

Royal Hospital for Women (RHW)
BUSINESS RULE
COVER SHEET



Health
South Eastern Sydney
Local Health District

Ref: T26/7204

NAME OF DOCUMENT	Corticosteroids for women at risk of preterm birth
TYPE OF DOCUMENT	Clinical Business Rule
DOCUMENT NUMBER	RHW CLIN190
DATE OF PUBLICATION	February 2026
RISK RATING	Medium
REVIEW DATE	February 2029
FORMER REFERENCE(S)	RHW LOP- Corticosteroids for women at risk of preterm birth or with a fetus at risk of respiratory distress- antenatal
EXECUTIVE SPONSOR	Maternity Services Co-directors Director of Obstetric
AUTHOR	Dr S Livingstone, O&G consultant Dr M Doyle, O&G Registrar S Arbidans CMC Clinical practice development
SUMMARY	Appropriate identification and administration of corticosteroids to a pregnant woman to minimise neonatal morbidity and mortality
Key Words	Corticosteroids, preterm

Contents

1	BACKGROUND	3
2	RESPONSIBILITIES	3
2.1	Medical staff	3
2.2	Midwifery staff.....	3
3	PROCEDURE	3
3.1	Clinical Practice	3
4	DOCUMENTATION	4
5	EDUCATION NOTES.....	4
6	RELATED POLICIES/PROCEDURES	6
7	REFERENCES	7
8	ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION	7
9	CULTURAL SUPPORT.....	7
10	NATIONAL STANDARDS.....	8
11	REVISION AND APPROVAL HISTORY	8

This Clinical Business Rule (CBR) is developed to guide safe clinical practice at the Royal Hospital for Women (RHW). Individual patient circumstances may mean that practice diverges from this Clinical Business Rule. Using this document outside RHW or its reproduction in whole or part, is subject to acknowledgement that it is the property of RHW and is valid and applicable for use at the time of publication. RHW is not responsible for consequences that may develop from the use of this document outside RHW.

Within this document we will use the term woman, this is not to exclude those who give birth and do not identify as female. It is crucial to use the preferred language and terminology as described and guided by each individual person when providing care.

1 BACKGROUND

The aim of this CBR is guidance for the appropriate administration of corticosteroids to the pregnant woman to minimise neonatal morbidity and mortality in the following situations:

- Woman at risk of preterm birth between 22–34 weeks gestation where neonatal resuscitation is planned
- Woman who remains at risk of preterm birth < 32 weeks with a prior corticosteroid course ≥14 days ago
- Woman who is undergoing elective caesarean birth < 37 weeks gestation

2 RESPONSIBILITIES

2.1 Medical staff

- Assess clinical situation
- Counsel including benefits, risks, and timing
- Prescribe corticosteroids according to clinical guidelines and the woman's individual circumstances

2.2 Midwifery staff

- Provide clear and supportive information and care
- Administer prescribed corticosteroids to woman

3 PROCEDURE

3.1 Clinical Practice

3.1.1 Administration of Initial Course of Antenatal Corticosteroids

- Prescribe an initial course of antenatal corticosteroids to the pregnant woman with risk of preterm birth (planned or expected in the next 7 days) who at the time of assessment is ≤ 34 weeks gestation, even if birth is likely within 24 hours
- Prescribe betamethasone intramuscular (IM) injection:
 - Original dose 11.4 mg OR
 - Second dose of 11.4mg, administered 24 hours later if birth has not occurred
- Consider the use of preterm labour prediction tests e.g. Actim Partus® and/or cervical length assessment

3.1.2 Repeat Course of Antenatal Corticosteroids

- Consider a single repeat course of antenatal corticosteroids for any woman at continued risk of preterm delivery \leq 32 weeks gestation, if the initial dose of antenatal corticosteroids was given \geq 14 days prior
- Prescribe betamethasone 11.4 mg IM injection as a single dose

3.1.3 Woman having a Planned Elective Caesarean Section < 37 weeks Gestation

- Recommend delaying caesarean section until \geq 39 weeks if clinically appropriate
- Consider the use of corticosteroids between 34-37 weeks gestation, with the understanding that evidence is unclear in this population (see educational note)
- Prescribe and administer betamethasone IM injection, two doses of 11.4 mg each given 24 hours apart, commencing 48 prior to planned caesarean section

3.1.4 Woman with Pre-existing Diabetes Mellitus

- Consult obstetric physician/endocrinologist for blood glucose management

4 DOCUMENTATION

- Electronic Medical Record (eMR)

