GUIDE

NICU Parent Booklet

The Ottawa Hospital | L'Hôpital d'Ottawa

This booklet contains general information that is not specific to you. If you have any questions after reading this, ask your own physician or health care worker. They know you and can best answer your questions.

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In conjunction with the Neonatal and Perinatal Team

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Introduction

We admit babies to the Neonatal Intensive Care Unit (NICU), because they need specialized medical and nursing care. We recognize that this can be a very stressful and confusing time for you and your family.

Separation from your new baby is difficult. Understanding the needs of your baby will help you get through this difficult time. You may have many questions about the care your baby will receive. This booklet will help answer many of these questions.

Our first priority is the care and health of your family. We want to work with you to meet your baby's needs. Please ask questions or discuss concerns with your baby's nurse or doctor. We want to make your baby's stay with us as positive as possible.

Please call the NICU day or night if you have any questions or concerns about your baby. The Unit telephone number is 737-8899 ext. 78651/78653.

The Nursing Staff, NICU
The Ottawa Hospital

Telephone : 737-8899
ext. 78651/78653

Statement of NICU Philosophy

The staff of the Neonatal Intensive Care Unit believe in providing comprehensive family centered care to the neonate within a collaborative, multidisciplinary setting.

We involve the family in decisions about treatments and routines about their baby because we feel that this is their right. We recognize and respect individual and family needs, expectations and cultural beliefs. We provided highly specialized nursing care to babies and their family.

"Who's Who" in NICU

There are many people caring for your baby. It is very confusing at first. In time you will learn who's who in NICU.

Nurses

Clinical Manager

The Clinical Manager is the manager of the NICU. She is responsible to make sure that the nurses provide excellent care to the babies. She is available to discuss any concerns you may have. Her phone number is 737-8899 ext. 78636.

Nurse Educator

The Nurse Educator is a registered nurse who provides education to the NICU staff and parents. She is available to discuss your concerns. 737-8899 ext. 78638.

Care Facilitator

The Care Facilitator is a Registered Nurse who coordinates the nursing care on a day to day basis. She is the liaison between the Doctors, Bedside Nurses and the Clinical Manager. She is available anytime to discuss your concerns.

Bedside Nurse

The Bedside Nurse is a Registered Nurse with special training in Neonatal Intensive Care. She provides direct care to your baby. Nurses work 12 hour and 8 hour shifts. Your baby will

therefore have several different nurses caring for him/her. Surprisingly, you will quickly get to know everyone.

Physicians

Neonatologist

A Neonatologist is a Pediatrician specially trained in the care of high risk babies. The Neonatologist supervises the medical care of your baby. There are several Neonatologists who take monthly turns supervising the NICU. They also take their turn covering on weekends.

Pediatrician

A Pediatrician is a doctor specializing in providing medical care to children.

Resident

A Resident is a qualified medical doctor training to be a specialist. In the NICU, we may have residents training to be Pediatricians, Anesthetists, Obstetricians, Perinatologists or Family Physicians.

Registererd Respiratory Therapist (RRT)

An RT has special training in cardio-pulmonary care. They play an active role in the management of your baby's breathing problems.

Other members of the team include Pharmacist, Dietician, Social Worker and Psychologist.

The NICU

As parents, you will be anxious and worried about your baby. As soon as possible, we will let you see him/her. During the first few hours of life, your baby will need many treatments and tests. These tests will vary, depending on the problem(s) your baby may have. The team will first weigh and examine your baby. They will also do X-rays and blood work. Following these tests we will start treatment according to your baby's special needs. The medical staff will discuss specific problems with you and explain the risks and complications involved. We will need your consent for some of these treatments. If you have questions about your baby, your nurse can organize a meeting with the doctors and nurses to discuss them.

The NICU gives specialized care to premature, low birth weight and/or sick newborns. We also care for babies with breathing problems or birth defects. Not all babies in the NICU are equally sick. Some babies require constant care and need special equipment such as IVs and respirators. Other babies only need minimal care and observation.

