



---

Information for Parents  
and Prospective Parents  
of Premature Pēpi/Babies  
between  
28 and 32 Weeks Gestation

---

Neonatal Service  
Christchurch



# Outcomes for premature pēpi born from 28 up to 32 weeks gestation cared for in the Neonatal Service, Christchurch

---

You may be about to deliver a premature pēpi or have recently done so. This booklet has been put together by staff and parents to help you through this very difficult and stressful time. The most important and immediate question parents ask is, “Will our pēpi survive and be healthy?” We will cover this and other similar questions.

The information given here does not replace what the neonatal staff caring for your pēpi will tell you, but we recognise that it is difficult for you to recall all you are told, especially in the first few days after your pēpi is born.

Premature, or preterm, covers any pēpi born before 37 weeks gestation. This booklet will cover issues relating to pēpi born from 28 up to 32 weeks of gestation. These pēpi are very preterm.

As a result of major advances in the neonatal intensive care offered to very preterm pēpi in the last 20 years, their survival and outcomes have greatly improved. Our own unit collects information on the survival and progress of the pēpi we care for each year. Since 1995, the neonatal intensive care units in Australia and New Zealand have sent their records to the Australia and New Zealand Neonatal Network (ANZNN), and the figures given in this booklet will be from this data.

Each pēpi is different and depending on the reasons for you having your pēpi early and the specific problems your pēpi faces, a clearer picture will be given to you over the first few days and weeks.



## Will our pēpi live?

---

The most important factor that affects survival is how many weeks your pēpi has had in-utero, or in the pregnancy. The starting point used to decide this is the first day of your last menstrual period (LMP). This information is usually confirmed by an ultrasound scan. Where there is a difference between your dates and the scan sizes of your pēpi, it is important that this is reviewed by you and your Lead Maternity Carer (LMC).

Survival is at or above 90% for pēpi born from 28 to 32 weeks gestation. This has been helped by giving steroids to the māmā/mother before delivery and delaying the delivery if it is safe to do so. Steroids have maximum effect on the lungs and other organs 48 hours after starting them, but we know shorter times can also be helpful.



## What problems will our pēpi have at 28-32 weeks?

---

### Breathing problems

Some pēpi at these gestations have lung problems due to immaturity, lack of their own surfactant (a lubricant that helps keep the airways open, and reduces the work of breathing), or because they had very little fluid (liquor) around them in the womb. If birth is required immediately after you come to the delivery suite, steroids may not have had time to enhance the lungs. These pēpi are more likely to need the help of a ventilator. We can also give them extra surfactant to help their lungs to function better. Others will be able to be managed on a CPAP (continuous positive airway pressure) machine to reduce the work they do breathing.

If breathing help is required, it is likely your pēpi will only need this for one-two weeks. Some pēpi may need low flow oxygen given by small tubes under the nose, and others will not have any problems at all.



*A baby on CPAP – small mask or soft prongs sit just on, or inside nose*

*CPAP machine*

## Bleeding

Bleeding into or around the brain occurs more frequently in pēpi born under 30 weeks gestation. Bleeding can be easily seen with ultrasound scans of your pēpi head. These scans are done routinely after birth if your pēpi is under 32 weeks or less than 1500 grams at birth. The bleeding may be small and in areas that don't affect brain development, such as in the ventricles. These usually resolve without causing damage to the brain. Large bleeds are uncommon, but if this happens the doctor caring for your infant will discuss with you how this might affect your pēpi in the long term. Sometimes the scan does not show up problems until four-six weeks of age. A scan is always repeated then so that more details of any affects can be given to you.

## Infections

Infections can cause your pēpi to become very sick. These may be the cause of your pēpi early birth. Most infections can be treated with antibiotics, however occasionally the body reacts so badly to the infection that recovery is not possible.

## Apnoea and Bradycardia

Pēpi born under 34 weeks gestation have an underdeveloped breathing control centre in the brain. There are times when your pēpi will forget to breathe, or have events where the heart slows and/or your pēpi oxygen levels fall. Because of this, your pēpi is always monitored continuously and alarms sound if the



*A baby cared for in an incubator*

measurements fall below the levels we set. These are safety limits and do not mean your pēpi will come to harm. We start them on caffeine, which is known to reduce these events.

