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Ministry of Health
Republic of Armenia

Coordinated with the
Ministry of Health
of the Republic of
Armenia

Born Too Soon

A Care Guide for Mothers of Premature Babies



Center of Excellence for Prevention of Childhood Blindness

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Bringing Sight to Children's Eyes



What to Expect

The arrival of a child is always met with a mixture of excitement and a sudden rush of questions, especially in the case of a premature baby. These children will have needs and requirements that vary from children who are carried to full term.

This guide will help to answer questions and concerns faced by parents of premature babies and provide them with a good foundation of information of what to expect when a child is born prematurely.

Premature babies have not had as much time to grow and develop within the womb. As such, the risk of development for certain disorders is relatively high among such children. These disorders are either associated with reasons causing premature births, or are the expression of physiological and anatomic development specifications of the child.

The prematurely born babies commonly have:

- Thin skin or poorly developed fat sub-layers - risk of easy loss of body temperature.
- Poorly developed tissues – risk of easy injuries.
- Weak chest muscles and an underdeveloped nerve system – difficulties in breathing.
- Poorly developed lungs.
- High risk of infection due to fragile immune system.
- Developing cerebral vessels – risk of internal injury.
- Fewer volume of circulating blood (hypovolemia) – excessive sensitivity to blood loss.

Prematurely born children are more sensitive to stress.

Taking these factors into account, the probability of requiring rehabilitation procedures for prematurely born babies is much higher than among children carried to full term.

Accordingly, when a premature birth is predicted by doctors, the pregnant woman normally should be transferred to a 3rd level neonatal care medical institution with specialized expertise and equipment. This allows for both mother and baby to be monitored and taken care of by medical professionals before birth.

Being moved to a 3rd level neonatal care medical institution also helps to relieve stress on the mother and child.

In addition, premature infants are more vulnerable in subject of losing body temperature. For this reason, the temperature in medical care unit premises is preserved around 28 C° to be comfortable for the babies.

Right after the birth, the infants are wrapped in heated blankets and placed under ultra-ray heaters. Children born prior to week 27 are wrapped in special polyethylene covers in order to provide additional warmth.

All infants born prematurely, depending on individual circumstances, need certain rehabilitation procedures which should take place only in specialized centers of obstetrics under supervision of neonatal experts.

After the rehabilitation, infants are transferred to neonatal intensive care units (NICU) in portable incubators, where they stay in organized special conditions.

Without medical proper care and supervision, the risk of disorders developing due to oxygen overdoses, especially retinopathy, is quite high among premature babies. For this reason special monitoring is performed with help of devices for oxygen density control in infants' blood.





Photo by Art Simon

Required Check up Procedures

As every parent knows, each baby is special in their own way. As such, premature babies will require a few special procedures. Parents of prematurely born babies should know that there are certain diagnostic procedures that must be performed in NICUs in order for the doctors to collect important information to ensure their child is receiving the best care possible. These procedures include:

- Neurosonography (performed first when the child arrives for rehabilitation in NICU)
- Retinoscopy (for infants born before week 34 with weight less than 2000 grams)-further check up schedule is then arranged by ophthalmologists.
- Hearing test (upon departure of NICU)
- Screenings against hypothermia and fenilketonuriya.

Infants are able to leave the NICU when they reach a weight of at least 1,800 grams. Further monitoring is performed in correspondent medical clinics.

Retinopathy of Prematurity

It is important for all premature babies to be assessed for Retinopathy of Prematurity (ROP). It is a potentially blinding eye disorder that primarily affects premature infants weighing less than 1,500 grams at birth or born in range of weeks 25-34.

ROP occurs when abnormal blood vessels grow and spread throughout the retina, the tissue that lines the back of the eye. These abnormal blood vessels are fragile and can leak, scarring the retina and pulling it out of position.



Photo by Art Simon



AECP Photo Archive

Required procedures

Premature infants born in weeks 25-26 undergo important eye screenings by an ophthalmologist no sooner than four/six weeks after birth, while babies born in week 31 must have an eye screening no later than one week after they are born.

The ophthalmologist examines the retina using an ophthalmoscope (or sometimes a camera) placed gently on the surface of your baby's eye. They may also use a speculum (to hold the eyelid open) and an indenter (to rotate the eye) to enable a better view of the retina.



Treatment

While there are various stages of ROP, severe ROP needs to be treated quickly to prevent further damage. This will usually be within 48 hours of the severe ROP being diagnosed although it maybe a little longer if your baby has to be transferred. The most effective proven treatments for ROP are laser therapy or cryotherapy. These procedures are conducted under general anesthesia.

Laser therapy "burns away" the periphery of the retina, which has no normal blood vessels. With cryotherapy, physicians use an instrument that generates freezing temperatures to briefly touch spots on the surface of the eye that overlie the periphery of the retina.

After treatment, your baby is likely to be given some antibiotic and steroid eye drops to prevent infection and reduce swelling. An appointment will be made for an eye examination about a week later when the ophthalmologist will check if the treatment has stopped the development of abnormal blood vessels. In most cases, one treatment is effective. Rarely, a second treatment will be needed approximately 2-3 weeks later.



AECP Photo Archive

AECP laser surgeon, Tadevos Hovhannisyán M.D. with children saved from blindness.



Frunzik Mikaleyán – baby boy examined on time and saved from blindness.



Maria Danielyán – baby girl examined on time and saved from blindness.

Since 2010, over 2,200 infants have been screened and 70 kids received free-of-charge high-quality laser procedures and saved from blindness.

Center of Excellence for Prevention of Childhood Blindness

Bringing Sight to Children's Eyes

The Armenian EyeCare Project (AECP), in cooperation with USAID and Ministry of Health of Armenia launched a three year program "Center of Excellence for the Prevention of Childhood Blindness" in 2012. The vision of the program is to make specialized eye care accessible to all children of Armenia and surrounding countries and eliminate childhood blindness.

This is the continuation of the national program "Prevention and Treatment of the Retinopathy of Prematurity" that the AECP carries out since 2010 in Armenia. To date, the AECP doctors are screening infant patients and performing laser procedures when required.

Acknowledgments

The content of this publication has been reproduced from information materials provided by:

USAID/HS-STAR Project – Brochure "Prenatal Care and Healthy Pregnancy" - Yerevan, 2011

World Health Organization - report "Born Too Soon: The Global Action Report on Preterm Birth" – Geneva, 2012

The BLISS (www.bliss.org.uk) – a special baby care charity in the UK, providing support and care to premature babies

The National Eye Institute (www.nei.nih.gov) - a body established by the U.S. Congress in 1968

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