# TYGERBERG HOSPITAL
**Department of Obstetrics and Gynaecology**

**Protocol**

# Obstetric management of peri-viable birth

1. At Tygerberg Academic Hospital, we will regard the following as criteria for FULL ACTIVE INTERVENTION (*group 1, category 3 of provincial policy*):

A sure/certain gestation of **27 weeks AND** a minimum estimated fetal weight of **800 g**

This refers to the IN-UTERO fetus or INBORN, well-prepared infants (planned delivery, booked mother, steroids given etc.). It is an appropriately grown baby (>10th centile for 27 weeks):

| Gestational age | 10th centile | 50th centile | 90th centile |
|---|---|---|---|
| **27 weeks** | 830 g | 1031 g | 1230 g |
| **28 weeks** | 965 g | 1192 g | 1420 g |

This is the gestational age where all fetuses will receive active obstetric management including:

- fetal monitoring (CTG) as soon as the mother is stabilised
- antenatal corticosteroids
- antenatal $MgSO_4$ for neuroprotection in case of imminent delivery
- suppression of preterm labour where indicated.

The neonatal support available for this category includes:

| | |
|---|---|
| ▪ Any available respiratory intervention<br>▪ Neonatal ICU admission if needs IPPV (Continuous positive airway pressure) or HFOV (High Frequency Oscillatory Ventilator)<br>▪ Surfactant if needed<br>▪ IV/nasogastric fluids/feeds, warmth (polyethylene bag), antibiotics, caffeine | These babies will be considered on a case by case basis, admission to NICU at the discretion of the NICU consultant. |

2. When the certain gestational age is **≥27 weeks**, but the estimated weight is <10$^{th}$ centile (e.g. severe intra-uterine growth restriction) **(650g-799g)** (Group 1, category 2 of circular) a full fetal evaluation must be done (exclusion of fetal anomalies and evaluation of fetal growth with ultrasound and doppler) before fetal monitoring is considered. The parents must be fully counselled and accept the risks involved if fetal monitoring is offered.

- Corticosteroids can be given if delivery is anticipated within one week
- $MgSO_4$ for neuro-protection can be given after evaluation of the mother and the fetus and if there is imminent delivery (even if no fetal monitoring is done)
- Fetal monitoring:
    - With preterm labour: fetal monitoring can be considered only after >48 hours of suppression with formal fetal evaluation (ultrasound and doppler) AND discussion with Fetal Medicine/neonatal team.
    - Maternal disease: fetal monitoring only after evaluation of fetal growth with ultrasound and Doppler AND Special Care referral (discussion with neonatal team essential before fetal monitoring is offered)

<u>The neonatal support available for this category includes</u>:

| | |
|---|---|
| ▪ CPAP ± surfactant if indicated (1 dose only), $HFNO_2$ (high-flow nasal oxygen)<br>▪ IV/NG fluids/feeds, warmth (polyethylene bag), antibiotics, caffeine | Very select patients, identified during antenatal period, MAY be offered NICU care. Discuss with consultant neonatologist. |

3. For a gestational age of **24, 25 or 26 weeks OR an estimated weight of ≥ 500g but <650g**, limited neonatal care will be offered (IV fluids, warmth, oxygen, KMC care). These are either appropriately grown babies <24 weeks or severe IUGR <26 weeks (category 1, group 1 of circular):

| Gestational age | 10th centile | 50th centile | 90th centile |
|---|---|---|---|
| **22 weeks** | 405 g | 493 g | 580 g |
| **23 weeks** | 465 g | 572 g | 680 g |
| **24 weeks** | 535 g | 662 g | 790 g |
| **25 weeks** | 620 g | 767 g | 915 g |
| **26 weeks** | 715 g | 890 g | 1065 g |

At this extremely early gestation, intact survival is rare.

Suggested obstetric management:

- Corticosteroids can be given if delivery is anticipated within one week, even if no fetal monitoring will be offered (consultant decision).
- MgSO4 for neuro-protection can be given after evaluation of the mother and the fetus and if there is imminent delivery (even if no fetal monitoring is done).
- Fetal monitoring and possible operative delivery will not be offered routinely.

→This cut-off refers to pregnancies where delivery is indicated for maternal reasons, or where delivery is imminent. **All attempts should otherwise still be made to prolong the gestation to a more advanced gestational age**, if possible and where the maternal condition allows for it.

The neonatal support available for this category includes:

| | |
|---|---|
| ▪ NPO2, IV/NG fluids/feeds, warmth (polyethylene bag), antibiotics, caffeine<br>▪ CPAP only if inborn, well-prepared, & in good condition at birth<br>▪ No surfactant | Palliative measures if not responding<br>KMC with mother/parents if preferred<br>Review for admission to ward G2 if survives (1-2 hours) |

4. Below 24 weeks, attempts at resuscitation will mostly be futile in the current setting; and intact survival is rare; thus the lowest limit of intervention is set at 23 weeks 6 days or less **(<24 weeks**) OR if the gestation is unknown and ultrasound cannot be done in time, **a birth weight of ≤ 500g**. Babies born <24 weeks/500g will receive comfort care only at birth (if alive).

**Determination of gestational age**

**When the gestational age is certain (early ultrasound; see dating policy), use the ultrasound gestational age. Only use foot length (after birth) when no ultrasound is available.**

When the gestational age is **uncertain**, the decision regarding full active intervention is based NOT on the estimated fetal weight but on **an ultrasound-based average gestational age of 27 weeks 0 days or more.**

The average gestational age (GA) is based on accurate BPD, HC, AC and FL biometry, if all of the following criteria are met during the ultrasound assessment:

- Views are adequate and standardized planes were obtained
- Measurements are concordant (no small AC compared to HC:– P95 for HC/AC at 24w is 1.26; at 26 w is 1.24; at 28w is 1.22)
- There is not advanced placental maturation (extensive calcification, Granum II or III)
- There is a normal amniotic fluid volume (deepest vertical pool > 3cm)
- There is no underlying maternal disease (e.g. pre-eclampsia, severe chronic functional impairment) that could result in a growth restricted fetus

    - If the measurements are discordant or the findings suggestive of IUGR, use the EFW as the criterion for intervention.
    - If it is not possible to do all the required measurements, use the BPD (or HC if there is dolichocephaly) as the average gestational age in the interim; until more senior or formal assessment can be done.

## GUIDELINES FOR IN-UTERO REFERRAL OF PERI-VIABLE PREGNANCIES FROM RURAL AND DISTRICT TO TYGERBERG HOSPITAL

Use the same methods for calculating gestational age as above. Note that regional and district hospitals will **only offer routine fetal monitoring at a gestation of 28 weeks AND/OR EFW >1000g.**

- For MOU
    - Discuss the patient with the registrar in labour ward for transfer and evaluation at Tygerberg. Steroids can be administered if 25 weeks or above or if in doubt about the gestation. If certain gestational age <24 weeks, refer to a district hospital for management (if no maternal disease that warrants referral to Tygerberg).
- For a district hospital or rural regional hospital
    - If in preterm labour, attempt to suppress first. If suppression is successful, the patient can remain at that level and be discharged after management.
        - If suppression is not successful and GA ≥ 25 weeks, do in utero transfer for in-patient management to Tygerberg ONLY if delivery is not imminent and not expected to occur during transfer.
        - If suppression is not successful and infant is born at that level, manage infant according to the treatment and referral guidelines in the circular.
    - Referral for maternal disease- discuss with registrar regarding steroids.

Signed:

GS Gebhardt

21 March 2018

This document is a summary of the provincial policy '*Standard post-natal interventions for peri-viable preterm birth in the Western Cape' released in 2017.*