## Will there be problems with how our pēpi develops and learns?

---

By the time your pēpi goes home, the team of people caring for your pēpi will have had time to discuss with you the overall progress your pēpi has made. With the help of the nurses, your pēpi will learn to feed and respond to you in increasing ways. Our physiotherapist will assess your pēpi body movements and reflexes, which progress as your pēpi matures. We will know the results of the early and later head ultrasound scans. Also the staff regularly examine your pēpi. All this information is used to predict the possibility of developmental problems that may lead to movement, hearing, eyesight, learning or social problems.

At 28 weeks the chance of a lifelong disability is between five and 10%, and learning problems around 15%. Even pēpi born at term have a 3% and 10% chance respectively of developing these difficulties.



*The Physiotherapist will assess your pepi development*

Regular checks at clinic with a paediatrician occur for up to 2 years. Some pēpi will be referred to a development follow-up monitoring service (usually under 30 weeks), and referral to an early intervention service will be offered if we identify significant known developmental issues.

## What are the common development problems our pēpi may have?

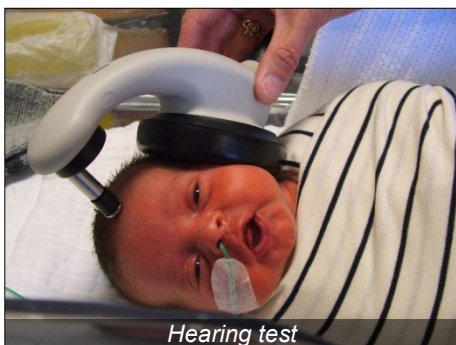
---

### Movement

Pēpi born before 32 weeks can have problems with low muscle tone (floppiness) or high muscle tone (stiffness). Both types of muscle tone can lengthen the time it takes for your pēpi to roll over, sit up by themselves, crawl and walk. Often the level of floppiness and stiffness reduces as the pēpi gets older, and the delays are less obvious by the time they are 2 years old. When problems appear to be caused by a permanent muscle tone problem, your doctor may refer to the particular problem as cerebral palsy. Even if this diagnosis is made, with help from a physiotherapist and developmental therapists most children improve and are able to walk.

Fine hand movements are also important for moving small objects, writing, drawing and feeding yourself. Again physiotherapy and occupational therapy can help children learn these skills.

### Hearing



Hearing can be affected more so in pēpi of less than 30 weeks gestation. If picked up early, there is a better chance of having understandable speaking skills. We test the hearing of all pēpi admitted to the neonatal service with an Automated Auditory Brain Stem response (AABR)



before discharge as part of the National Newborn Hearing Screening program.

Pēpi who do not pass this test will be referred to the Audiology Department at Christchurch Hospital. Some will have a further test in the first 2 years even if they passed the AABR screening. All children have their hearing checked again when they turn 4. If concerns develop between these checks let your GP or their paediatrician know.

## Eyesight

About 15% of our pēpi born under 30 weeks gestation show signs of immaturity in the development of their eyes, which is called Retinopathy of Prematurity. We check these pēpi eyes every fortnight from six weeks after birth until the blood vessels have reached the edge of the eye. Long-term problems are uncommon from 28 weeks, and if present, they are usually mild.

The more common problems, such as short and long sightedness and squints, can be treated with glasses or surgery if detected over the first few years of life. We arrange an outpatient eye check when your pēpi has been home for 6 months if they have had eye screening.

## Learning problems

It is difficult to predict long term learning problems from brain scans alone. Learning problems are more common the lower the gestational age of your pēpi at birth. Problems are more common (about 50%) in the very preterm, than in the older preterm (32-36 weeks), and in term infants. They may not be picked up until your child is at preschool or kindergarten and sometimes not until school, when problems with concentration, behaviour and skills such as reading, spelling and doing sums are found. With educational support most children do well and attend the local or school of your choice.

## Social development

From birth your pēpi will recognise your voice, smell and touch. Interacting with your pēpi in a gentle, calm way will help them feel safe and secure in their environment. At first they communicate socially in small ways, exploring their surroundings. You may see some of your own characteristics in your pēpi, as you get to know their individual personality. How you interact with them and encourage them to learn impacts their development in many ways. Seek help if you need assistance with getting to know your pēpi.



## How long will our pēpi stay in hospital?

The progress of each preterm pēpi is very individual and the time needed in hospital largely depends on how premature your pēpi is. Discharge timing is determined by how well he/she is doing with feeding and growing, how well he/she is able to keep warm in a cot and when their breathing problems have resolved. Pēpi born at 28-32 weeks will most likely be discharged a week or two before their due date.

