

Water Birth: To Breathe Or Not To Breathe?



By *Jamie Wells, M.D.* — September 20, 2016



Last week, a video went viral (over 19 million views!) of a woman delivering an infant under water in a tub with her partner immersed along with them.

Headlines read (to name a few): "Mum Stuns Internet with Immaculate Water Birth Video", "The Viral Water Birth Video Proves Giving Birth can be Calm", "This Mom's Incredibly Peaceful Birth Video Went Viral On Facebook" and "'She gave birth like a boss': Video makes water birth look easy, but is it?"

Congratulations for the family abounded on the internet. It may look easy but there is little discussion about the safety of the process. And introducing a risk factor with no benefit is not a good idea.

In 2006, I published a [case report in *NeoReviews*](#) ^[1] of a near drowning of an infant from a water birth. That case involved an infant with significant respiratory distress at a hospital's neonatal intensive care unit (NICU), transferred from a "birthing center." The medical team at the hospital was told the baby had an uneventful vaginal birth, then began to decompensate in breathing at 2.5 hours of life and they called for an ambulance at 3.5 hours of life, because oxygen levels couldn't be maintained.

When the baby arrived in the NICU, what the birthing center originally reported was making little sense. By 9 hours post-birth, the infant was worsening, and the neonatologist told the family that the imaging studies looked like an infant who drowned. Only then was it disclosed that the neonate was delivered in a water birth and lost in a bloody bath for an unknown period of time.

In 2006, the American Congress of Obstetricians and Gynecologists (ACOG) policy was little help: *"the committee felt that there are insufficient data, especially concerning rates of infection, to render an opinion on whether warm-water immersion is a safe and appropriate birthing alternative...the procedure should*

be performed only if a facility can be compliant with OSHA standards regarding infection.”

Yet in 1994 an infant death due to asphyxiation and water-laden lungs, despite the presence of two experienced midwives, led to the cessation of water births in Sweden (1). In 1993 there had been several reports of death to drowning from poorly managed water births (2). Bowden et al in an extensive literature review found no true randomized, controlled trials (3).

Recommendations about strict standards for safety and infection control for both mom and infant were not decisive enough even though there were known infant cases of: snapped umbilical cord requiring transfusion, Grade 2 & 3 Hypoxic Ischemic Encephalopathy (HIE) and perinatal asphyxia (aka the type of brain damage when an infant’s brain does not receive adequate oxygen and blood), radiologic findings of fresh water drowning with pulmonary edema, respiratory distress, seizures as a result of very low sodium (aka hyponatremia) secondary to water intoxication, Group B Strep (GBS) meningitis and more.

Advocates insist it is an improved and safe method, with less painful delivery and less trauma to the birth canal. They make claims about “Greater Maternal Autonomy” and “Dilation Acceleration” and, my personal favorite, “Gentler Experience for Infant” (How would that even possibly be known?) and further postulate that primitive reflexes prevent the newborn from gasping till exposed to air—and, until then, the baby gets oxygen from the umbilical cord.

What is known are the risks for mom: loss of control of blood loss, decreased fetal monitoring, limited alternative analgesia, ineffective contractions, higher risk of infection especially with membrane rupture.

And the risks for the infant are aspiration and hypoxia, infection (Pseudomonas, GBS), delay of aid in fetal distress, challenges with thermoregulation, hyponatremic seizures, avulsed umbilical cords leading to blood loss and possible shock, no proven clinical benefits and animal studies suggest primitive reflex can be overridden.

In 2010, there were four cases of severe respiratory distress in neonates after a water birth, one died as a result of sepsis from Pseudomonas aeruginosa (4).

Most published literature, interpretation and a uniform definition that recommends underwater birth is flawed (5). The 2014 ACOG-AAP (American Academy of Pediatrics) Committee Opinion underscores the importance of distinguishing between safety during labor and safety during delivery. The statement illustrates that no study reports any benefit of maternal immersion to the baby during labor or delivery.

This [ACOG-AAP statement](#) ^[2] affirms and presents the evidence that the protective ‘diving reflex’ can be overridden. Meaning, the baby can breathe, gasp or swallow fluid while still submerged.

The policy concludes: “*The safety and efficacy of immersion in water during the second stage of labor have not been established, and...has not been associated with maternal or fetal benefit. Given these facts and case reports of rare but serious adverse effects in the newborn, the practice of immersion in the second stage of labor (underwater delivery) should be considered an experimental procedure that only should be performed within the context of an appropriately designed clinical trial with informed consent.*”

It addresses that strict standards need be implemented in facilities offering immersion for the first stage of labor. Clearly, the stance is stronger than 2006.

From a practical point of view, proponents of water birth are solving a problem we don't have. There is no more extraordinary suspension system than that of the pregnant mother. While *in utero*, the baby utilizes the umbilical cord to breathe and gain nutrients and it is not until the infant takes its first breath that the pressure differential in the heart and lungs shifts. At that point, the fetal circulation perinatally changes dramatically. Holes in the heart sequentially close that once maintained life inside the mother, but are no longer necessary in the air. The lungs expand.

Birth is an unpredictable and often traumatic journey, so why add a risk factor to an already risky endeavor when a mere 1-2 ml/kg (a few teaspoons) of fluid can cause pulmonary edema from drowning? (6)

Focusing on water births and doulahs and the "experience" serves to displace the attention away from the incredible good fortune of a healthy mother and healthy child.

Ask yourself: if the water birth goes awry, can I live with the consequences?

Sources:

(1) Rosser 1994 (Midwife Digest): Original article written for MIDIRS by Jilly Rosser midwifeMIDIRS/994.netereferences6 MIDIRS Midwifery Digest (Mar 1994) 4:1

(2) Zimmerman Et Al. Water Birth—Is it Safe? *Journal of Perinatal Medicine*. 21(1993) 5-11. Several reports of death attributed to drowning from poorly managed water births.

(3) Bowden K, Kessler D, Pinette M, Wilson E. Underwater birth: missing the evidence or missing the point? *Pediatrics*. 2003;112:972-973.

(4) Byard RW, Zuccollo JM. Forensic issues in cases of water birth fatalities. *Am J Forensic Med Pathol* 2010;31:258-60.

(5) [Committee Opinion, ACOG & AAP](#) [2]

(6) Wells J, Marron-Corwin M. [Index of Suspicion in the Nursery](#). [1][NeoReviews](#). [1] 2006; 7:e208.

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[1] <http://neoreviews.aappublications.org/content/7/4/e208>

[2] <http://www.acog.org/Resources-And-Publications/Committee-Opinions/Committee-on-Obstetric-Practice/Immersion-in-Water-During-Labor-and-Delivery>