Winnipeg Regional Health Authority / Office régional de la santé de Winnipeg Health Sciences Centre Winnipeg A Shared Health facility **CLINICAL PRACTICE GUIDELINE**	**Practice Guideline:** *The Obstetrical Management of Patients with Preterm Labour or PPROM at less than 26 weeks Gestation*	
	Approval Date: October 23, 2023	**Pages:** *1 of 6* **Supercedes:** June 13, 2017

PURPOSE AND INTENT

To provide guidance for physicians regarding the counselling and management of patients presenting with preterm labour and/or preterm premature rupture of membranes (PPROM) at less than 26 weeks' gestational age.

1. PRACTICE OUTCOME

To enhance coordinated care planning between Obstetrics and Neonatology for anticipated deliveries in patients with preterm labour or PPROM at less than 26 weeks gestational age.

2. BACKGROUND

As neonatal intensive care practices have advanced, the active support of preterm infants born at earlier gestational age has been encouraged. In particular, the option to extend resuscitation and active supportive care to infants born at 22+0 to 23+6 weeks has recently been introduced in Shared Health and the WRHA. This practice change increases the importance of coordinated care planning between Obstetrics and Neonatology - in order to provide the most accurate and consistent counselling possible for patients presenting at a very early gestational age with preterm labour or PPROM. (See Appendix A – Current data on outcomes of very preterm infant) The intention of this document is to outline a common framework for an approach to the patient and their family in this challenging situation and to support clinicians by providing a rational basis for the consideration of maternal, fetal and neonatal interventions.

3. GUIDELINES

Whenever possible, the Obstetrician and Neonatologist involved in the counselling of a patient and their family in the context of an anticipated very preterm birth should discuss the clinical circumstances of the mother/birthing parent and fetus prior to undertaking the counselling. This discussion allows both parties to develop a shared understanding and may benefit the patient by the provision of a more consistent and, hopefully, more accurate description of the potential outcomes faced by the mother/birthing parent and their fetus/neonate. (See Appendix A – Current data on outcomes of very preterm infant).

Acknowledging the individual needs, preferences and values of the patient and their family, the Obstetrician and the Neonatologist shall discuss and develop a management plan. Patients and their family should receive individualized and accurate information about the likelihood of survival and potential long-term outcomes. The management plan should be decided after engaging the patients and their families in decision making from resuscitation and NICU care or comfort care. The goal will be to achieve consensus among families and healthcare providers about the best option for the baby and family. Where possible, the obstetrician and neonatologist should both be present together for the discussion with the patient and family, especially for the extremely preterm infant.

As clinical circumstances change, this plan will need to be revisited and updated with the patient and their family (plan of care should be updated, for instance, as gestational age advances and prognosis changes). The care plan should be discussed during handoff so the team is aware.

4. COMPONENTS

4.1 FACTORS TO BE TAKEN INTO ACCOUNT WHEN DISCUSSING MANAGEMENT WITH PARENTS[3]

Antenatal factors influencing fetal outcome
- Gestational age
- Steroid administration
- Predicted fetal weight
- Multiple pregnancy
- Sex
- Presence and severity of pathology
  - Fetal growth restriction
  - Fetal acidaemia (as suggested by an abnormal cardiotocograph or umbilical artery Doppler flow velocity waveform (particularly absent or reversed end diastolic frequencies))
  - Sepsis
- Fetal anomaly

Parental factors
- Cultural
- Religious
- Medical
- Past obstetric history
  - Previous pregnancy loss
  - Sub-fertility

Parental expectations
- Understanding of process
  - In utero transfers
  - Postnatal assessment
  - Paediatric involvement/interventions
- Outcome
  - Survival
  - Morbidity
  - Their wishes

Condition of infant at delivery
- Apparent maturity
- Extensive bruising
- Heart rate
- Spontaneous activity level
- Respiratory effort and signs of sustained response to resuscitation

4.2 ANTENATAL STEROIDS:

4.2.1 Antenatal steroids can be offered after 22+0 weeks of gestation in cases of anticipated preterm birth. Antenatal corticosteroids are recommended if, after appropriate counselling, neonatal resuscitation is planned.

