEST TUBE: A plastic tube inserted through the chest wall and connected to an underwater seal; its purpose is to siphon out air that has collected between the lungs and chest wall (pneumothorax).

CIRCUMCISION: The procedure of removing the foreskin of the penis.

COMPUTERIZED TOMOGRAPHY (CT Scan): A computerized x-ray examination that allows visualization of the brain or other parts of the body. The dose of radiation received by the baby is very small (about equal to one chest x-ray).

CPAP (Continuous Positive Airway Pressure): A system using a tube in the windpipe or two prongs in the nose to deliver a continuous, expanding pressure to the lungs to prevent lung collapse; frequently used for babies with hyaline membrane disease or apnea.

CULTURE: A test in the laboratory to identify a possible infection by growing bacteria from the spinal fluid, blood, urine or other parts of the body.

CYANOSIS: A bluish coloration of the skin, lips and nailbeds due to insufficient oxygen in the blood.

EEG or EKG (Electrocardiogram): A record of the electric current produced by the heart muscle from which information can be obtained about the heart's structure and function.

ECHOCARDIOGRAM: A method of visualizing structures inside the heart using sound waves (ultrasound). This is not an x-ray and there is no exposure to radiation.

ECMO (Extracorporeal Membrane Oxygenation): Heart-lung bypass used to treat infants whose lungs are too sick to be supported with a ventilator.

EDEMA: The presence of too much fluid in the tissues; occurs in the feet, legs, hands and eyelids of small, sick babies and is usually harmless.

ELECTROLYTES: The chemicals, such as sodium, potassium and chloride that must be present in certain concentrations in the body for normal cell function. Electrolyte blood levels are checked frequently.

ENDOTRACHEAL TUBE (ET Tube): A plastic tube inserted into the windpipe (trachea) to provide continuous positive airway pressure (see CPAP) or artificial respiration to the baby's lungs.

EXCHANGE TRANSFUSION: The process through which most of the baby's blood (about 90 percent) is exchanged for adult blood; it is performed by alternately removing and replacing small amounts of blood over a one-to two-hour period through a catheter placed in the umbilical vein. Its main purpose is to treat severe jaundice.

GASTRIC ASPIRATE: The amount of formula remaining in a baby's stomach after a reasonable time for digestion (when stomach should be empty).

GASTROSTOMY TUBE (GT TUBE): A rubber tube inserted into the stomach through an incision in the abdomen; used to keep the stomach empty or to feed the baby.

GAVAGE (OR NG FEEDING): A method of feeding milk-through a small tube passed through the mouth or nose into the stomach.

GESTATIONAL AGE: The length of time from the first day of the last menstrual period to delivery; a full-term baby is born at the gestational age of 40 weeks (nine calendar months).

GLUCOSE: A sugar that is the principal source of energy for living cells. Blood glucose levels are checked frequently

GRAM: A unit of weight in the metric system; there are 28 grams in an ounce, 450 grams in a pound (a nickel weighs five grams); see conversion table on page 18.

HEART FAILURE: The failure of the heart to pump well enough to supply blood to the rest of the body.

HEEL STICK: A method of obtaining blood samples by pricking the heel of the baby.

HEMATOCRIT: A test to measure the concentration of red blood cells.

HOME HEALTH CARE NURSE: A specially trained nurse who visits patients and their families at home after the patient is discharged.

HYALINE MEMBRANE DISEASE: A disorder seen mainly in premature infants in which there is a tendency for the tiny air sacs (alveoli) of the lungs to collapse as the baby exhales; results in respiratory distress.

HYPERALIMENTATION: Intravenous nutrition given to infants who cannot yet be fed breast milk or formula. Also called hyperal or TPN.

HYPOCALCEMIA: A blood calcium level below normal.

HYPOGLYCEMIA: A blood sugar level below normal.

HYPONATREMIA: A blood sodium level below normal.

HYPOTENSION: Abnormally low blood pressure.

IM (INTRAMUSCULAR): An abbreviation for intramuscular; one way to give an injection (usually in the thigh).

INCUBATOR (OR ISOLETTE): The name of the plastic, house in which your baby is treated; allows a constant temperature to be maintained for the infant.

IV (INTRAVENOUS): Introduction of fluids into the vein, usually through a hollow needle.

INTRA VENTRICULAR HEMORRHAGE: Bleeding into the brain of premature infants. The condition is diagnosed by head ultrasound and ranges in severity from mild (grade I) to severe (grade IV).

INTUBATION: Insertion of a tube through the nose or mouth into the trachea (see endotracheal tube).

