



## Pushing Positions

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Published: September 21, 2013

Current obstetrical practices during second stage were developed with the attendant, rather than the birthing mother, in mind. The lithotomy position, with a mother flat on her back and her feet in stirrups, was once the standard position in hospitals for women to give birth and in some hospitals it is still the norm. This was believed to be the ideal position for doctors to deliver the baby while sitting or standing in attendance. The doctor had easy access to watch, to help with delivery if needed, and to intervene when he or she felt it necessary.

Whom it wasn't ideal for was the mother who has to push her baby uphill against the force of gravity when lying on her back. The common lack of progress despite the mother's strong efforts often led to a forceps delivery of the baby. With the mother's perineum stretched by the positioning of the stirrups making tearing was much more common. Doctors started to believe that episiotomies were needed to "protect" the mother's perineum because of the large number of tears they observed in this position and the difficulty women had in pushing their babies out while lying prone. Episiotomies became the norm and were easy to do for the doctor because of the access to her perineum. Today, episiotomy rates are plummeting as this research confirms that the side effects of unnecessarily cutting the perineum are long lasting and avoidable in most circumstances. Women revolted against the lithotomy position, and other routine obstetrical practices, in the late 1960's and the semi-sitting posture is now seen in almost all hospital birthing rooms. But is this position any better for mother and baby?

Time had it that almost all women pushed in the position she felt most comfortable. For most, that was a squat or in a kneeling, standing, or forward leaning position. Native American women traditionally kneeled, leaned forward and grasped a teepee pole or tree. In southern Africa, the woman may kneel, legs wide apart, with her heels supporting her perineum. In central Africa and Columbia women grasp the branch of a tree which is laid horizontally between two other trees (or stakes set in the ground), bending her knees into a squatting position as she pushes. An alternative is a vertical stake driven firmly into the earth. (1)

In many cultures a woman sits on another's lap or squats between her husband's or another woman's thighs. Birth stools and chairs evolved from lap-sitting and squatting positions. Birth stools are low, simple with a cutout that enabled a woman to squat with support. As time went on, in Europe stools became more elaborate, with low backs on them. This immediately reduced pelvic mobility. These chairs became increasingly elaborate, especially as doctors took over childbirth, and became more and more complicated while at the same time making it harder and harder for a woman to move.

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The next development was to tip the woman onto her back on a narrow table with her legs raised. The mother was even strapped to the bed with knotted bandages, metal restrainers, cuffs and straps. This was seen as a "protective measure" for the mother due to the use of hallucinogenic Twilight Sleep, which was routinely given to all laboring mothers. The newest innovation is the birthing beds that assume many positions and come apart during the pushing stage to assume an upright sitting position with various handles and foot rests for the mother's use.

Virtually all women today who birth in a hospital setting use these birthing beds. Although they allow a more physiologically superior position to lithotomy in terms of the mother's participation and comfort level, they still are inferior to traditional positions assumed by mothers in response to their body's signals.

During a very long labor, Dr. Campbell in Georgia decided to use forceps, 'but just then one of the violent pains, she raised herself up in bed and assumed a squatting position when the most magic effect was produced. It seemed to aid in completing delivery in the most remarkable manner, as the head advanced rapidly, and she soon expelled the child by what appeared to be one prolonged attack of pain. In subsequent parturition, labor appeared extremely painful and retarded in the same manner; I allowed her to take the same position, as I had remembered her former labor, and she was delivered at once, squatting. (3)

How is this possible? To understand, we need to understand the pelvis and how it moves during birth. The pelvis is made up of four independently movable bones, the left and right ilia separated in the front of the pelvis by the pubis symphysis, the sacrum attached to the ilia at the sacro-iliac joints, and the coccyx or tailbone located at the base of the sacrum. They are connected by cartilage and ligaments that are softened during pregnancy by a hormone called relaxin. This softening allows increased movement between the bones, allowing optimal passage of the baby through the pelvis.

When a mother is in an upright or forward leaning position, the angles and internal dimensions can change dramatically to allow the baby to maneuver through the pelvis. "The relationship of the pelvic brim to the lumbar spine changes, allowing the foetal head to enter the pelvis. The ischial spines [the narrowest part of the pelvis] are no longer level, allowing the foetal head to pass through them with ease. The ligaments connecting the sacrum to the ilia are more flexible [due to the effects of relaxin] which allows them to lift up about 1-2 cm straightening the posterior pelvic wall." When a woman is in a forward leaning or upright position, the sacrum can be seen clearly as the baby moves through the pelvis, lifting the sacrum and coccyx out of the way. "If a woman is in a well supported squat, standing and leaning forwards or kneeling and leaning forwards with her arms clutching onto something higher than her waist, she will instinctively arch her back and 'throw' her pelvis out at this stage." (4) Dr. Michel Odent calls this the 'Foetal Ejection Reflex'.