We cannot duplicate the environment of the mother's womb but we do try to provide the best environment possible. We use incubators and warmer beds to help control the amount of heat and moisture we give to your baby. We also try to reduce the noise and light level in the unit as much as possible.

NICU Routines

There is a lot of activity in the NICU. The following should give you some idea of the routines in the nursery. Lets discuss them.

Every shift starts and ends with the nursing staff reporting to each other on how your baby is doing. We discuss all areas of care of your baby. We discuss any tests that have been or will be done and concerns or wishes of the parents. The nurses report everything in detail to each other to make sure everyone is aware of your baby's special needs.

One nurse looks after one to three babies. The number of babies she looks after depends on the amount of care each baby needs. Someone is always watching your baby, even when your baby's nurse takes a break.

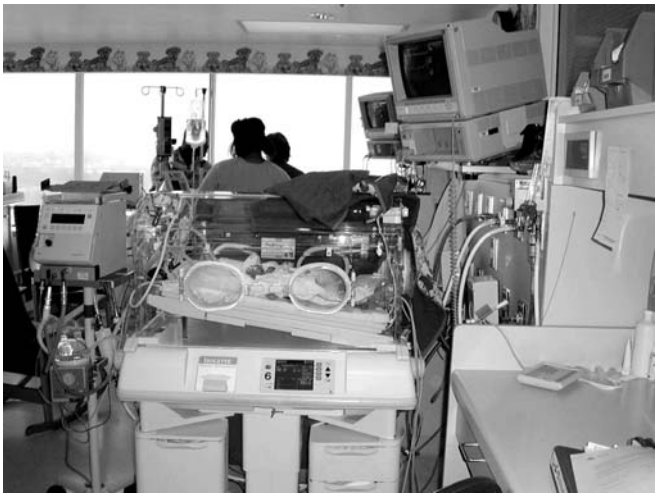
Your baby's care is very similar from one shift to another.

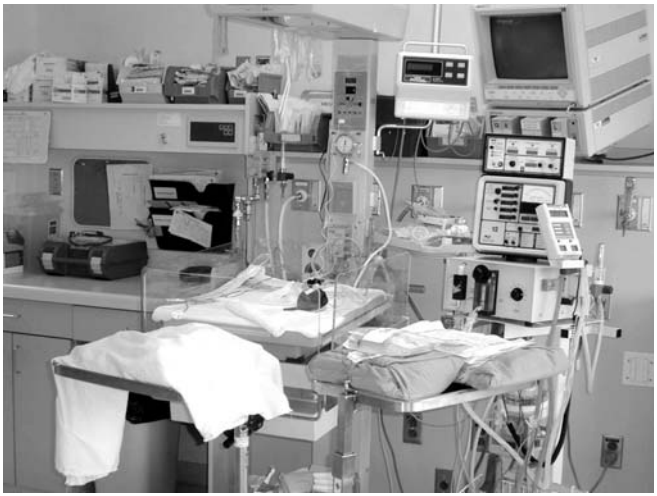
- We take your baby's temperature, blood pressure, heart rate and breathing rate.
- We feed the babies every 2 to 4 hours. We change their diaper and their position. We also do skin, mouth and cord care.
- The nurses check the IVs, give medications and suction your baby if needed.
- We weigh and bath the babies during the evening or night shift. Every 7 days we change your baby's incubator. We measure your baby's head, chest and length to see how he/she is growing.
- The Respiratory Therapists help with your baby's care. They assess the heart and lungs of all babies on respirators at the beginning of each shift.
- Doctors see all the babies during rounds. We have rounds in the morning and late afternoon. The doctors are always in contact with the nurses between these rounds as needed.
- When needed, specialists ultrasound your baby's head and examine your baby's eyes.

Your First Visit

You will first enter a small room. This small room has a sink and a parent information bulletin board. We suggest that you read this board frequently for updated information. You will remove all hand jewellery and watches. You will then wash your hands from fingertips to elbows. Handwashing is very important in keeping your baby's environment as clean as possible. Premature babies are at high risk for infection. You will need to wear a cover gown ***only*** when you hold your baby. You will tell the unit clerk that you wish to visit your baby. She will announce your arrival to the nursing staff. When you first enter the unit, you will see a lot of equipment around your baby. Although your baby may be very small, the amount of large equipment will make him/her look even smaller.