4.2.2 For patients in whom delivery between 22+0 and 23+6 weeks of pregnancy is anticipated, discuss with the patient the use of maternal corticosteroids in the context of their individual circumstances. (1)

4.2.3 For patients in whom delivery between 24+0 and 25+6 weeks of pregnancy is anticipated, offer maternal corticosteroids. While it is outside the scope of this guideline, antenatal corticosteroids are routinely offered for anticipated preterm birth up to 34+6 weeks of pregnancy. (1 & 5)

4.3 MAGNESIUM SULFATE FOR NEUROPROTECTION:

4.3.1 After appropriate counselling, if neonatal resuscitation is planned, offer IV magnesium sulfate for neuroprotection of the fetus/neonate to patient after 24+0 (and up to 33+6 weeks) of pregnancy who are in established preterm labour or having a planned preterm birth within 24 hours. (1)

4.4 INTRAPARTUM FETAL MONITORING:

4.4.1 Involve an obstetrician in discussions about whether and how to monitor the fetal heart rate for patients who are between 22+0 and 25+6 weeks pregnant. (1)

4.4.2 If active obstetric intervention in the interests of the fetus is not planned, continuous fetal heart rate monitoring is not advised. In this case, intermittent fetal heart rate auscultation should be used to establish fetal viability during labour, at intervals to be decided on an individual basis. This will assist the neonatal team regarding attendance for neonatal resuscitation. (2)

4.4.3 Continuous fetal heart rate monitoring should be considered when there has been agreement, following discussion with the parents, that emergency cesarean section will be performed for a pathological fetal heart rate pattern. (2)

4.5 MODE OF DELIVERY

4.5.1 Explain to patients with anticipated preterm labour and/or patients with PPROM about the benefits and risks of cesarean section that are specific to gestational age. In particular, highlight the difficulties associated with performing a cesarean section for a preterm birth, especially the increased likelihood of a vertical uterine incision and the implications of this for future pregnancies. (1)

4.5.2 Description of the potential surgical complications of cesarean delivery for the mother and baby at such extremes of gestation must be explicit, and even the rarity of hysterectomy and infertility should be mentioned but placed in context. (2)

4.5.3 Explain to patients in suspected, diagnosed or established preterm labour that there are no known benefits or harms for the baby from cesarean section, but the evidence is very limited. (1)

4.5.4 The present evidence suggests that the method of delivery in extreme prematurity less than 24 weeks should be based on obstetric or maternal indications, rather than perceived outcome of the baby. Cesarean delivery cannot be recommended routinely. It is unusual to deliver by cesarean section before 24 weeks of gestation. (2)

4.5.5 At 24+0 to 24+6, in cases of spontaneous labour with a single and cephalic fetus, vaginal delivery should be attempted. However, in the situation of suspected acute fetal compromise, intervention with cesarean section should be thoughtfully considered in the context of maternal features, fetal features and parental consideration.

4.5.6 At 25+0 weeks gestation, newborn survival should be given priority. In cases of spontaneous labour with a single and cephalic fetus, vaginal delivery should be attempted. However, if continuous fetal heart rate monitoring reveals features of acute fetal compromise/distress, a cesarean section should be performed without delay. (2)

4.5.7 Consider cesarean section for patients with the fetus in a breech presentation, in suspected, diagnosed or established preterm labour, at 26+0 weeks of pregnancy or greater. (1)

4.6 THREE CARE PLAN SCENARIOS (2):

4.6.1 **'Active' management**: Management with recourse to cesarean section and full resuscitation.

4.6.2 **'Passive' management**: Cesarean delivery is not to be performed but resuscitation will be attempted.

4.6.3 **'Palliative' management**: Comfort care will be provided if a live birth ensues.

5. REFERENCES:

(1) NICE guideline: "Preterm labour and birth". Published: 20 November 2015

(2) "Perinatal Management of Pregnant Women at the Threshold of Infant Viability (The Obstetric

(3) Perspective)". RCOG Scientific Impact Paper, February 2014

(4) "The Management of Babies born Extremely Preterm at less than 26 weeks of gestation- A Framework for Clinical Practice at the time of Birth". British Association of Perinatal Medicine. Arch Dis Child, October 2008.

(5) Canadian Neonatal Network, CNN, (2019), CNN Report

(6) Canadian Neonatal Follow-up Network, CNFUN, (2020) CNFUN annual report

(7) Skoll, A. et al. (2018). SOGC clinical practice guideline. No. 364-Antenatal corticosteroid therapy for improving neonatal outcomes. JOGC 40(9): 1219-1239. (1)

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Appendix A: Current Data on Outcomes of Very Preterm Infants

Table 1: Total Canadian Neonatal Network (CNN) admission including delivery room (DR) deaths

GA	Total number	# Comfort care	# Active care	% Survival active care	% Survival all neonates (admission and DR death)
22 weeks	88	53	35	29	11
23 weeks	178	51	127	46	33
24 weeks	240	16	224	71	66
25 weeks	291	9	282	81	79

Reference: Canadian Neonatal Network, CNN, (2019) CNN Report

Table 2: Severe to moderate-to-severe neurodevelopmental outcome in surviving children born extremely premature Canadian Neonatal Follow up Network – Annual report 2019-2020 22 weeks (n=15); not analyzed

GA	% Severe CP	% Bilateral visual impairment	% Severe cognitive impairment	% Severe motor impairment
23 weeks	13%	6.2%	33%	42%
24 weeks	9%	2%	23%	31%
25 weeks	7.5%	1.5%	1.5%	25%

