

not write about gay or lesbian persons. We wrote about their children.

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## REFERENCES

1. American Academy of Pediatrics, Committee on Psychosocial Aspects of Child and Family Health. Coparent or second-parent adoption by same-sex parents. *Pediatrics*. 2002;109:339–340
2. Perrin EC and the AAP Committee on Psychosocial Aspects of Child and Family Health. Technical report: coparent or second-parent adoption by same-sex parents. *Pediatrics*. 2002;109:341–344
3. Gartrell N, Banki A, Hamilton J, et al. The National Lesbian Family Study 2: interviews with mothers of toddlers. *Am J Orthopsychiatry*. 1999;69:362–369
4. Gartrell N, Banki A, Reid N, et al. The National Lesbian Family Study 3: interviews with mothers of five-year-olds. *Am J Orthopsychiatry*. 2000; 70:542–548
5. Guttery EG. Coparent or second-parent adoption by same-sex parents [letter]. *Pediatrics*. 2002;109:1192
6. Friday GA Jr. Coparent or second-parent adoption by same-sex parents [letter]. *Pediatrics*. 2002;109:1192–1193
7. Field SS. Coparent or second-parent adoption by same-sex parents [letter]. *Pediatrics*. 2002;109:1193
8. Riggs SC. Coparent or second-parent adoption by same-sex parents [letter]. *Pediatrics*. 2002;109:1193
9. Farnsworth RY. Adoption by same-sex parents [letter]. *Pediatrics*. 2002; 110:419
10. Martín-Ancel A. Adoption by same-sex parents [letter]. *Pediatrics*. 2002; 110:419–420

## Water Birth—A Near-Drowning Experience

ABBREVIATIONS. CI, confidence interval; RR, relative risk.

Can delivery in water cause serious adverse outcomes? Undoubtedly, the answer is “yes.” There are several reports of death attributable to drowning resulting from poorly managed water births<sup>1</sup> and 1 death, involving 2 experienced midwives, in which asphyxiation and water-logged lungs made resuscitation of the infant difficult.<sup>2</sup> The latter case led to the cessation of water births in Sweden. In their report of 4 infants with water aspiration that appears in this issue of *Pediatrics*, Nguyen et al<sup>3</sup> provide additional evidence that water birth does cause adverse outcomes. Their argument for causality rests on the demonstration of radiograph appearances of gross pulmonary edema and, in 1 infant, hyponatraemia.

Any woman contemplating water birth will regard the safety of her infant as of paramount importance. For some women, these case reports will be sufficient in their decision to have a nonwater birth. Others are prepared to trade off a small risk of a very serious outcome against the perceived benefits of the experience. There may also be hope of physical benefits

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for the infant and mother but there is no clear research evidence that immersion in water during labor reduces duration of labor, perineal tears, or use of analgesia.<sup>4</sup> No studies have examined the effect of water birth.

To weigh the potential “pros and cons” of water birth, women need to know how likely it is that a serious outcome will occur. The answer is uncertain, but boundaries can be drawn. A surveillance study in England and Wales found a perinatal mortality rate of 1.2/1000 (5/4030; 95% confidence interval [CI]: 0.4, 2.9) for infants delivered via water birth.<sup>5</sup> Compared with low-risk deliveries that are nonwater births, the upper 99% confidence limit for the relative risk of perinatal death after delivery in water was 3.6/1000 ([relative risk (RR): 0.9: 99% CI: 0.2, 3.6 × 1.2] – 1.2). The risk of admission to the neonatal intensive care unit for lower respiratory tract problems (2 explicitly attributed to water aspiration) was 0.4% (95% CI: 0.2, 0.6%) or 1 in 270. Unfortunately, data to determine the additional risk attributable to water birth compared with low-risk nonwater birth deliveries are not available. Other adverse outcomes included a surprising number of infants ( $n = 5$ ) with a snapped umbilical cord, of whom 1 required a transfusion. This finding may be attributable to rapid cord traction as the infant is brought to the surface and could be remedied by lowering the water level as the infant is born. There was no evidence that the rate for hypoxic-ischemic encephalopathy differed from low-risk nonwater birth deliveries but as for mortality, the CI was wide.

Advocates of water birth cite the empowerment and autonomy over birth as one of the main advantages<sup>6,7</sup> but fail to give information about the potential harms of water birth. One Web site mentions safety but refers to home births rather than water births.<sup>7</sup> Regardless of commercial interests, practitioners have a responsibility to provide balanced information to empower women to make informed decisions about water birth. Adverse events, including death, have been caused by water birth and population-based studies cannot exclude a clinically important increased or decreased risk in mortality, much less morbidity.

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## REFERENCES

1. Zimmermann R, Huch A, Huch R. Water birth—is it safe? *J Perinat Med*. 1993;21:5–11
2. Rosser J. Is water birth safe? The facts behind the controversy. *MIDIRS Midwifery Digest*. 1994;4:4–6
3. Nguyen S, Kuschel C, Teele R, Spooner C. Water birth—a near-drowning experience. *Pediatrics*. 2002;110:411–413
4. Nikodem VC. Immersion in water during pregnancy, labour and birth; Cochrane Review. In: *The Cochrane Library, Issue 3*. Oxford, United Kingdom: Update Software; 1998
5. Gilbert RE, Tookey PA. Perinatal mortality and morbidity among babies delivered in water: surveillance study and postal survey. *BMJ*. 1999;319: 483–487
6. Global Maternal/Child Health Association and Waterbirth International. Giving birth in water. A gentle birth choice. <http://www.waterbirth.org/index2.html>. Accessed May 24, 2002
7. Daniels K. Waterbirth. A giant leap forward. <http://www.waterbirthinfo.com/article-p1.html>. Accessed May 24, 2002