JAUNDICE: The yellow color of the skin due to an excess of bilirubin in the body; treated by using bililights (phototherapy).

KILOGRAMS (KILO): A unit of weight in the metric system, equal to 2.2 pounds (1,000 gram in a kilogram).

KUB (K-U-B): An x-ray picture of the baby's abdomen; literally means kidneys, ureters, bladder, but most often the film is taken to evaluate bowel gas patterns.

L-CATH: See Central Line.

MECONIUM: A dark green material in the intestine at birth; the first stool the baby passes.

MILLIGRAM: A unit of weight in the metric system used to measure some drug dosages; 1,000 milligrams in a gram.

MONITOR: An electrical device used to evaluate heart rate, respiratory rate, and blood pressure that is equipped with alarms to alert nursery personnel to changes.

MRI (MAGNETIC RESONANCE IMAGING): A method of visualizing structures inside the body using magnetic forces. A noninvasive procedure that is not an x-ray and does not use radiation.

MUCUS: The substance secreted by the membranes of the nose and trachea.

MURMUR: A sound made by blood flowing through the heart of major blood vessels that might indicate a heart problem.

NASAL CPAP: See CPAP.

NASAL PRONGS (NASAL CANNULA): Plastic tubing inserted into the nostrils to provide continuous oxygen.

NECROTIZING ENTEROCOLITIS (NEC): A disease of the bowel that occurs mainly in premature infants; treatment requires stopping oral feeding and starting intravenous feedings and IV antibiotics, usually for at least ten days.

NEONATOLOGY: The medical-specialty that deals with the diseases of newborn infants. (A doctor trained in neonatology is a neonatologist).

NG TUBE (NASO-GASTRIC TUBE): A plastic tube passed through the nose into the stomach and used for giving formula and medicines or for withdrawing stomach contents.

NPO (NPO, Nil per os): Stands for the order that the baby is not to be fed by mouth.

NURSING STAFF: The nurses employed by the hospital caring for your infant:

Primary Care Team Nurses: A group of registered nurses who are accountable for planning and implementing care for an infant and family. Each Primary Care Team has a Manager.

Neonatal Nurse Practitioner (NNP): Registered nurse with advanced education coordinating medical and nursing care under the direction of the neonatologist.

Clinical Nurse Specialist (CNS): Registered nurse with advanced education providing education and support to patients, families and staff in the NICU.

OXYHOOD: A plastic hood placed over the infant's head to permit delivery of a higher concentration of oxygen in the air the baby breathes.

O2SAT (OXYGEN SATURATION): A measure of the oxygen in the blood by use of a sensor wrapped around a hand or foot. No blood sampling is necessary.

PATENT DUCTUS ARTERIOSUS (PDA): Failure of a blood vessel (the ductus arteriosus) to close after birth. This can cause too much blood to flow to the lungs and heart and might require treatment; can be detected by a heart murmur.

PCO₂: A measure of the carbon dioxide in the blood.

PCVC (PER CUTANEOUS CENTRAL VENIOUS CATHETER): See Central Line.

PER-Q-CATH® Catheter: See Central Line.

pH: A measure of the amount of acid in the blood.

PHOTOTHERAPY: Special lights that help to reduce bilirubin by changing it in the skin to a form that can be more readily eliminated.

PNEUMONIA: Inflammation of the lungs; might be caused by infection or aspiration of material.

PNEUMO THORAX: The abnormal collection of air between chest wall and lungs (see chest tube).

PO₂: A measure of the oxygen in the blood.

PREMATURE: An infant born earlier than 38 weeks gestation (see gestational age).

PULSE OXIMETER: A device to measure the amount of oxygen in the blood. No blood sampling is necessary.

RED BLOOD CELLS (RBC): The cells in the blood that contain hemoglobin and carry oxygen.

RESPIRATOR (VENTILATOR): A machine that can breathe (ventilate) for a baby until lungs are able to do so independently.

RESPIRATORY DISTRESS SYNDROME (RDS): See hyaline membrane disease.

RETINOPATHY OF PREMATURITY: Abnormal development of the blood vessels supplying the retina of the eye. This condition occurs in premature infants. It can heal completely or can cause visual problems.

RETRACTING: The sucking in of a baby's chest during breathing (inspiration) as the baby uses muscles to breathe that are not usually needed; common among infants with respiratory distress.

ROOM AIR: The normal air we breathe that has an oxygen concentration of approximately 21 percent.

ROUNDS: The gathering of doctors, nurses and other hospital personnel to discuss the condition and treatment of patients; occurs twice daily in the NICU, usually from 9:00 a.m. to noon and from 4:00 to 5:00 p.m.

