

## Extremely low gestational age (ELGA): short-term neonatal morbidity and mortality

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### Objective

Extremely premature infants are at high risk of perinatal and neonatal morbidity and mortality. Accurate and relevant data are essential for the healthcare planning of patients faced with threatened delivery at an extremely low gestational age (ELGA). This will affect decision-making around the limits of viability, and also provide realistic estimates of the infant's outcomes. The aim of this study is to develop an online software tool to assist with the individualized counseling of patients regarding neonatal outcomes of ELGA infants.

### Methods

Database query from London's Perinatal and Neonatal databases. Setting and Participants: 857 infants were born between 23+0 and 28+6 week's gestational age in London, Ontario, between 2002 and 2011. Main outcome measures: Gestational-age specific mortality and short-term morbidity rates (respiratory distress syndrome, bronchopulmonary dysplasia, intraventricular haemorrhage, necrotizing enterocolitis, retinopathy of prematurity, and sepsis), and the effects of gender, antenatal corticosteroids, multiple gestation, and birth weight.

### Results

Of the 766 infants who met eligibility criteria, 104 (13. 6%) were stillborn, and 644 (84. 1%) were admitted to the NICU, of which 502 (75. 8%) survived to discharge. Gestational age, antenatal corticosteroids, and birth weight were independent predictors of survival ( $p < 0. 05$ ). Increasing birth weight correlated with decreasing mortality rates. Using logistic regression analysis, significant predictors were determined at each gestational age for each mortality and morbidity outcome.

### Conclusion

This study provides local and recent outcomes data of ELGA infants delivered at a tertiary level centre. The results have been applied towards an online software application to be used by health care providers for the bedside counseling of patients faced with imminent delivery of an ELGA infant. We acknowledge the funding of the Department of Obstetrics and Gynecology (AEF Project -REB #17844).