

# Why Dolphins Don't Shrug: Natural Birth and Maternal Choice—An Evolutionary Perspective on Birthing



McCully B<sup>1\*</sup>, Henderson N<sup>2</sup> and Dodampahala H<sup>3</sup>

<sup>1</sup>Professor Brian McCully, Monash University, Department of Obstetrics & Gynaecology, Mildura Base Public Hospital, Australia

<sup>2</sup>Medical Student, Monash Rural Medical School, Victoria, Australia

<sup>3</sup>Professor in Obstetrics and Gynaecology, University of Colombo, Sri Lanka

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**\*Corresponding author:** Professor Brian McCully, Monash University, Department of Obstetrics & Gynaecology, Mildura Base Public Hospital, Australia

## Abstract

Water birth has become a compelling symbol of the natural childbirth movement, reflecting a broader cultural shift toward maternal autonomy and a reconceptualization of birth as a physiological process rather than merely a medical event. This review examines the physiological, evolutionary, and sociocultural aspects of water birth, critically evaluating both its safety and symbolic significance. In doing so, we address popular comparisons to aquatic mammals—particularly dolphins—interrogating the biological validity of such parallels. Rather than endorsing these romanticized associations, we analyse the unique evolutionary pressures—namely bipedalism and encephalization—that have made human childbirth exceptionally complex. We argue that natural birth must be understood within the limits of human biology, not through nostalgic reconstructions of nature. With this understanding, we support maternal choice, acknowledge the benefits of water birth, and advocate for respectful tolerance of diverse birthing practices.

**Keywords:** ACOG: American College of Obstetricians and Gynaecologists; hCG: Chorionic gonadotropin

## Introduction

The natural childbirth movement has profoundly reshaped the modern landscape of obstetrics, advancing a vision of birth that emphasizes maternal agency, minimal intervention, and physiological normalcy. Central to this vision is water birth, frequently portrayed as a serene and empowering alternative to the clinical delivery suite. Advocates often liken it to the graceful underwater deliveries of dolphins, invoking imagery of primal elegance and instinctive ease [1,2]. By invoking the imagery of dolphins and aquatic grace, advocates of water birth may unintentionally obscure the very real evolutionary challenges that shape human childbirth. Yet these comparisons raise critical questions: Can humans, with their distinctly terrestrial evolutionary heritage, genuinely claim that water birth is a natural act? What do evolutionary biology—and the anatomy of the human pelvis—reveal about the feasibility and significance of giving birth in water? And how do cultural ideals interact with the inescapable biological constraints inherent to the human form?

This paper examines water birth through the lens of human evolution, physiology, and symbolism. By unpacking the obstetric

dilemma, exploring the evolutionary implications of bipedalism and encephalization, and contrasting human childbirth with that of marine mammals, we aim to distinguish poetic metaphor from physiological reality. This is neither an argument against water birth nor a defence of medicalization. It advocates for balanced, informed dialogue about autonomy, embodiment, and the unique complexities of human reproduction.

## Discussion

Water birth gained renewed attention in the 1980s when French obstetrician Michel Odent reported that immersion in warm water could alleviate labour pain and expedite the first stage of labour. His observations, published in *The Lancet*, highlighted favourable outcomes, sparking international interest in water immersion during childbirth [1]. Physiologically, warm water provides buoyancy, facilitating maternal movement and alleviating pressure on joints and the perineum. It may also promote oxytocin release, enhance uterine efficiency, and decrease circulating stress hormones, contributing to smoother labour progression [3,4]. Many women describe water birth as a gentler entry for

the infant—transitioning from amniotic fluid to warm water, then to air. The newborn’s dive reflex, which slows breathing and heart rate when submerged, reflects adaptations seen in aquatic mammals [3]. As long as the umbilical cord remains intact, the baby continues to receive oxygen during this transitional phase [3].