5 EDUCATION NOTES

Initial course of antenatal corticosteroids

- A systematic review and meta-analysis have found that treatment with antenatal corticosteroids is associated with an overall reduction in¹:
 - Perinatal death
 - Neonatal death
 - Respiratory Distress Syndrome (RDS)
 - Intraventricular Haemorrhage (IVH)
 - Severe IVH
 - Necrotising Enterocolitis (NEC)
 - Need for and duration of respiratory support
 - Systemic infections in the first 48 hours of life
- There has been minimal follow-up of long-term outcomes. There was a trend to a reduction in developmental delay and a trend toward improvement in other long term follow-up outcomes, including cerebral palsy
- There were no differences in the risks of maternal infection morbidity outcomes (including chorioamnionitis, puerperal sepsis, pyrexia after trial entry, intrapartum pyrexia or postnatal pyrexia requiring antibiotic treatment), or maternal death between women treated with a single course of antenatal corticosteroids compared with women who had no antenatal corticosteroids.
- Only two of the 26 trials have provided follow-up of infants of mothers recruited into the original trials of a single course of antenatal corticosteroids. Reassuringly, no overall difference was seen in sensory impairment, body size, systolic blood pressure, respiratory outcomes, cardiovascular or hypothalamic pituitary adrenal axis function between in utero exposure to antenatal corticosteroids and no exposure. The authors of one of the follow-up studies suggested that the results could indicate an increased risk of diabetes and cardiovascular disease later in life

Corticosteroids for women at risk of preterm birth

RHW CLIN190

Repeat course of antenatal corticosteroids for women at continued risk of preterm birth

- Repeat doses of antenatal corticosteroids reduce the incidence and severity of neonatal respiratory distress, and possibly the risk of serious infant morbidity in the first few weeks after birth. The short-term benefits for babies support the use of repeat dose corticosteroids for women at risk of preterm birth²
- An updated meta-analysis of eight clinical trials and 5224 infants found treatment with repeat dose(s) of corticosteroid was/were associated with a reduction in²:
 - RDS
 - Serious infant outcome (variously defined by the trials that included fetal, neonatal, or later death, severe respiratory distress, severe intraventricular haemorrhage (Grades 3 or 4), chronic lung disease, necrotising enterocolitis, retinopathy of prematurity, cystic periventricular leukomalacia, patent ductus arteriosus, neonatal encephalopathy)
 - use of mechanical ventilation, oxygen supplementation, surfactant, and inotropic support patent ductus arteriosus.
- Treatment with repeat dose(s) of corticosteroid was associated with a reduction in mean birthweight²
- More follow-up data is emerging about the ideal dosing regimen. Accepted current practice if a full course of corticosteroids is given as a repeat course, is to not give any further courses. If a single dose is given, a repeat dose could be given in a week's time (to a maximum of three single doses) if the patient remains at risk of preterm birth²

Elective Caesarean Section at term (37-39 weeks gestation)

- A course of antenatal corticosteroids may also be considered for any woman undergoing elective caesarean section up to 39 weeks gestation. There is evidence of reduced respiratory distress, less need for respiratory support and fewer admissions with shorter duration of stay in neonatal intensive care when corticosteroids were given at term in two studies. However, respiratory distress was not the reported primary outcome of these³
- There remain concerns regarding long term neurodevelopmental outcomes and educational attainment in children who have been exposed to antenatal corticosteroids at term gestation (≥ 37 weeks' gestational age). The balance between benefits and harm is unclear based on the current evidence³
- A course of antenatal corticosteroids may also be considered for any woman if there are other risk factors for respiratory morbidity such as diaphragmatic hernia

Alternatives to Betamethasone (e.g. if not available)

- An alternative regimen to betamethasone is dexamethasone 24mg in divided doses (dexamethasone 6mg IMI 12 6th hourly). Note: Full corticosteroids cover is achieved 48hours after administration of the 4th dose⁸
- Diabetes mellitus is not a contraindication to antenatal corticosteroid treatment for fetal lung maturation⁴

Pre-term Corticosteroids

- A course of antenatal corticosteroids given between 24 hours and 7 days of preterm birth between 24+0 – 34+6 weeks of gestation reduces perinatal death (RR 0.85) and neonatal death (RR 0.78) and respiratory distress syndrome (RR 0.71) (RCOG) (high grade level of evidence), with some evidence of reduction in IVH (RR 0.58) and developmental delay in childhood (RR 0.51)
- Reduction in respiratory morbidity is likely to be seen if birth is within 7 days of starting treatment⁵

Corticosteroids for women at risk of preterm birth

RHW CLIN190

- Harms of corticosteroid administration include effect on maternal glucose tolerance for up to 5 days after administration (higher risk in diabetic women) and likely reduction birth weight if delivery is more than 7 days after corticosteroids
- There are some (although reduced) benefits if corticosteroids are given within 24 hours of birth
- 22+0 - 24+0: if an informed decision is made for active care of the neonate if delivered at this gestation then administration of corticosteroids is important
- A meta-analysis and systematic review found that corticosteroid administration is associated with significantly reduced neonatal mortality at 22, 23 and 24 weeks (OR 0.48) and IVH/periventricular leukomalacia at 23 and 24 weeks (OR 0.70)

