Antenatal Corticosteroids for Late Preterm Birth at 35^{+0} to 36^{+6} weeks

Whānau Information

Why give antenatal corticosteroids for late preterm birth?

Corticosteroids are a treatment given to wāhine/people just before birth when birth is likely to be preterm to help pēpi to survive and be healthy.

Corticosteroids are routinely given within a week before birth at less than 35 weeks of pregnancy (see Whānau Information on Antenatal Corticosteroids for Preterm Birth). There is less certainty about their use at late preterm gestations. This is because the overall risks for pēpi after preterm birth are less and so the balance of benefit and any potential risks is different.

Corticosteroids are currently not routinely recommended when birth is likely at 35^{+0} to 36^{+6} weeks of pregnancy in Aotearoa. However, it is recommended that for those with a high chance of late preterm birth, healthcare providers should discuss the balance of benefit and potential harm of their use. This Whānau Information has been designed to support that conversation so that you can make the **decision that is best for you.**

What is the evidence that helps us to decide?

In recent years clinical trials of corticosteroid use have become more focussed on late preterm gestations. The largest trial completed to date, called the ALPS trial, was carried out in the USA. Six other trials have also been published and their results, alongside the ALPS trial, are included in a 'systematic review and meta-analysis' study. This means a world-wide search was undertaken to find all the relevant research trials on this topic and then results across trials were combined to get the best quality of evidence on the effects of corticosteroids. These trials included a total of 4144 pēpi and their whānau.

What are the benefits for pēpi of corticosteroids after 34^{+0} weeks?

Lower chance of breathing problems

ALPS trial results:

- A 33% lower chance of severe breathing complications (8.1% vs 12.1%).

Systematic review results:

- A 32% lower chance of needing breathing support after birth (10.9% vs 16.0%).

What are the risks for pēpi of corticosteroids after 34^{+0} weeks ?

Higher chance of low blood sugar level (called neonatal hypoglycaemia) after birth

ALPS trial results:

- A 60% higher chance of neonatal hypoglycaemia (24.0%, vs 15.0%).

Systematic review results:

- A 61% higher chance of neonatal hypoglycaemia (12.5%, vs 20.1%).

Not all trials routinely checked blood sugar levels

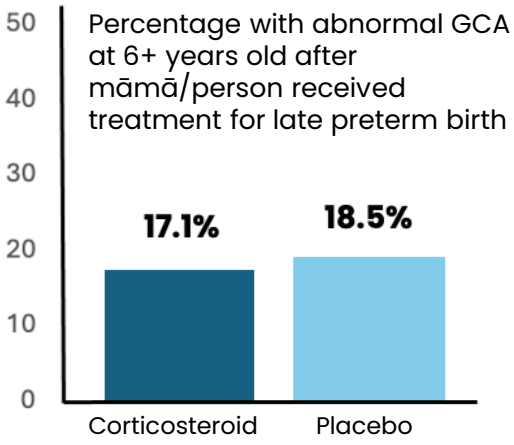
There was **no significant difference in rates of admission to NICU** (neonatal intensive care) in the ALPS trial (41.8% vs 44.9%) or in the systematic review (32.0% vs 38.1%)

Antenatal Betamethasone for Women at Risk for Late Preterm Delivery Study (ALPS) (2016). DOI: 10.1056/NEJMoa1516783
Antenatal corticosteroids for impending late preterm (34-36+6 weeks) deliveries: A systematic review and meta-analysis of more than 4144 babies (2021) DOI: 10.1371/journal.pone.0248774

How common is a low blood sugar level for pēpi (neonatal hypoglycaemia) and what are the risks of it?

Pēpi often drop their blood sugar level after birth. This is called neonatal hypoglycaemia if it falls below a certain level. Neonatal hypoglycaemia is more common in preterm pēpi, pēpi that are sick, small or large for their gestational age or born to māmā/people with diabetes in pregnancy. All these pēpi (including those born preterm) routinely have blood sugar level checks in the first 12-24 hours after birth (using a heel prick test) and hypoglycaemia can be easily treated. After late preterm birth the chance of neonatal hypoglycaemia is about 10-20%, but maybe much higher for those with diabetes in pregnancy and/or other complications (up to 50%).

Research studies looking at neonatal hypoglycemia caused by a variety of reasons show varying results. Some have suggested that low blood sugar levels in the newborn period are linked with poorer brain development including one study that closely assessed children at 4-5 years of age. Interestingly, this same study reassessed the same children once they were aged 9-10 years and found no difference in formal educational achievement testing. Tamariki/children who had neonatal hypoglycaemia were less likely to have problems with reading than those who did not have low blood sugar levels.



What about longer-term wellbeing after late preterm corticosteroid use?

In 2024, the ALPS trial published a follow-up study which included just under 1000 of the pēpi born to māmā/people in the original trial. These tamariki/children were assessed at age 6 years or older. The researchers used a 'general conceptual ability' (GCA) score as the main outcome of interest. This is a recognised way to assess neurological development. The use of corticosteroids prior to late preterm birth, including for those who had neonatal hypoglycaemia **did not have any affect on the chance of a low GCA score or any other measurement of learning, intelligence, behaviour and motor function. Corticosteroids did not affect tamariki/children's development in any way.**

Neurodevelopmental Outcomes After Late Preterm Antenatal Corticosteroids: The ALPS Follow-Up Study (2024) DOI: 10.1001/jama.2024.4303.

A summary of antenatal corticosteroids for late preterm birth

- Corticosteroids are not routinely recommended before birth at 35^{+0} to 36^{+6} weeks of pregnancy
- Your doctors and midwives will talk to you about the benefits and potential risks of their use if preterm birth at these gestations looks likely
- Corticosteroids reduce the chance of pēpi having short term breathing problems
- Corticosteroids probably increase the chance of pēpi having low blood sugar levels after birth
- Blood sugar levels should be checked for all preterm pēpi regardless of corticosteroid use
- Evidence from a high-quality research trial is very reassuring about the longer-term safety of corticosteroid use at 35^{+0} to 36^{+6} weeks.

Current research in Aotearoa

Birth by a caesarean section before labour has started is likely to further increase the chance of short-term breathing problems for late preterm pēpi. Two research studies in Aotearoa and Australia are specifically focussing on the effects of corticosteroids before a caesarean section birth for wāhine/people giving birth at late preterm and term gestations. If your late preterm birth is planned to be by caesarean section, you may be invited to participate.

The **C*STEROID Trial** is for wāhine/people without diabetes in pregnancy www.liggins.auckland.ac.nz/csteroid

The **PRECeDe Trial** is for wāhine/people with diabetes in pregnancy unimelb.edu.au/precede-trial

This Carosika Collaborative Whānau Information tool should be provided and used to support conversations between whānau and healthcare providers.

For more information including access to Taonga Tuku Iho (national best practice guide), you can access the Carosika Collaborative website ***www.carosikacollaborative.co.nz*** *or by using the QR code.*

CAROSIKA
COLLABORATIVE | TAONGA TUKU IHO