A 2018 Cochrane Review, which included 15 trials and over 3,600 participants, found that immersion during the first stage of labour significantly reduced the use of epidurals and increased maternal satisfaction, without raising the rates of caesarean sections, neonatal complications, or prolonged labour [5]. Regarding water delivery, the data is less comprehensive but increasingly reassuring. A meta-analysis by Cluett et al. found no increased risk of neonatal infection, low Apgar scores, or perinatal mortality when water births occurred in well-controlled environments with professional oversight [5,3]. Nevertheless, rare complications—such as cord avulsion, water aspiration, or infection—have been reported, typically in settings lacking adequate hygiene or supervision [6]. Professional guidelines reflect this tension. The American College of Obstetricians and Gynaecologists (ACOG) supports immersion during labour for pain relief but advises against underwater delivery due to insufficient long-term safety data [7]. In contrast, the NICE guidelines in the UK endorse both labour and delivery in water for low-risk pregnancies, provided there is appropriate support [8]. Today, water birth is becoming more common in high-income countries. Women report less pain, increased mobility, emotional empowerment, and a connection to nature and ancestral traditions [2,5]. The popular aspiration to “give birth like a dolphin”—sublime, submerged, and uninterrupted—evokes a deep yearning to reconnect with something primal. But is this imagery valid? While water birth offers valuable physiological and emotional benefits, it cannot override the evolutionary mechanics that make human birth complex in the first place.

### Dolphins Don’t Shrug: A Comparative Anatomy of Birth

Our title metaphor—dolphins don’t shrug—is instructive. A shrug, that quintessentially human gesture of resignation or defiance, relies on mobile shoulders and flexible necks. Dolphins have neither. Their cervical vertebrae are fused for hydrodynamic efficiency, and their forelimbs, although homologous to ours, are enclosed within a fusiform body adapted for aquatic life [9,10]. Dolphins do indeed give birth in water—but unlike humans, they evolved to do so. Their ancestors were terrestrial ungulates that returned to the sea around 50 million years ago, undergoing a profound process of convergent evolution [11,12]. In that journey, they shed hind limbs, simplified pelvic structures, and developed blubber, flukes, and a tail-first birth sequence that prevents neonatal drowning [10]. Their circular, wide, and short pelvises allow for straightforward passage—a stark contrast to the twisting, angular human pelvis. Dolphin calves are precocial and able to swim and breathe immediately after birth. Human infants, by

contrast, are neurologically immature and entirely dependent, the result of a biological compromise between mobility and cognitive development [13]. Romanticizing human water birth as a return to nature overlooks these evolutionary distinctions. Humans evolved not in water but on land—with two defining traits: upright walking and large brains. These traits form the basis of the obstetric dilemma, an evolutionary trade-off that has uniquely shaped human childbirth [14,15].

### The Obstetric Dilemma

The obstetric dilemma characterizes the human birthing process—the evolutionary tension between safety, birth outcomes, and the physiological cost of bipedalism and encephalization. Bipedalism reshaped the human pelvis, funnelling the birth canal to accommodate upright posture and gait [14]. Consequently, the pelvis evolved from a ring into a complex, twisting canal. At the same time, encephalization—the significant increase in human brain size—resulted in neonates with disproportionately large heads [16,17]. Genetic, hormonal, and nutritional adaptations supported enhanced fetal brain development. Chorionic gonadotropin (hCG), a subtle mutation of placental signalling hormones, allowed deeper trophoblast implantation and enhanced vascularization. Genetic mutations—*SRGAP2C*, *ARHGAP11B*, *NOTCH2NL*, and *FOXP2*—expanded cortical architecture and neural connectivity [17,18]. However, the impact was profound: a larger head to accommodate such investment meant it had to twist, compress, and mould its way like a contortionist through a narrowed birth canal—or risk being born earlier and smaller to reduce the threat of obstruction in labour. Evolution made a compromise, shortening gestation to produce altricial infants—less able to survive independently, but better equipped to survive the journey of parturition [18]. To compensate, humans became nurturers. Childbirth evolved into a social undertaking. Protected childhood—neoteny—allows for extended learning, skill acquisition, and socialization, which promotes continued neurological development [19,20]. Dietary shifts—especially meat consumption and cooking—freed up metabolic energy for brain growth, supporting the Expensive Tissue Hypothesis [21]. This combination of traits enabled cultural transmission, language, symbolic reasoning, and cooperative social structures.