Your baby will be in an incubator or an open care bed, known as a radiant warmer. Your baby will be naked or only wearing a diaper. This allows us to see as much of your baby as possible. The incubator provides warmth and humidity to your baby to keep his/her temperature stable. You may see a small probe on your baby's stomach. This probe monitors your baby's temperature. The incubator will automatically warm up or cool down, depending on your baby's temperature.





Your baby may have on a hat, mitts and booties. These are hand made by volunteers. They help maintain your baby's temperature and prevents your baby from pulling on his/her tubes and wires.

Alarms and bells ring frequently. This noisy and high tech environment can be overwhelming for parents. Please ask questions or discuss your concerns with the nursing staff.

Touching Your Baby

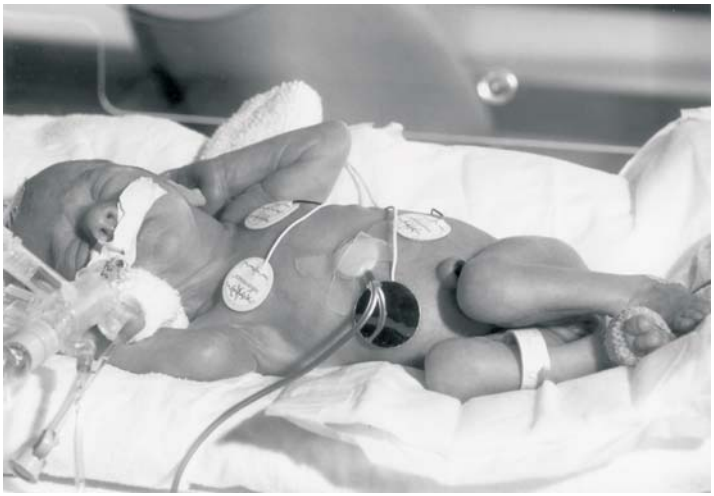
Sometimes it is not possible to hold your baby right away due to his/her condition. We do however encourage you to touch and caress your baby. This interaction will help you to bond with your baby. However, you must look for stress signs in your baby before touching him/her. Ask the nurse to teach you about these stress signs. There may be times when the nurse will ask you not to touch the baby because of tests or treatments. Babies need attention but they also need quiet time to grow. Touch is an important part of your baby's growth and development. However, too much touching can be stressful. A firm hand over a baby's back can be more calming than a single finger stroking their arm or leg.

What to Expect

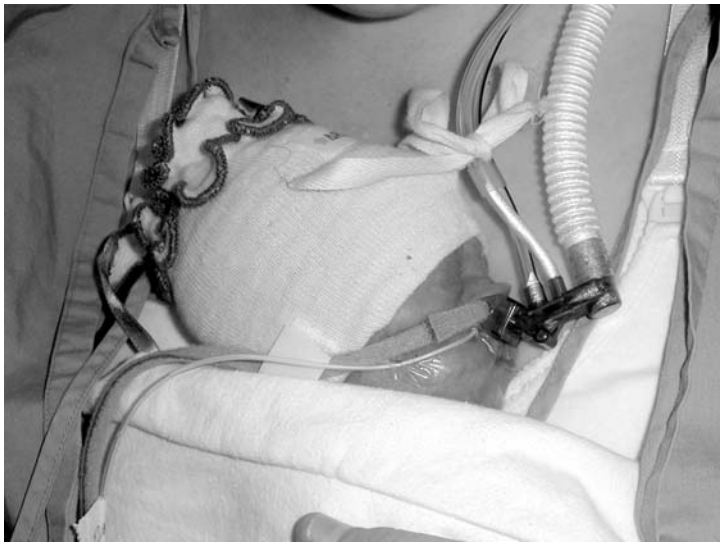
Breathing Problems

Many babies in NICU have trouble with their breathing due to underdeveloped lungs. Your baby's doctor, nurse and respiratory therapist will choose the right treatment for your baby's breathing problems. We often use respirators or Nasal CPAP to help your baby breath.

