THE Parents CLASS

Evidence-led
antenatal education

Upright Birthing

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INTRODUCTION

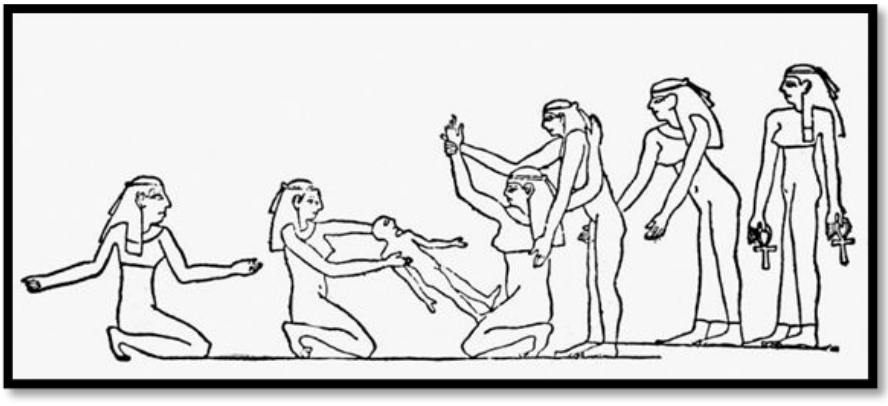
According to the United Nations around 385,000 babies are born every day, that's an incredible 140 million a year. So, it is safe to say that for millions of mothers around the world knowing as much as they can about childbirth and making it as safe and as easy as possible is very important. It is well known that promoting optimal physiology; that is the way the body is supposed to function, is vitally important during childbirth. Indeed, there have been numerous studies from all over the world that have shown instinctive movement and a variety of upright birth positions have many benefits for both mothers and their babies. Instinct led movement can not only improve the experience of childbirth but also prevent some common complications during labour.

This book will introduce the benefits of upright positions for birth led by instinctive movements, and how they work to not only improve the experience of childbirth but also the safety of it too. It is not intended as an in depth, academic volume, more an overview of the relevant areas that play important parts relating to this subject. We hope that it stimulates your interest in learning more.

What are upright positions?

Historical and anthropological literature shows that lying down for birth is a relatively modern phenomenon that began as we moved from a social to a more medicalised model of care for birthing women. However, as far back as written records, carvings and paintings go, women have given birth upright – whether it was using stacked bricks to create a primitive birthing stool or holding onto ropes hung from trees.

A famous drawing *(below)*, from Egypt depicts Cleopatra (69-30 BC) kneeling to give birth in the birth house at the temple of Esneh.



Throughout history, in all populations and cultures around the world, upright positions during childbirth have been preferred and instinctively used by women during labour and birth. From ancient Egypt to the Aztecs, Medieval Europe and the far East women were encouraged by their supporters to remain upright as much as possible during birth. Indeed, some modern birth centres and maternity hospitals promote movement and upright positions. They do this by offering the use of resources like birth pools and Comfortable Upright Birth (CUB) supports. This is one way to achieve more positive, healthy births by reducing the rates of some interventions becoming necessary.

Upright positions are any movement or position that allows the female pelvis to open, adjust and move freely during childbirth. These include standing, sitting upright (at more than a 50% angle), squatting, kneeling and variations of kneeling, including lunge positions and all fours (hands and knees). Any one of these positions can also be used to give birth. It is important that your care providers and the people you choose to support you during childbirth know that you want to be upright, active, and mobile during labour as opposed to be confined to a hospital bed. What is most important is that your movement is not restricted in any way and that you can move instinctively as much or as little as you want to during labour.

CHAPTER 1

Why does an upright birthing position matter?

Research studies from around the world have repeatedly proven that instinctive movement and upright positions naturally adopted during birth can significantly reduce morbidity and mortality rates. This evidence prompted the World Health Organization (WHO) recommendation of promoting freedom of movement, upright positions, and mobility during childbirth as and when the woman chooses. This recommendation has since been adopted by Royal College of Obstetricians and Gynaecologists (RCOG), the American College of Obstetricians and Gynaecologists (ACOG) as well as equivalent professional midwifery and medical bodies in most developed countries. Women being restricted to labouring and giving birth in a semi sitting position on a hospital bed is no longer viewed as the optimal or most desirable position for a safe and healthy birth for most low-risk mothers. This is a seismic change in modern obstetric practice as mothers instinctively use a range of predominantly upright positions during labour and birth. Many women report that giving birth when laying on their backs made them feel:

- Less able to manage sensations.
- Increased pain.
- More difficulty when pushing.
- More discomfort compared to when moving around.