When a woman is in a lithotomy or semi-sitting position the Foetal Ejection Reflex is impaired and the increased pain caused by the sacrum's inability to move as the baby descends can be intolerable. For anyone who has seen women giving birth, the inability of the mother to "keep her bottom down" on the bed is common as the baby moves past the sacrum. What is worse is the inability for the baby's head to move past the impacted sacrum or the now narrowed pelvic outlet due to the tailbone being forced inwards. This is more common when epidural anesthesia impairs the mother's ability to feel her baby's descent and, according to Dr. Todd Gastaldo DC, will decrease the pelvic outlet by 30%.

The coccyx is designed to move out of the way as the baby's head descends. Sitting on the coccyx during birth restricts the pelvic outlet and can also lead to dislocation of the coccyx. (5) It can also cause an increased length of labor, make delivery more difficult and slow or arrest descent. (6) These may develop into oxygen deprivation for the baby, causing distress or worse. If it isn't resolved, forceps/vacuum assisted delivery is turned to as a solution. The uses of these instruments typically incur damage to the baby's fragile head and neck muscles and nerves. The alternative is caesarean delivery, a major abdominal surgical procedure to extract the baby, which brings its own risks into play for the mother.

Semi-sitting and lithotomy pushing positions can also result in another serious problem of shoulder dystocia. Dr. Jason Gardosi, MD, FRCS, MRCOG, from the Queen's Medical Centre in Nottingham, UK explains, "The antero-posterior [outlet] diameter is reduced in recumbent [semi-sitting] and lithotomy positions where the weight is taken on the sacrum. The sacrum is capable of rotational movement through an axis at the upper part of the sacro-iliac joint." He goes on to add, "Many so-called 'shoulder dystocias' are just difficult deliveries caused by a recumbent position. Apart from the sacrum being pushed upward, reducing the AP diameter, it is difficult to allow lateral flexion when the presenting shoulder abuts on the mattress." Dr. Todd Gastaldo adds, "And when the shoulders get REALLY stuck, MDs pull REALLY hard... Could this bizarre MD behavior account for at least SOME of the unexplained cerebral palsy, brachial plexus palsy, low APGAR scores, etc.? How about some of the unexplained DEATHS?" [Emphasis the doctor's] Good questions which need to be addressed with maneuver's beyond the McRoberts Position, placing the mother flat on her back with her knees pulled up and back, simulating an upside-down squatting position. This is the standard position women are placed in when shoulder dystocia is suspected. If women were allowed to birth in positions they assumed naturally like the Gaskin Maneuver, moving to a hands and knees position would easily be done and thus far have been proven the most successful position for resolving shoulder dystocia.

The solution? Simple. Allow the mother to assume a position she feels most comfortable in, which in almost all cases does not involve a lying down or semi-sitting position on a bed. It is extremely rare that a woman will spontaneously assume a lying or leaning back position during second stage, the very position most women are expected to assume in a hospital situation. (7) At the same time, obstetrical practices of frequent and/or continuous monitoring with stationary fetal monitors combined with the many interventions and medications used routinely interfere with the body's natural response to labor.

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If a woman is unable to assume a naturally active position like a squat, kneeling, or other forward-leaning positions (i.e. hands and knees), then avoiding sacral and coccyx-impairing positions like lithotomy and semi-sitting would be wise and only make common sense. Side-lying is an excellent alternative when the situation warrants it, like when a mother has an epidural.

### **Resources**

1. Kitzinger S., *Rediscovering Birth*, Pocket Books, 2001, p 188
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4. Sutton J, Scott P, *Understanding and Teaching Optimal Foetal Positioning*, Birth Concepts New Zealand, 1995, p 11
5. Balaskas J, *Active Birth*, Harvard Common Press Boston, 1992, p 139
6. Davis-Floyd R, *Birth as an American Rite of Passage*, University of California Press Berkley Los Angeles London, 1992, p 122
7. Odent M, *Birth Reborn*, Birth Works Press Medford, 1994, p 47