SEPSIS: An infection in the blood or other tissues.

SOCIAL WORKER: A person who specializes in helping you with all the nonmedical aspects of caring for your sick and/or premature infant, such as support, transportation, finances, family and so forth.

SPINAL TAP (LUMBAR PUNCTURE) (LP): Insertion of a small needle through the back into the spinal canal to obtain a sample of spinal fluid.

STOOL: A bowel movement.

SUCTION: Removal of mucus from the nose and throat or from an endotracheal tube using a plastic tube attached to a vacuum source.

SURFACTANT: A substance produced by mature lungs to allow for easy lung inflation. Manufactured surfactant is often placed into the lungs of premature infants who cannot yet make their own.

TACHYPNEA: The condition of breathing too fast; common among infants with respiratory distress.

TERM INFANT: (see gestational age.) An infant with gestational age of 38 to 42 weeks.

TRACHEA: The windpipe.

TRANSCUTANEOUS MONITOR: Device used to measure blood gases through an electrode attached to the skin. No blood sampling is necessary.

ULTRASOUND: A method of visualizing structures inside the body using sound waves in a noninvasive procedure that is not an x-ray and does not use radiation.

UMBILICAL ARTERY (VEIN) CATHETER (UAC): The catheter placed in umbilical artery (or vein) to give fluids and to obtain blood samples for laboratory tests.

URINALYSIS: The laboratory examination of urine.

VENTILATOR: See Respirator.

WARMER BED: An infant bed with a warming device overhead to maintain normal body temperature. Allows easy access to sick infants.

Broviac® Catheter and PER-Q-CATH® Catheter are registered trademarks of C.R. Bard, Inc. and its related companies.

Suggested Readings:

Nance, Sherri: *Premature Babies: A Handbook for Parents*, Arbor House

The Premr Parents, Hospital for Sick Children, Room 1218,
555 University Avenue, Toronto, Ontario, Canada M5G 1X8

Caring About Kids, Public Enquires, National Institute of Mental Health,
5600 Fishers Lane, Rockville, Maryland 20857

The Premature Baby Book: A Parents Guide to Coping and Caring in the First Years,
Helen Harrison, St. Martin's Press

Newborn Intensive Care: What Every Parent Needs to Know, NICU Ink Book
Publishers, Jeanette Zaichkin, RNC, MN

The Essential Guide for Parents of Premature Babies: Premies, Pocketbooks, a division
of Simon and Schaster, Inc., Dana Wechsler Linden, Emma Trenti Pardi and Mia
Wechsler Doron, M.D.

Your Premature Baby: John Wiley and Sons, Inc., 1998, Frank P. Manginello, M.D.,
Theresa Foy Diferanimo, M.Ed.

WEIGHT CONVERSION CHART

	Ounces 0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Pounds 0	Grams	28	57	85	113	142	170	198	207	225	284	312	340	369	387	387
1	454	482	510	539	567	595	624	652	680	709	737	765	794	822	850	879
2	907	936	964	992	1021	1049	1097	1106	1134	1162	1191	1219	1247	1276	1309	1332
3	1361	1389	1418	1446	1474	1501	1531	1559	1588	1616	1644	1673	1701	1729	1758	1786
4	1814	1843	1871	1898	1928	1956	1984	2013	2041	2070	2098	2116	2155	2183	2211	2240
5	2268	2296	2325	2353	2382	2410	2438	2461	2495	2523	2552	2580	2608	2637	2665	2690
6	2722	2750	2778	2807	2835	2863	2892	2920	2948	2977	3005	3034	3062	3090	3119	3145
7	3175	3204	3232	3260	3289	3317	3343	3374	3402	3430	3459	3487	3516	3544	3572	3601
8	3629	3657	3685	3714	3742	3770	3799	3827	3856	3884	3912	3941	3969	3997	4026	4054
9	4082	4111	4139	4168	4196	4224	4253	4281	4309	4338	4366	4394	4423	4451	4479	4508
10	4536	4564	4593	4621	4640	4678	4706	4735	4763	4791	4820	4848	4876	4905	4933	4961
11	4990	5018	5046	5075	5103	5131	5160	5188	5216	5245	5273	5301	5330	5358	5386	5415
12	5443	5471	5500	5528	5557	5585	5613	5642	5670	5698	5727	5755	5783	5812	5840	5868
13	5897	5925	5953	5982	6010	6038	6067	6095	6123	6152	6180	6209	6237	6265	6294	6322

