

Bureau of Women's and Children's Health

Delivery of Twins at Home: Scientific Literature Review

Arizona Department of Health Services

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INTRODUCTION

There are multiple complications with twin pregnancies. The most common complications are preterm labor and preterm birth (labor or birth that starts before the end of 37 weeks of pregnancy). Other complications can include: preeclampsia, hyperemesis, anemia, urinary tract infections, abnormal placentation, thromboembolism, preterm premature rupture of membranes, abruption, gestational diabetes, growth problems, and postpartum hemorrhage. Any patient with a multiple gestation should be clinically managed as a high-risk pregnancy.

Approximately 50% of twin pregnancies deliver preterm, and major complications associated with prematurity include respiratory distress syndrome, necrotizing enterocolitis, intraventricular hemorrhage, and sepsis. These complications drive the perinatal mortality rate of twins to seven times that of singletons. Optimizing the route of delivery for twins is an important component of care that must be thoughtfully considered.

Sources: Martin JA, Hamilton BE, Sutton PD, et al. **Births: final data for 2004.** *Natl Vital Stat Rep.* 2006;55:1–101.

American College of Obstetricians and Gynecologists Committee on Practice Bulletins-Obstetrics; Society for Maternal-Fetal Medicine; ACOG Joint Editorial Committee, authors. **ACOG Practice Bulletin #56: Multiple gestation: complicated twin, triplet, and high-order multifetal pregnancy.** *Obstet Gynecol.* 2004;104:869–883.

Gabbe, S. **Obstetrics: Normal and Problem Pregnancies, 5th ed.** Churchill Livingstone, Philadelphia. 2007: 733-770.

KEY RESEARCH FINDINGS REGARDING DELIVERING TWINS AT HOME

Source: Chervenak et al. **Planned home birth: the professional responsibility response.** *Am J Obstet Gynecol.* 2013 Jan;208(1):31-8

- Researchers call on obstetricians, other concerned physicians, midwives and other obstetric providers, and their professional associations not to support planned home birth when there are safe and compassionate hospital-based alternatives and to advocate for a safe home-birth-like experience in the hospital.
- According to German law, a planned twin delivery can take place at home, if an obstetrician is present at delivery
- Author's recommendation: Planned home birth does not meet the standards of patient safety in obstetrics.
- Women should be informed of the high transport rate and the increased, preventable risks to herself, her fetus, and her infant, as well as the psychosocial harms of emergency transport.

Source: NCHS Data Brief, Number 84, January 2012

- Home births have a lower risk profile than hospital births, with fewer births to teenagers or unmarried women, and with fewer multiple births.
- Less than 1% of home births were multiple deliveries, compared with 3.5% of hospital births.

Source: Keirse, J. **Home Birth: Gone Away, Gone Astray, and Here To Stay.** *Birth* 2010; 37:4,341- 346.

- “Client demand is what is alleged to drive home birth for high-risk births, including twins, breech and post-term.”

Source: Symon et al. **Outcomes for births booked under an independent midwife and births in NHS maternity units: matched comparison study.** *BMJ* 2009; 338:b2060

- The “high risk” cases (such as preterm birth, twin pregnancy, and attempted vaginal breech birth, especially when combined) account for an overall higher home perinatal mortality rate in this study.
- Five of the seven second-twins who died in this study were presenting in the breech position.

Source: Wax et al. **Maternal and newborn outcomes in planned home birth vs. planned hospital births: a metaanalysis.** *Am J Obstet Gynecol.* 2010;203:3

- The strongest evidence that home birth can be harmful to newborn babies comes from a meta-analysis that found planned home births were two times the risk of neonatal deaths compared with planned hospital births.
- Increase in mortality attributed to occurrence of breathing difficulties and failed attempts at resuscitation—two factors associated with poor midwife training and lack of access to hospital equipment.

Source: Bastian et al. **Perinatal death associated with planned home birth in Australia: population based study.** *BMJ* 1998;317:384

- While home birth for low risk women can compare favorably with hospital birth, high risk home birth is inadvisable and experimental
- At least 18 home birth deaths (36%) in this study occurred in twins, post-term and preterm infants, and breech presentations, which would be contraindications for home birth elsewhere.
- Home birth mortality was 1 in 7 for twins; the two largest contributors to the excessive mortality were an underestimation of the risks of perinatal asphyxia in such births and, more generally, underestimation of the significance of fetal distress.

Source: Mehl-Madrona L, Madrona MM. **Physician- and midwife-attended home births: effects of breech, twin, and post-dates outcome data on mortality rates.** *Nurse Midwifery* 1997; 42:91–98

- A study conducted in the United States on mortality associated with breech, twin, and post-term births at home showed excess mortality in such home births and voiced concern about the trend to encourage midwives to engage in high risk practice. “Because of the well-established risks and the lack of encouraging outcome data, such practice must be labeled as inadvisable and experimental with all ethical safeguards that pertain to clinical experimentation.”
- Over intervention and lack of choice for women with high risk pregnancies, however, could well encourage some to choose home rather than hospital birth. In many hospitals, women with breech presentation or twins, for example, would only be offered caesarean section.

Source: C Gordon, S Smith, KM Fleming, IR White. **Birth order of twins and risk of perinatal death related to delivery in England, Northern Ireland, and Wales, 1994-2003: retrospective cohort study.** *BMJ.* 2007 March 17; 334(7593): 576

- In this cohort, compared with first twins, second twins born at term were at increased risk of perinatal death related to delivery.
- Vaginally delivered second twins had a fourfold risk of death caused by intrapartum anoxia.