A VENTILATOR or RESPIRATOR, is a machine that helps your baby breath. The respirator may be doing all the baby's breathing or just part of it.



NASAL CPAP, are small prongs that we insert inside the baby's nostrils. This equipment provides small amounts of air and oxygen into the baby's lungs. This air keeps the lungs partially expanded. Nasal CPAP makes it easier for the baby to breathe.



NASAL PRONGS provide very small amounts of oxygen through a clear tube that ends at the opening of the nose.

X-rays

X-ray machines have special parts to take safe pictures of very small babies in NICU. We need these pictures to understand why your baby is sick. We try to do as few as possible.

Apnea and Bradycardia ("Spells")

Apnea is when a baby stops breathing for more than 20 seconds. This is common with premature babies. Bradycardia is a heart rate less than 100 beats per minute. Frequently, when babies have apnea, they also have bradycardia. You may hear the nurse refer to these as "dips" or "spells". Sometimes the nurses need to stimulate babies during a spell. Other times, babies need medication to help control these spells.

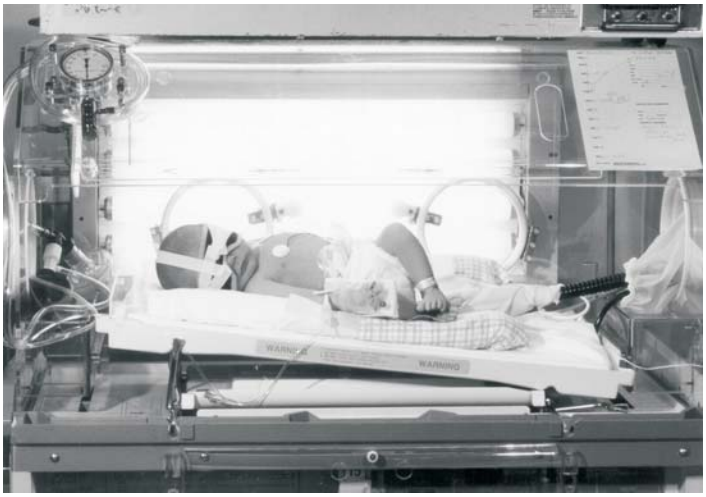
Monitors

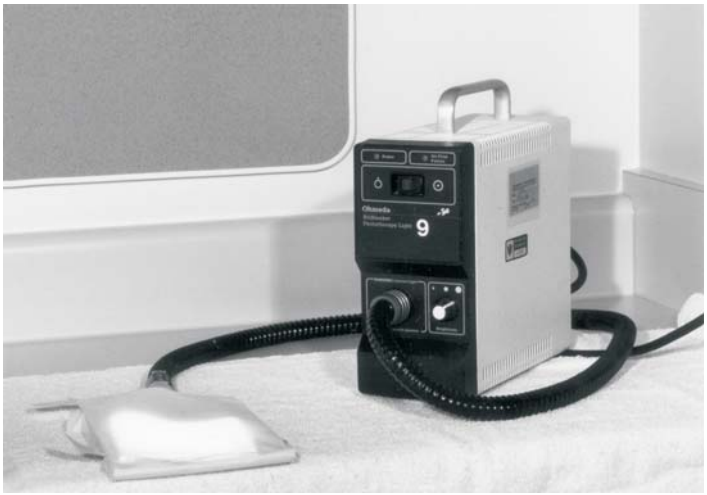
All premature babies are on monitors. The monitors show us the heart rate and breathing rate. The monitor will alarm during a spell. These monitors can be very sensitive to movement and sometimes alarm when the baby is active.

Neonatal Jaundice

About 80% of all premature babies develop jaundice in the first few days of life. This is from an excess of bilirubin in the blood that causes the baby's skin to turn yellow. If your baby has jaundice, he/she may require phototherapy. Phototherapy helps to break down the bilirubin in the blood stream. The baby lies under fluorescent phototherapy lights placed over and around the incubator. Your baby's eyes will be covered with eye patches to protect them.

