

## **Obstetric Guideline 2B**

### **MANAGEMENT OF THE MOTHER/FETUS AND NEWBORN NEAR THE THRESHOLD OF NEONATAL VIABILITY (22-25 COMPLETED WEEKS)**

---

#### ***INTRODUCTION***

The purpose of this guideline is to provide general guidance regarding the provision of care to women facing the birth of an infant of extremely low gestational age (22-25 completed weeks gestation). In British Columbia in 2000, 132 infants were born < 28 weeks gestation and > 500 grams, which accounts for approximately 4.6% of all preterm births.<sup>1</sup> This clinical scenario requires complex decision making involving the mother, family, infant, and society. It is important to appreciate that this guideline is intended to be a **general framework** for decision making, and the **individual circumstances** of specific situations must always be taken into consideration.

#### ***GUIDING PRINCIPLES***

- I. This guideline is framed in terms of completed weeks gestation, but is based on the important concept of a gradual progression of maturity as gestation advances. E.g. 22 completed weeks includes the time span from 22<sup>0</sup> to 22<sup>6</sup> weeks.
- II. Multidisciplinary involvement is recommended in view of the complex and conflicting interests and priorities, particularly of the mother and fetus/infant. A multidisciplinary approach ideally includes obstetrics, pediatrics, maternal fetal medicine, neonatology, and nursing.
- III. Maternal/fetal and neonatal consultation should be obtained early to allow for appropriate communication with the family and the formation of an agreed upon management plan.
- IV. Parental participation in decision making is vital.
- V. The clinical situation may constantly change due to maternal factors and advancing maturity. Ongoing communication regarding the changing situation between the disciplines involved and the family is important.
- VI. Provision of care and management decisions must be based on the “best assessment” of gestational age and fetal weight. Accordingly, every effort should be made to ascertain these parameters as accurately as possible.
- VII. For births at gestational ages from 23<sup>0</sup> to 25<sup>6</sup> weeks, a neonatologist or delegate should attend for delivery. For births at gestational ages from 22<sup>0</sup> to 22<sup>6</sup>, a neonatologist or delegate will attend at his/her discretion. When, at a gestational age of 22<sup>0</sup> weeks, a decision not to resuscitate has been made by the neonatologist, obstetrician, and the

parents at a prebirth consultation, it is acceptable and appropriate that the neonatologist not attend at the delivery.

- VIII. Faced with impending delivery, obstetrical and neonatal “intervention” should follow these general guidelines:

**Table I – CLINICAL GUIDELINES**

(From Children’s & Women’s Health Centre of B.C. Expert Committee chaired by Dr. R. Liston)

<b>Gestational Age (weeks)</b>	<b>Obstetrical Management Plan</b>	<b>Neonatal Management Plan</b>
22 <sup>0</sup> - 22 <sup>6</sup>	Supportive Care	* Compassionate Care
23 <sup>0</sup> - 23 <sup>6</sup>	** Medical support – possible surgical intervention	Possible resuscitation
24 <sup>0</sup> - 24 <sup>6</sup>	** Medical support – surgical intervention should be considered if indicated.	Almost all babies will be actively resuscitated
25 <sup>0</sup> - 25 <sup>6</sup>	Surgical intervention if indicated	All babies will be actively resuscitated
<p>* Compassionate care is the provision of companionship and comfort. The mother and family should be supported in remaining with their baby should they wish.</p> <p>** Medical support includes all maternal care, intermittent auscultation of the fetal heart with recourse to the administration of IV fluids, oxygen and maternal positioning.</p> <p>Note: In a situation where operative intervention is likely to be considered in addition to medical support, continuous fetal monitoring may be instituted.</p>		

- IX. Where significant differences emerge between a proposed plan and the parental wishes, consideration should be given to obtaining a second medical opinion or holding a group discussion with the parents in an effort to find consensus.
- X. Requests for antenatal transport in the face of threatened preterm delivery should be considered from 23<sup>0</sup> weeks gestation onwards.
- XI. Babies receiving active compassionate care will be provided with companionship, warmth, and comfort. The mother and family should be supported to remain with their baby should they wish.

XII. For the purposes of care planning, all care providers should have a general shared concept of neonatal survival rates and disabilities. See Table 2 below.