Reference: Canadian Neonatal Follow-up Network, CNFUN, (2020) CNFUN annual report

Table 3: Survival in different services around the world

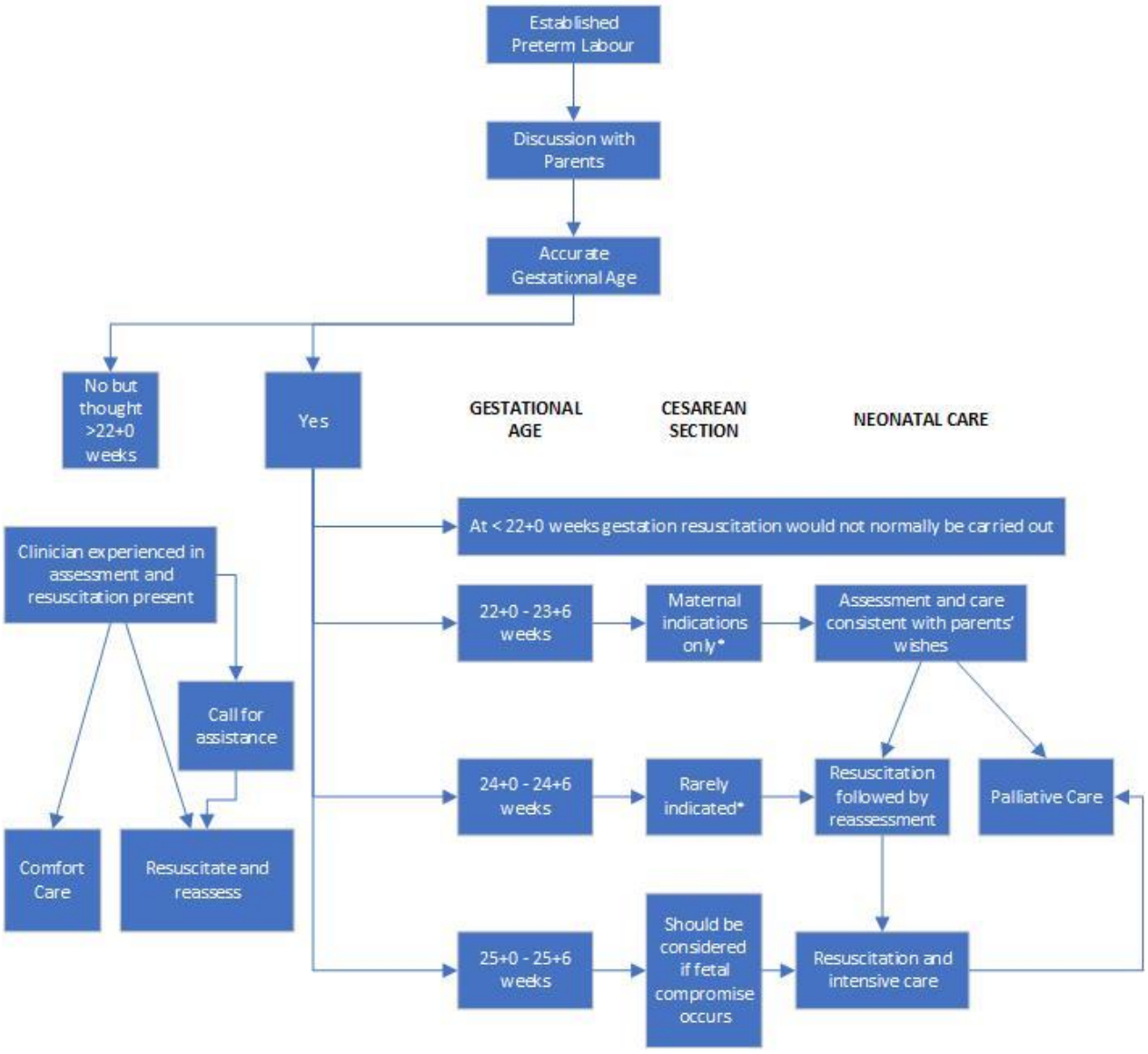
GA	IOWA (USA)	Cologne (Germany)	Uppsala (Sweden)	USA (Nationwide)
22	14/20 (70%)	17/28 (61%)	21/40 (53%)	3/16 (19%)
23	41/50 (82%)	41/58 (71%)		
24	70/79 (89%)			
25	89/99 (90%)			

Reference: Canadian Neonatal Follow-up Network, CNFUN, (2020) CNFUN annual report

Appendix B

The Management of Babies born Extremely Preterm at less than 26 weeks gestation

A Framework for Clinical Practice at the Time of Birth



* Caesarean section offers no benefit to the fetus <25 weeks' gestation and should be performed only when indicated for the health of the mother.