Biliblankets on the other hand are fiberoptic blankets that the baby lies on. These blankets concentrate on a much smaller surface and take less room. When using the Biliblanket your baby does not need to wear eye patches.





Transfusions

Premature and ill babies may require blood products. All blood products go through special preparations and testing. Our policy is to use blood products only when necessary.

Direct Donation

We only allow parents to donate blood to their babies if they meet the criteria. Please speak with the doctors or nurses if you wish to donate or have any concerns about transfusions.

Infections

Premature babies have an underdeveloped immune system. This means that they can easily get infections. The signs of infection in small babies are non-specific. However, an untreated infection can be very serious. If the nurses or doctors are the least bit concerned about infection, a "septic work-up" will be done. This includes a blood culture, a urine culture and a lumbar puncture (LP). We start your baby on antibiotics while we wait for the test results.

Feeding Your Baby

Nutrition is a very important part of your baby's growth and development. The dietician, doctors and nurses will assess your baby's nutritional needs. Some babies are too small or too weak to suck. Their digestive system is immature and they may not tolerate feedings. At first your baby may only receive intravenous fluids. This fluid is a mix of nutrients and sugar given through a vein to help him/her grow.

After a few days, your baby may begin feeding. However, your baby may not be old enough or strong enough to suck and swallow. We insert a small tube through the nose into the stomach. We call this a nasogastric or NG tube.

We give small amounts of breast milk or formula through this tube. We call this a gavage feed. At first we may only give less than a teaspoon. As your baby grows, his/her digestive system develops. We increase the amount of feeds based on your baby's growing needs. Please tell the nursing staff if you plan to breastfeed.

Until your baby can coordinate sucking, swallowing and breathing, a pacifier may be given to encourage sucking. Even premature babies have the instinct to suck. Around 32–34 weeks corrected age, and sometimes sooner, your baby can feed by bottle or by breast. At first this may only be once or twice a day. If the baby gets tired during a bottle or breast feeding, we give the remaining of the feed by gavage. We want you to participate in as many feedings as possible. With your help we can create a feeding schedule that suits you and your baby.

Breastfeeding

All babies benefit from breast milk, especially ill or premature babies. Breast milk is tailor made to meet your baby's needs. Breast milk is easy to digest and the antibodies in your milk help to protect your baby against infection. To get your milk flowing, your mother-baby nurse will help you pump your breasts. This will maintain your milk supply until your baby is ready to nurse. She also can give you information about breast pump rentals.

Your nurse will give you the hospital ***Breast Feeding Booklet*** that covers a variety of related topics. Please pay close attention to the section on *pumping and storage of breast milk*. For other reference books on breast feeding, please refer to the suggested reading list.

We have a small fridge and freezer to store fresh and frozen breastmilk. We ask that you only bring in enough breastmilk to last 48 hours

Two family resource rooms are available within NICU for breast pumping and breastfeeding. An electric pump is available in each one of these rooms. These rooms are available for you to use while your baby is in the NICU.

Visiting Your Baby

Leaving the hospital without your baby is very difficult to do, especially if you live far away. However, your baby still needs your love and attention. We encourage you to visit as much as possible. Your visits will help you and your baby to get to know each other. Your baby will recognize your voice and touch.

Feel free to call 24 hours a day. The NICU staff will be happy to discuss your baby's condition with you. We will involve you in your baby's care as soon as possible. The NICU nurses will help you to change your baby's diapers, feed your baby and bath your baby.

