

Clinical Guidelines for Late Pre-term Births

Introduction

The preterm birth rate is increasing in Canada. The 2008 Canadian Perinatal Health Report identifies that “The primary factors cited in connection with this increase (in preterm birth) include increased rates of obstetric intervention (i.e. medically indicated labour induction and cesarean birth), increases in older maternal age and increases in multiple births.” A host of factors contribute to or are associated with preterm birth. These include: demographic factors (race, ethnicity, aboriginal origin, acculturation, marital status); maternal factors (age, parity, body mass index, weight gain during pregnancy, previous history of preterm birth, maternal preterm birth, inter-pregnancy interval); stress; psychosocial factors; lifestyle related factors (smoking, substance use, alcohol use); infections; environmental factors (air pollution, water pollution); occupational factors; exposure to domestic violence; neighbourhood; genetic; anatomical and parental factors.

The late preterm population (infants between 34 weeks and 0 days and 36 weeks and 6 days gestation) represents 70 - 75% of all preterm births. In Ontario during 2008/09, **8,488** infants were born between 34 weeks, 0 days and 36 weeks, 6 days gestation. This represents 6.1 % of all births and 75.4% of all preterm births in the province (BORN Ontario data). This population makes up the vast majority of neonates in special care nurseries (SCNs) and Neonatal Intensive Care Units (NICUs) across Ontario.

Traditionally the late preterm infant has been treated very similarly to the term infant however a growing body of research has demonstrated that late preterm neonates face a higher risk of death, health and developmental problems and long-term disabilityⁱ – all of which may include hospitalization and ongoing care needs resulting in significant costs to the health care system.ⁱⁱ Preterm birth accounts for 75-85% of all perinatal mortality (stillbirths plus deaths to infants less than 7 days old) in Canada (Ministry of Health, 1999).

Specifically, late preterm infants experience higher rates of temperature instability; respiratory distress; feeding problems; hypoglycemia; jaundice and sepsis.ⁱⁱⁱ The earlier the gestational age at which the neonate is born, the higher the risk these problems will occur. A review of 187,830 singleton births in the United States between 1995 and 2002 found that late preterm infants were three times more likely to die within the first year of life as compared to term infants^{iv}. Late preterm infants are more likely to require SCN/NICU care during their birth hospitalization and are more likely to be readmitted to hospital after discharge. Children born late preterm have been reported in one American study as 1.6 to 2.1 times more likely to require special education as children born at term.^v

“After controlling for co-morbidities of prematurity, late preterm infants requiring admission to the neonatal unit have the same risk as very preterm infants of requiring interventional

therapies. This would indicate that it is not only the degree of prematurity but also the morbidities experienced in the neonatal period in conjunction with the period of rapid brain growth that have a profound influence on neurodevelopmental outcomes.”^{vi}

Background

Given the magnitude of the impact of the late preterm population on the health care system, the Maternal-Newborn Advisory Committee (M-NAC) of the Provincial Council for Maternal and Child Health (PCMCH) convened an expert panel to provide recommendations for evidence-based interventions designed to decrease the incidence and/or optimize the outcomes of late preterm birth.

- **Late Preterm Birth Work Group Terms of Reference**
- **Late Preterm Birth Work Group Membership**

The Late Preterm Birth Work Group made a series of recommendations focused on system-wide initiatives, the clinical management of pregnant women at risk of preterm birth and the clinical management of infants born preterm. For the purposes of this document, only the clinical recommendations are included. They are intended to assist clinicians in the management of these patients.

- **Recommendations for Risk Reduction for Late Pre-term Births**
- **Recommendations for Management of the Woman with Threatened or Imminent Pre-term Birth**
- **Recommendations for Management of the Late Per-term Infant**
- **Supporting Resources**

<http://www2.aap.org/sections/perinatal/PDF/EngleLatePreterm09.pdf>

<http://www2.aap.org/sections/perinatal/PDF/SchanlerLatePreterm09.pdf>

ⁱ Ohlsson, A., and Shah, P. (2008). IHE Report: Determinants and Prevention of Low Birth Weight: A Synopsis of the Evidence. Institute of Health Economics.

ⁱⁱ Lim, G., Tracey, J., Boom, N., Karmakar, S., Wang, J., Berthelot, J., and Heick, C. (2009). Hospital Costs for Preterm and Small-for-Gestational Age Babies in Canada. *Healthcare Quarterly*, 12 (4): 20-24.

ⁱⁱⁱ Wang ML., Dorer DJ., Fleming MP., et al., Clinical Outcomes of Near-Term Infants, *Pediatrics* 2004;114;372-376., <http://www.pediatrics.org/cgi/content/full/114/2/372>

^{iv} Tomashek KM, et al., Differences in Mortality between Late-Preterm and Term Singleton Infants in the United States, 1995–2002, *The Journal of Pediatrics*, November 2007

^v Chyi, LJ., School Outcomes of Late Preterm Infants: Special Needs and Challenges for Infants Born at 32 to 36 Weeks Gestation, *J Pediatr* 2008;153:25-31

^{vi} Kalia JL, et al., Comparison of Enrollment in Interventional Therapies Between Late-Preterm and Very Preterm Infants at 12 Months' Corrected Age, *Pediatrics* 2009;123;804-809.