### Birth as a Social and Medical Event

Human birth is, therefore, a result of evolutionary trade-offs. It is not difficult because we are doing it incorrectly or because we are too entitled to try harder—it is because we evolved this way. The rise of medical obstetrics addressed these realities. Historically, childbirth was fraught with fatal complications such as haemorrhage, infection, obstructed labour, and eclampsia. The introduction of antiseptics, antibiotics, caesarean sections, fetal monitoring, and trained providers revolutionized safety [22]. Medicalization was not a cultural imposition but a necessary response to biological risk. Nonetheless, critiques emerged as medical systems became increasingly rigid. The overuse of

interventions such as caesareans, inductions, and episiotomies raised concerns about depersonalized care. Women reported feeling disempowered and subjected to standardized protocols rather than personalized attention [22,23]. In response, the natural birth movement emerged—demanding dignity, autonomy, and the reclamation of birth as a personal, embodied experience. Water birth, home birth, and physiological labour were redefined not just as techniques, but as expressions of empowerment and reclaimed bodily autonomy [1,3]. These shifts prompted valuable reforms: partner presence, delayed cord clamping, skin-to-skin contact, and midwife-led care—all of which helped restore humanity and agency to the birth experience [3]. In this context, water birth reflects a desire to reconnect with the instinctive and the beautiful—and when managed responsibly, it can be a safe and satisfying option.

### The Danger of Romanticizing Nature

Yet, even as metaphors inspire, they must not obscure biology. Humans are not dolphins. Our infants must rotate and mould through a bony labyrinth—a passage shaped not by water, but by walking and thinking. Nature is not always kind; it selects for survival, not serenity. Monkeys do not give birth in rivers, nor do cows submerge to calve. Evolution equips each species with tools suited to its anatomy and environment. Romanticizing “natural” birth can be misleading—even dangerous. The UK’s Ockenden Report revealed tragic outcomes where women, encouraged to pursue “normal birth” at all costs, were denied timely interventions. Some suffered preventable injuries. Some did not survive [24]. Only humans have the cognitive freedom to choose their birth settings and weigh tradition, evidence, and personal values. This freedom—rooted in autonomy—must be accompanied by responsibility. A labouring woman deserves truthful information and competent guidance. She must trust her clinicians, who, in turn, must respect her preferences. Obstetrics, at its best, is not about control—it is about collaboration [25-27].

### Conclusion

Seeking a “natural” birth does not mean returning to an idyllic past; it means confronting what is natural for us: challenge, support, and adaptation. Informed women, backed by compassionate professionals, can make birth what it should be—a shared human endeavour: informed, supported, and presented with a range of safe, meaningful options. Water birth reflects our desire to reconnect with something elemental and instinctual. It can be biologically sound, emotionally empowering, and medically safe. However, seeking a dolphin’s birth does not mean becoming one. Dolphins glide effortlessly through the sea; their births evolved for water. With shoulders that rise and fall and shrug to Hey Jude, we are free to do what we can—within the bounds of our biology, and with the benefit of knowledge and care. Let birth remain what it has always been: not a regression to myth, but a progression through knowledge. When grounded in empathy and

science, birth—whether on land or in water—becomes not just an item on a shopping list but a profoundly human expression of life, vulnerability, strength, and shared care.