NICU Parent Guidelines

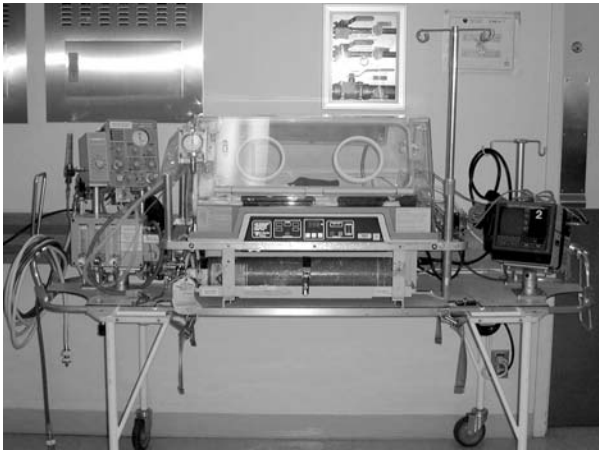
- Parents can visit 24 hours a day. Others can visit but only with a parent during specific times. We allow 2 people at the bedside at a time.
- Please wait to be announced into the unit before entering. If no one is present at the front desk, use the intercome system.
- Remove all jewelry and wash hands before entering the nursery.
- Parents/visitors must leave the bedside during shift change and patient rounds. Shift change takes place between 07:00 and 07:30 AM and PM. Patient rounds start at 09:30 daily. We also will ask you to leave when we are doing a procedure on your baby or another baby in the room.
- To protect the health of all babies in the NICU, anyone having or who has been in contact with someone with the following conditions cannot visit:
  - vomiting
  - fever
  - sore throat
  - runny nose
  - diarrhea
  - meningitis
  - measles
  - mumps
  - whooping cough
  - German measles
  - chicken pox
  - cold sores.
- We only give information about the babies to parents. This is to protect confidentiality.

- You can bring in small toys or a tape recorder for your baby. Please make sure that these toys are washable and clearly marked with your baby's name. The hospital is not responsible for any lost items.
- We do not allow any food or drinks in the unit.
- The Ottawa Hospital is a non-smoking institution. Please respect this policy.
- We do not allow cellular phones in the unit because they can interfere with your baby's monitors and equipment.
- We encourage you to bring in clothing for your baby. Please ask your nurse for more information.
- The NICU is a scent-free environment. Please avoid wearing perfume while visiting the NICU.
- Accommodation is available at Rotel and Ronald McDonald House. Please contact the social worker for more information. 737-8899 ext. 78976.

Hospital Transfers

Some babies require cardiac or surgical care. We transfer these babies to the Children's Hospital of Eastern Ontario (CHEO). They travel to CHEO by way of the inter-hospital walkway. A nurse, porter and a physician or a respiratory therapist goes with your baby. Your baby returns to the Ottawa Hospital when he/she is better.

When your baby no longer needs to be in the NICU, we may transfer him/her to the Civic Campus Special Care Nursery (SCN) or to another hospital. Many times, babies return to their original hospital. A transfer to another hospital is a step closer to going home.



Back Transfers

If you live out of town, we will try to transfer your baby to a hospital closer to your home. It is not always possible but we will always try. We can arrange for you to visit the other hospital's nursery before transferring your baby. Let your nurse know if you wish to do so.

Research

Neonatology is a branch of medicine. Researchers develop new treatments to improve newborn care. Because there are so many unanswered questions, research plays a very important role in Neonatology.

Sometimes there are several research studies in the NICU. We may ask you if your baby can participate in one or more of these studies. The investigator(s) involved will be happy to discuss the study with you. We want to make sure that you fully understand the study before you consent. Your participation in these studies will make a difference to the care we provide to sick babies in the future. Your decision to participate or not in any study will not affect the care that your baby is given in any way. You are free to accept or refuse to participate.

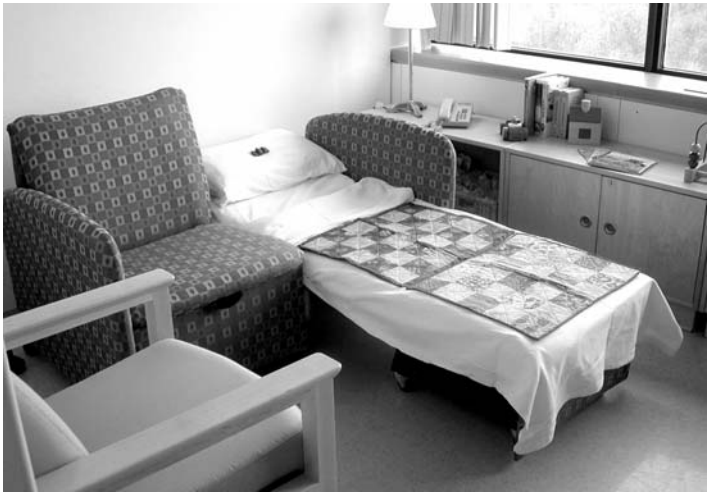
Preparing for Discharge

Finally, the day will come when your baby is ready to go home. Hospitals have different rules for deciding when babies are ready for discharge. You will need to discuss this with your baby's doctor.

