Guideline: Threatened Preterm Birth at 23 to 25 Weeks' Gestation

Purpose

To outline the management of threatened preterm birth at 23 to 25 weeks' gestation

Scope of Use

This guideline is applicable to all midwifery/nursing/medical staff working in Women's Health and Kidz First Neonatal Care.

General Management Principles

- Management of threatened preterm birth at 23 to 25 weeks' gestation should be based on shared decision making between parents and senior neonatal and obstetric medical staff.
- Until officially supported by the Ministry of Health, neonatal intensive care is only provided at Counties from 24 weeks' gestation (it may be considered at 23 weeks, 5 days in special circumstances - see below).
- Use adjunctive tests to help determine the risk of preterm birth.
- Antenatal glucocorticoids remain the most important intervention for very preterm birth and optimal fetal maturation requires repeat doses. If a woman is at risk of extremely preterm birth, **aim to give repeat doses** where possible.
- If preterm birth is imminent (<24 h), give magnesium sulphate to reduce the risk of cerebral palsy and gross motor dysfunction.
- Routine delivery by caesarean has not been shown to improve neonatal outcomes. Caesarean should be considered for the following fetal indications: persistently abnormal fetal heart rate tracing or biophysical profile, or fetal malpresentation. However, the potential neonatal benefits in these situations need to be balanced against increased risks for the mother, including uterine rupture in future pregnancy.
- There is very limited direct evidence of neonatal benefit from tocolysis.
- Give appropriate prophylactic antibiotics for preterm premature rupture of membranes or group B streptococcal prophylaxis (established preterm labour), or as clinically indicated (e.g., UTI, chorioamnionitis).
- A neonatal consultant should attend the birth where possible.
- Provide delayed cord clamping and obtain cord gases.
- Optimal neonatal management even within the first few minutes is essential.
- It is important that parents understand that even if a baby is stabilised after birth there is still risk of death from complications at any time in the neonatal period.
- Women should be offered obstetric consultation early in their next pregnancy as they have a high risk of recurrent very preterm birth.

Prognostic Factors

The following factors are associated with poorer prognosis: delivery outside tertiary centre, absence of antenatal steroids, small for gestational age/ fetal growth restriction, multiple gestation, male sex, gestational age early in week of gestation, acute chorioamnionitis, major congenital anomalies.

Consensus Recommendation

<23 weeks

- No fetal monitoring
- No caesarean
- No attendance by neonatal team
- Allow natural death and provide comfort care.
- Do not admit to neonatal intensive care

23 weeks 0 days to 23 weeks 6 days

- Consider antenatal glucocorticoids in anticipation that the woman will reach 24 weeks' gestation and early intensive care is a management option. Aim to give repeat doses where possible.
- Fetal viability should be assessed by intermittent auscultation of fetal heart (continuous CTG is NOT recommended at this gestation).
- If spontaneous birth occurs allow natural death and provide comfort care.
- Neonatal resuscitation and admission to neonatal care may be considered from 23 weeks, 5 days if a course of antenatal glucocorticoids has been completed (72 hours of exposure is optimal) and magnesium sulphate has been given (loading dose and minimum of 4 hours of maintenance). This is a shared decision between parents and senior neonatal and obstetric staff.
    - Neonatal consultant to attend birth if possible.
    - Provide delayed cord clamping.
- Send placenta for histology.

24 weeks 0 days to 24 weeks 6 days

- Neonatal resuscitation and admission to neonatal intensive care is generally recommended but parents may elect to allow natural death and provide comfort care.
- Antenatal glucocorticoids are essential (72 hours of exposure is optimal); consider tocolysis to allow completion of antenatal glucocorticoid therapy. Aim to give repeat doses where possible.
- Give magnesium sulphate if birth is imminent (expected within 24 hours).
- Give antibiotics as appropriate (see above).
- Intermittent auscultation of fetal heart rate; continuous CTG may be appropriate if the management plan includes caesarean for fetal distress.
- Caesarean delivery to be considered for persistently abnormal fetal heart rate tracing or breech/transverse presentation.

- Neonatal consultant to attend birth if possible.
- Provide delayed cord clamping.
- Send placenta for histology.

25 weeks 0 days to 25 weeks 6 days

- Neonatal resuscitation and admission to neonatal intensive care is recommended.
- Antenatal glucocorticoids are essential (72 hours of exposure is optimal); consider tocolysis to allow completion of antenatal glucocorticoid therapy. Aim to give repeat doses where possible.
- Give magnesium sulphate if birth is imminent (expected within 24 hours).
- Give antibiotics as appropriate (see above).
- Intermittent auscultation of fetal heart rate; continuous CTG may be appropriate if the management plan includes caesarean for fetal distress.
- Caesarean delivery to be considered for persistently abnormal fetal heart rate tracing or breech/transverse presentation.
- Neonatal consultant to attend birth if possible.
- Provide delayed cord clamping.
- Send placenta for histology.

Table 1: Survival to discharge of babies admitted to the neonatal unit

Gestational Age (completed weeks)	Survival ANZNN (2015) %	Survival MMH (2007-2017) %
23	56	14*
24	70	53
25	80	78
26	89	83
27	94	96

*During this period there was a policy of not initiating neonatal resuscitation at 23 weeks' gestation. Please note the denominator for these statistics are for babies admitted to the neonatal unit, so survival would be lower for all live-born infants.

Table 2: Neurodevelopmental impairment among babies surviving to >18 months of age

Gestational Age (completed weeks)	ANZNN (2009-2012) %		MMH (2009-2012) %	
	Any impairment (Mild/Mod/Severe)	Mod/Severe impairment	Any impairment (Mild/Mod/Severe)	Mod/Severe impairment
23	55	28	-	-
24	48	22	45	9
25	38	14	65	19
26	34	13	40	10
27	32	11	35	16

References

1. Brigitte Lemyre, Gregory Moore. Counselling and management for anticipated extremely preterm birth. Paediatr Child Health. 2017 Sep; 22(6): 334–341
2. American College of Obstetricians and Gynecologists; Society for Maternal-Fetal Medicine. Obstetric Care consensus No. 6: Periviable Birth. Obstet Gynecol. 2017 Oct;130(4):e187-e199.
3. Sharon S.W. Chow, Renate Le Marsney, Sadia Hossain, Ross Haslam and Kei Lui. 2015 Report of the Australian and New Zealand Neonatal Network
4. http://www.ligginstrials.org/ANC_CPG/downloads/Antenatal_Corticosteroid_Clinical_Practice_Guidelines.pdf

Definitions/Description

Terms and abbreviations used in this document are described below:

Term/Abbreviation	Description
ANZNN	Australian and New Zealand Neonatal Network
Mild impairment:	Cerebral palsy with Gross Motor Functional Classification Score (MFCS) level 1; mild language, cognitive or motor delay (Bayley III scores from 1 SD to 2 SD below the normative mean)
Moderate impairment:	Cerebral palsy with GMFSCS level 2 to 3; deafness requiring amplification; moderate language, cognitive or motor delay (Bayley III scores from 2 SD to 3 SD below the normative mean)
Severe impairment:	Cerebral palsy with GMFSCS level 4 to 5; blindness; severe language, cognitive or motor delay (Bayley III scores more than 3 SD below the normative mean)