### References

- Harper B (2015) *Gentle Birth Choices*. Rochester, VT: Healing Arts Press.
- Richmond H (2003) Women’s experience of water immersion during childbirth. *Br J Midwifery* 11(3): 160-165.
- Nutter E, Meyer S, Shaw-Battista J, Marowitz A (2014) Waterbirth: an integrative analysis of peer-reviewed literature. *J Midwifery Womens Health* 59(3): 286-319.
- Mackey MM (2001) Use of water in labour and birth. *Clin Obstet Gynecol* 44(4): 733-749.
- Cluett ER, Burns E (2018) Immersion in water in labour and birth. *Cochrane Database Syst Rev* 5(5): CD000111.
- Pinette MG, Wax J, Wilson E (2004) The risks of underwater birth. *Am J Obstet Gynecol* 190(5): 1211-1215.
- (2016) ACOG Committee Opinion No. 679. Immersion in water during labour and delivery. *Obstet Gynecol* 128(5): e231-e236.
- National Institute for Health and Care Excellence (NICE) (2014) *Intrapartum Care: Care of Healthy Women and Their Babies During Childbirth*. NICE Guideline CG190. London: NICE.
- Fish FE (1998) Comparative kinematics and hydrodynamics of odontocete cetaceans: morphological and ecological correlates with swimming performance. *J Exp Biol* 201(Pt 20): 2867-2877.
- Reidenberg JS (2007) Anatomical adaptations of aquatic mammals. *Anat Rec (Hoboken)* 290(6): 507-513.
- Thewissen JGM, Williams EM, Roe LJ, Hussain ST (2001) Skeletons of terrestrial cetaceans and the relationship of whales to artiodactyls. *Nature* 413(6853): 277-281.
- Gatesy J, O’Leary MA (2001) Deciphering whale origins with molecules and fossils. *Trends Ecol Evol* 16(10): 562-570.
- Martin RD (2007) The evolution of human reproduction: a primatological perspective. *Am J Phys Anthropol Suppl* 45: 59-84.
- Rosenberg KR, Trevathan WR (1995) Bipedalism and human birth: The obstetrical dilemma revisited. *Evol Anthropol* 4(5): 161-168.
- Washburn SL (1960) The evolution of human childbirth. *Sci Am* 203(3): 80-91.
- Falk D (1990) Brain evolution in Homo: The “radiator theory.” *Behav Brain Sci* 13(2): 333-381.
- DeSilva JM (2011) A shift in the ecology of childbirth. *Proc Natl Acad Sci USA* 108(16): 6250-6251.
- Dunsworth HM, Warrener AG, Deacon T, Ellison PT, Pontzer H (2012) Metabolic hypothesis for human altriciality. *Proc Natl Acad Sci USA* 109(38): 15212-15216.
- Robson SL, Wood B (2008) Hominin life history: reconstruction and evolution. *J Anat* 212(4): 394-425.
- Trevathan WR (1987) *Human Birth: An Evolutionary Perspective*. New York: Aldine de Gruyter.
- Aiello LC, Wheeler P (1995) The Expensive-Tissue Hypothesis: The brain and the digestive system in human and primate evolution. *Curr Anthropol* 36(2): 199-221.

22. Oakley A (1984) *The Captured Womb: A History of the Medical Care of Pregnant Women*. Oxford: Blackwell.
23. Davis-Floyd R (2004) *Birth as an American Rite of Passage*. Berkeley: University of California Press.
24. Ockenden D (2022) *Independent Review of Maternity Services at the Shrewsbury and Telford Hospital NHS Trust: Final Report*. UK Government.
25. Otigbah CM, Dhanjal MK, Harmsworth G, Chard T (2000) A retrospective comparison of water births and conventional vaginal deliveries. *Eur J Obstet Gynecol Reprod Biol* 91(1): 15-20.
26. Cluett ER, Nikodem VC, McCandlish RE, Burns E (2018) Immersion in water in labour and birth. *Cochrane Database Syst Rev* 5(5): CD000111.
27. Connor RC, Smolker RA, Bejder L (2006) Synchrony, social behaviour and alliance affiliation in Indian Ocean bottlenose dolphins, *Tursiops aduncus*. *Anim Behav* 72(6): 1371-1378.



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