Before discharge your baby must:

- maintain his/her own body temperature
- breathe well and not have spells
- feed from the breast or a bottle
- show a continual weight gain.

There is no specific weight target before discharge. A few days before your baby comes home, we encourage both parents to spend a full day and night in the NICU. You will provide total care to your baby. You may sleep in one of the family resource rooms with your baby. The nurses will be available to answer any questions you may have.



Your Feelings

Like most NICU parents, you may experience mixed emotions about your baby's health and well being. You did not expect to have such a small baby or to leave the hospital without your baby in your arms. You may find it difficult to get through this experience without some stressful moments.

Feelings of anxiety, frustration, fear and anger are normal. You may feel your baby is less than perfect. You also may feel that the hospital staff is replacing you (at least temporarily) as parents. You may be uncertain about your baby's condition and future. The hospital staff want to help you deal with these normal feelings. We want to help your baby through this difficult time as well.

It is perfectly normal for parents to feel irritable and blue when their baby is sick. It will help if you talk about it with each other, or someone close to you. You may wish to talk about your feelings with a member of the NICU staff. The Neonatal Social Worker and Psychologist are available to talk with you and help you sort out some of your feelings. We are all here to help you in any way we can.

To cope with a baby in NICU can be very difficult and no one expects you to do it alone. Sometimes it helps to share your feelings with other NICU parents. They may express the same frustrations you are feeling.

CPR (Cardio-pulmonary Resuscitation)

It is not likely you will ever need to use CPR on your baby. However, infant CPR is something all parents should learn. The NICU staff can give you information about when and where these courses are offered. Please register early.

Follow-up Program

For certain families, when your baby is finally home, the NICU staff hope to keep in touch with you through the Neonatal Follow-Up Program. This program helps to monitor your baby's growth and development. We want to see you and your baby at 4,10, 18 months and 4 years of age. The program holds clinics at CHEO in the C6 clinic on the main floor of the hospital. We will make your first follow-up appointment for you before your baby goes home. Ask your nurse for more information about the follow-up program.

Resources in the Community

Public Health Information Line (Ontario) 724-4179
- Post Partum Concerns
- Breat Feeding
- Mother Risk
- Healthy Baby, Healthy Children
- Telehealth

Multiple Births Canada ..... 1-866-228-8824 (toll free)

Multiple Births Families Association (Ottawa) 860-6565

C.L.S.C. of your area (Québec) .....

Association Parents Enfant Prématuré 1-514-523-3974

Recommended Reading List

There are many books available on prematurity and baby care. Here are a few you might find helpful. Your local library or book store can help you find the book you need. Some of these books may be available in the family resource room.

Some books deal with medical problems that can be frightening. Please remember that not all of the information you read applies to your baby. Books review all of the possible problems that a premature baby might have. Your baby is an individual and may not follow the book.

If you have any questions about your baby's care or medical problems, speak to the nurses and doctors. They can explain your baby's particular problems. This may lessen many of your concerns.

1. *The Premature Baby Book:* by Helen Harrison, St. Martins Press, New York, 1983.
2. *Born Too Early:* by M.E. Radshaw, RPA Rivers and P.B. Rosenblatt, Oxford University Press, Oxford, 1985.
3. *Dear Parents of Premature Babies:* Family Experiences with Premature Birth by Nancy Shosenberg and Kathy Lennon, R.N., 1982.

4. *The Nursing Mother's Companion:* by Kathleen Huggins, Harvard Common Press, Boston, 1986.

5. *The Womanly Art of Breastfeeding:* La Lèche League International, Fourth Revised Edition, 1987.