Rescue

- Rescue course if treatment is more than 7 days ago is likely to reduce the need for respiratory support (RR 0.97), however is likely to reduce birth weight (mean difference 80g), HC, and length and neonatal BP⁶

Term/early term

- Minimal evidence regarding benefits of corticosteroids in late pregnancy particularly as respiratory distress is low at term (~5%) and is usually mild and transient. Harms include risk of neonatal hypoglycaemia, association with developmental delay
- 35⁺⁰ - 36⁺⁶ weeks gestation
 - Likely to reduce respiratory support (RR 0.80) however likely to increase neonatal hypoglycaemia (RR 1.60)
- Corticosteroids may be considered prior to planned caesarean birth between 37⁺⁰ - 38⁺⁶ weeks gestation (RCOG):⁵
 - Benefits: reduce admission to neonatal intensive care unit (NICU) for neonatal morbidity (RR 0.45)
 - Uncertain: reduction in respiratory distress syndrome, transient tachypnoea of the newborn, neonatal unit admission
 - Harm: potential neonatal hypoglycaemia and potential developmental delay

6 RELATED POLICIES/PROCEDURES

- Management of Threatened Preterm Labour NSW Health Guideline GL 2022_006
 - Rupture of Membranes – Preterm Prelabour Assessment and Management
 - Estimating due date (EDD)
 - Pre-eclampsia – Intrapartum Care
 - Placenta Praevia/Low-lying Placenta
 - Prevention of Preterm Labour - Progesterone
 - SESLHD Management of Gestational Diabetes (GDM) Guideline
 - SESLHD Management of Pre-Existing Diabetes Mellitus in Pregnancy Guideline
- References

7 REFERENCES

1. Zullo F, Moti Gulersen, Mascio DD, Roth SC, Logue TC, Rizzo G, et al. Antenatal corticosteroids for patients at risk of late preterm birth: a systematic review and meta-analysis of randomized controlled trials. *American Journal of Obstetrics & Gynecology MFM* [Internet]. 2025 May 1;7(8):101709–9. Available from: [https://www.ajogmfm.org/article/S2589-9333\(25\)00109-0/abstract](https://www.ajogmfm.org/article/S2589-9333(25)00109-0/abstract)
2. Walters A, McKinlay C, Middleton P, Harding JE, Crowther CA. Repeat doses of prenatal corticosteroids for women at risk of preterm birth for improving neonatal health outcomes. *Cochrane Database of Systematic Reviews*. 2022 Apr 4;2022(4).
3. Sotiriadis A, Makrydimas G, Papatheodorou S, Ioannidis JP, McGoldrick E. Corticosteroids for preventing neonatal respiratory morbidity after elective caesarean section at term. *Cochrane Database Systematic Reviews*. 2018 Aug 3;8(8).
4. Wynne K, Rowe C, Delbridge M, Watkins B, Brown K, Addley J, et al. Antenatal corticosteroid administration for foetal lung maturation. *F1000Research*. 2020 Mar 30;9(1):219.
5. Stock S, Thomson A, Papworth S. Antenatal corticosteroids to reduce neonatal morbidity and mortality. *BJOG: An International Journal of Obstetrics & Gynaecology* [Internet]. 2022 Feb 16;129(8). Available from: <https://obgyn.onlinelibrary.wiley.com/doi/full/10.1111/1471-0528.17027>
6. Navalón P, Campos-Berga L, BUESA J, Lizarán M, Ghosn F, Almansa B, et al. Rescue doses of antenatal corticosteroids, children's neurodevelopment, and salivary cortisol after a threatened preterm labor: a 30-month follow-up study. *American Journal of Obstetrics & Gynecology MFM*. 2023 Jul 1;5(7):100918–8.
7. Alan H. Jobe, Robert L. Goldenberg, Matthew W. Kemp. Antenatal corticosteroids: an updated assessment of anticipated benefits and potential risks. *American Journal of Obstetrics and Gynecology*, 230, Issue 3, 2024. (Pages 330-339) <https://doi.org.acs.hcn.com.au/10.1016/j.ajog.2023.09.013>
8. [NSW Health - Management of Threatened Preterm Labour PD2022_006](#)

8 ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

- Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.
- When clinical risks are identified for an Aboriginal and/or Torres Strait Islander woman or family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal Liaison Officers, health workers, or other culturally specific services

9 CULTURAL SUPPORT

- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours
- If the woman is from a non-English speaking background, call the interpreter service: [NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters](#).

10 NATIONAL STANDARDS

- Standard 2- Partnering with consumers
- Standard 4- Medication Safety
- Standard 5- Comprehensive Care

11 REVISION AND APPROVAL HISTORY

Date	Revision No.	Author and Approval
Oct 2025	V1	draft
Dec 2025	V1	UAT
Jan 2026	V1	Endorsed by Maternity Services
Feb 2026	V1	RHW BRGC