**Table 2: NEONATAL SURVIVAL AND DISABILITY RATES<sup>2</sup>**

<b>Gestational Age</b>	<b>Survival Rates</b>	<b>Disability</b>
< 22 Completed Weeks (154 days)	Fetus is not viable	
22 Completed Weeks (154 - 160 days)	Survival very infrequent	Data on disability in survivors are limited.
23 to 24 Completed Weeks (161 – 174 days)	Infants born at just 23 weeks may have very different prognoses from those born at almost 25 weeks. Reported neonatal survival rates increase rapidly within this 2-week interval, varying from 10% to 50%. <sup>3-9</sup>	Among surviving infants, 20-30% have disabilities such as cerebral palsy, hydrocephalus, severe cognitive deficit, blindness, deafness, or a combination. <sup>10-13</sup> Although most disabilities <sup>14</sup> in these infants are mild or moderately severe, <sup>15-18</sup> up to 10% are severe and necessitate significant caretaking, far beyond that usually required by infants of their age. <sup>19</sup>
25 – 26 Completed Weeks (175-188 days)	Survival rates are 50-80 % <sup>3,4,6,8,9</sup>	Impairments and disabilities <sup>14</sup> such as those previously described affect 10 – 25% of these infants. <sup>10,11</sup>

XIII. Ensure referral to appropriate community resources and supports once baby is born.

**REFERENCES**

1. B.C. Division of Vital Statistics. 2000 Annual Report. Victoria. Author.
2. Canadian Paediatric Society & Society of Obstetricians and Gynaecologists of Canada. (2000). Joint Statement: Management of the woman with threatened birth of an infant of extremely low gestational age. Canadian Paediatric Society, Ottawa.
3. Phelps DL, Brown DR, Tung B et al. (1991). 28 – day survival rates of 6676 neonates with birthweights of 1250 grams or less. Pediatrics, (87): 7-17.
4. Hack M, Horbar JD, Malloy MH et al. (1991). Very low birth weight outcomes of the National Institute of Child Health and Human Development Neonatal Network. Pediatrics, (87): 587-597.
5. Liechty EA, Donovan E., Purohit D et al. (1991). Reduction of neonatal mortality after multiple doses of bovine surfactant in low birth weight neonates with respiratory distress syndrome. Pediatrics (88): 19-28.
6. Effer SB, Lopes LM, Whitfield MF. (1992). When does outcome justify heroic interventions? Univariate analysis of gestation age-specific neonatal mortality and morbidity. Journal of the Society of Obstetrics and Gynecology of Canada (14), NO 6: 39-49.
7. Hack M, Fanaroff AA. (1989). Outcomes of extremely-low-birth-weight infants between 1982 and 1988. New England Journal of Medicine (32), NO 1: 1642-1647.
8. Ferrara TB, Hoekstra RE, Couser RJ, et al. (1992). Survival and follow-up of infants 23-26 weeks gestation: effects of surfactant use in a tertiary centre. Pediatric Resident (31), 247A.
9. Mendoza J, Campbell MK, Chance GW. (1992). Mortality trends in < 800 gram infants before and after surfactant availability. [abstract] Pediatric Resident, (31): 225A.
10. Saigal S, Rosenbaum P, Hattersley B et al. (1989). Decreased disability rates among 3-year-old survivors weighing 501 to 1000 grams at birth and born to residents of a geographically defined region from 1981 to 1984 compared with 1977 to 1980. Journal of Pediatrics (114): 839-846.
11. Robertson CM, Hrynchyshyn GJ, Etches PC et al. (1992). Population-based study of the incidence, complexity and severity of neurologic disability among survivors weighing 500 through 1250 grams at birth: a comparison of two birth cohorts. Pediatrics (90): 750-755.
12. Sauve RS, Guyn LH. (1992). Improving morbidity rates in < 750 g infants. [Abstract]. Pediatric Resident (31): 259A.

13. US Congress Office of Technology Assessment. (1987). Neonatal Intensive Care of Low Birthweight Infants: Costs and Effectiveness, Health Technology Case Study 38, Author, Washington.
14. World Health Organization. (1980). International Classification of Impairments, Disabilities and Handicaps: A Manual of Classification Relating to the Consequences of Disease. Author, Geneva.
15. Saigal S, Rosenbaum P, Hattersley B et al. (1989). Decreased disability rates among 3-year-old survivors weighing 501 to 1000 grams at birth and born to residents of a geographically defined region from 1981 to 1984 compared with 1977 to 1980. Journal of Pediatrics (114): 839-846.
16. Saigal S, Szatmari P, Rosenbaum P et al. (1990). Intellectual and functional status at school entry of children who weighted 1000 grams or less at birth: a regional perspective of birth in the 1980's. Journal of Pediatrics, (116): 409-416.
17. Collin MF, Halsey CL, Anderson CL. (1991). Emerging developmental sequelae in the "normal" extremely low birth weight infant. Pediatrics (88): 115-120.
18. Robertson CM, Hrynchyshyn GJ, Etches PC et al. (1992). Population-based study of the incidence, complexity and severity of neurologic disability among survivors weighing 500 through 1250 grams at birth: a comparison of two birth cohorts. Pediatrics (90): 750-755.
19. Robertson CM, Hrynchyshyn GJ, Etches PC et al. (1992). Population-based study of the incidence, complexity and severity of neurologic disability among survivors weighing 500 through 1250 grams at birth: a comparison of two birth cohorts. Pediatrics (90): 750-755.