6. *Bestfeeding: Getting breastfeeding right for you,* by Renfrew, M., Fisher, C. & Arms, S., Celestrial Arts, 1990.

7. *Parents' Guide Development of Low Birth Weight Infants:* Susan Oschendorff Thurker, Linda Brookshing, Armstrong – Texas, Children's Hospital.

8. *Kangaroo Care: The best you can do to help your premature infant,* by Susan M. Ludington-Hoe & Susan K. Golant, Bantam Books, New York, 1993.

9. *Newborn Intensive Care, What Every Parent Needs to Know,* by Jeanette Zaichkin, NICU Ink, Petaluma, CA, 1996.

10. *Manuel de références: Programme d'aide postnatale aux parents*, by Groupe Communication Canada, 1993. (Also available in English)

Glossary of Terms

Apnea: Lack of breathing for greater than 20 seconds, usually temporary.

Aspiration: Material breathed into the windpipe or lungs. Also means to remove material by suction.

Bagging: A procedure using a bag and mask that helps a baby breathe. First we cover the baby's mouth and nose with the mask. Then we squeeze the bag that pushes the air and oxygen into the baby's lungs.

Bilirubin: A breakdown product of red blood cells that causes jaundice; a yellow colouring of the skin.

Blood Gas: We take a small amount of blood and test it for oxygen and carbon dioxide levels. We adjust your baby's respiratory care based on these results.

Bradycardia: A slower than normal heart rate.

Chest Tube: We insert a tube through the chest wall, between the ribs, and connect it to a suction bottle to treat a pneumothorax.

Corrected Age: This is your baby's present age. To figure out your baby's corrected age follow the example below:
Example:
Age at time of birth = 32 weeks gestation (8 weeks premature) + 4 weeks since birth = 36 weeks corrected age.

CPAP: Stands for Continuous Positive Airway Pressure. This is a way of helping your baby breathe easier.

Electrode: Also called a probe, sensor, disk, pad or wire. We tape these to the baby's body. These probes pass signals from the heart, lungs and skin to the monitors.

Gavage Feeding:	Also called tube feeding. We insert a small tube through the mouth or nose into the stomach to feed the baby.
Intravenous (IV):	Intravenous means through a vein. Fluids runs through a hollow needle or soft tube into the vein.
Intubation:	Insertion of an endotracheal tube through the nose or mouth, into the windpipe to help the baby breathe.
Jaundice:	The yellow colour of skin caused by too much bilirubin in the blood.
Lumbar Puncture:	We insert a hollow needle in between the vertebrae of your baby's lower back to obtain a sample of spinal fluid.
Meconium:	A dark green material found in the baby's bowels at birth. The first stools the baby passes.
Mucus:	The fluid secreted from the nose and windpipe.
Neonate:	A newborn infant.
Pneumothorax:	A condition where air escapes from the lungs into the chest cavity and collapses the lung.
Sepsis:	This is an infection in the blood or other tissue.
Spell:	A period of apnea or bradycardia.
UAC:	Umbilical Artery Catheter is a small plastic tube placed in one of the arteries of the umbilical cord. Blood can be taken from the baby for testing and fluids can be given to the baby through this tube.
UVC:	Umbilical Venous Catheter is a small plastic tube placed in the vein of the umblical cord. Blood can be taken from the baby for testing and fluids can be given to the baby through this tube.

Notes

If you want to support the work of professionals working in the ***Neonatal Intensive Care Unit***, you can make a donation by sending a cheque to:

The Foundation of the Ottawa Hospital
737 Parkdale Ave., 1st Floor
Ottawa, Ontario
K1Y 1J8
(613) 761-4295

Please make your cheque payable to The Foundation of the Ottawa Hospital. Specify that you want your donation dedicated to the ***NICU Fund***.

Your donation will touch the lives of many and will be deeply appreciated.

Weight Conversion Chart

oz. →	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
lb.↓	g ↓															
0		28	57	85	113	142	170	198	207	225	284	312	340	369	387	425
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	2126	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	3686	3714	3742	3771	3799	3827	3856	3884	3912	3941	3969	3997	4025	4059
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