Pēpi who are transferred to our neonatal unit from outlying hospitals will be transported back to these hospitals as soon as their care can be given at the referring unit close to home.

## How can we care for our pēpi when he/she is so sick?

---

This is an important question that all parents wonder about. The intensive care unit can seem very high-tech and at first you may feel quite uncomfortable while visiting your pēpi, as well as wondering where you actually fit in with regard to parenting. Remember no one can replace or challenge your parental role. It is important that you discuss any concerns with the nurses caring for your pēpi. Ask as many questions as you can think of so that you can become more informed. This may also help to reduce some of your anxieties.

It may not feel possible, but there are many things you can do for your pēpi even though they are so small and fragile. Even if your pēpi is preterm or sick, you will generally be able to touch him/her as soon as you see them. Placing your hand on your pēpi head, or where your pēpi can grasp your finger, may seem like small acts but are very important for you as parents and for your pēpi.

Talking and reading to your pēpi is good for later language development. Remember they have been listening to you talk during the pregnancy and are likely to recognise you both. We have books available for you to use.

### Expressing and providing breastmilk

Providing breastmilk is important for the care and health of your infant. Only a māmā own milk provides the building blocks required for a healthy infant, and even more so for an infant in the Neonatal Unit. Even if you are unsure of your long term feeding goals, we encourage you to provide colostrum (small amounts of milk in the first week) for your pēpi.

The hospital is set up to help you express for your infant and you will be given a colostrum pack to help you with hand and pump use.



- Early expressing – within the first hour after birth. Birthing Suite staff will help you express.
- Frequent – 8 times in 24 hours. Not by the clock but as often as you can, including once at night.
- Efficient – hand expressing or double pumping, using the electric pumps in Birthing Suite, Maternity or the Neonatal Unit. The pumps have a setting to reflect how a premature pēpi suckles. It is called the initiate programme and has been very successful helping māmā in those first days when everything is overwhelming.
- Pumping log – it is hard to remember a lot of things in those first days so a pumping log will help you keep track of your expressing. Remember, that in those first days it's not about how much you make but how often you express, getting those messages to the brain to make a milk supply. Even 0.2 mL is enough to boost your pēpi immunity to cope with life in the Neonatal Unit.

If you are unsure about whether or not to breastfeed your pēpi, you need to discuss this with a doctor or nurse on the unit.

The Christchurch Neonatal Unit has the Human Milk Bank, a service to provide screened and pasteurised donor breastmilk in the first week, if you consent. Pasteurised Donor Milk (PDM) is considered safer than formula for pēpi in the neonatal unit but cannot replace your own milk for quality, health and safety for your infant.

## Providing cares for your pēpi

Cares is a term used to describe such things as changing nappies, taking your pēpi temperature, and generally carrying out an assessment of your pēpi. At first they may seem very small and fragile and you may be too scared to touch pēpi.

We have introduced a concept called Family Integrated Care (FICare) so parents can be involved in a range of cares. There are often opportunities to learn different skills and to become independent and confident caring for your pēpi before discharge.

**Kiri ki te kiri / Skin-to-skin** care is a lovely way for you as parents to have close contact with your pēpi. Your pēpi is placed on your chest so that skin to skin contact occurs. The only thing your pēpi

will be wearing is a nappy. Warmth is maintained by placing a blanket over your pēpi, but more importantly by your own body temperature. Kiri ki te kiri enhances bonding and is an important process in the progress of your pēpi physical and emotional wellbeing. The nurse caring for your pēpi will discuss with you whether your pēpi is stable enough to manage a kiri ki te kiri.

We recommend that you do not use your cell phone during kiri ki te kiri.



*kiri ki te kiri cuddles*

**Quiet time** between 1.00pm and 3.00pm is a special time for parents only to spend with their new pēpi. We try and keep procedures and tests to a minimum during this time as well and keep the unit noise levels down to a minimum.

**Visiting times** can vary so please check with your nurse. Please ensure visitors are well – no coughs, colds, etc.



It is our philosophy that parents should be welcomed and encouraged to be with their pēpi at any time, even when their pēpi is very sick or receiving lifesaving treatment. You should be confident that your wishes would be respected in this matter. However, keep in mind that both you and your pēpi will need periods of rest.



July 2024

Authorised by: Clinical Director Neonatal Services

**Ref.2404836**

PRODUCED BY THE STAFF OF THE NEONATAL SERVICE,  
CHRISTCHURCH WOMEN'S HOSPITAL

**Health New Zealand**  
**Te Whatu Ora**