Studies have also shown that those that give birth in an upright position feel more in control of their birth and express greater satisfaction with their birthing experience.

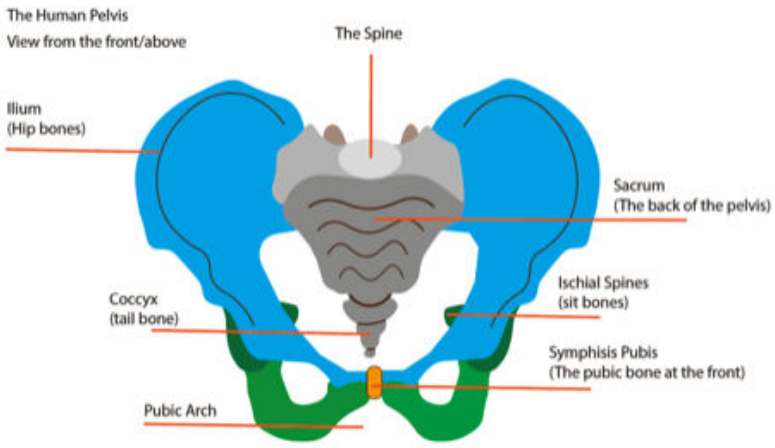
> *"The central principle of an active birth, is for the woman to be free to move spontaneously and be led by her body, adopting upright positions during labour and birth. This practice is universal and cross-cultural and makes birth easier, safer, more efficient, and less painful."*
>
> **Janet Balaskas**
> Pioneer of the
> Active Birth Movement

The following are just some of the extensive research statistics that show the physiological benefits for mothers and their babies when upright and active positions for birth are used:

- A 29% reduced risk of emergency caesarean section.
- A 54% reduction of the risk of baby becoming distressed during labour.
- An increase of 28-30% more available space within the pelvis making it easier for baby to be born.

- A reduction in the time taken to become fully dilated can be shorter.
- The time taken to push baby out to birth is shorter.
- Contractions can be significantly more effective.
- A 23% reduced risk for the need for medical intervention such as ventous (suction).
- A 21% reduced risk for a cut to your perineum being necessary (episiotomy).

The Pelvis

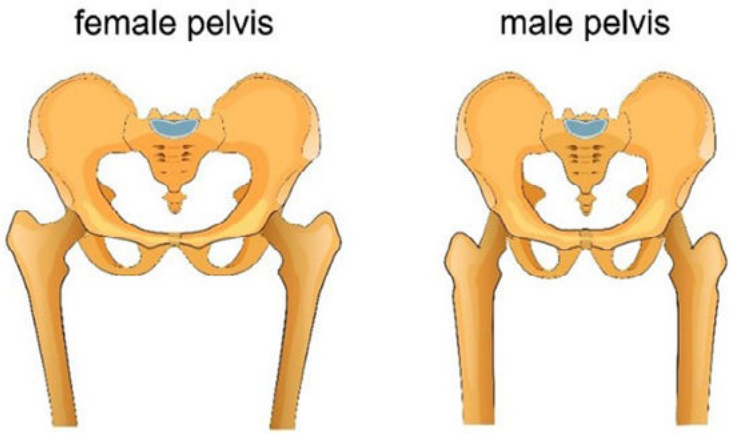


When we are discussing upright positions, we are referring to how these movements affect the ability and freedom of the female pelvis to work optimally during labour and birth. The pelvis is the bony structure that moves, opens, and guides the baby from the uterus (womb) to birth and it plays a very important role in our anatomy. The pelvis is essential for our ability to stand, move, stay upright, and give birth. It is a complex structure and is composed of several essential bones, parts and landmarks that have specific influence on labour and birth. This includes the sacrum (back of the pelvis), coccyx (tail bone), ilia (the 2 hip bones), pubis (pubic bone), and ischium (sit bones). These together form the base of the spine creating support and stability. During pregnancy, the ligaments between the joints (sacroiliac joints at the back and the symphysis pubis joint at the front) become looser – this encourages movement within the joint during childbirth creating more space for the baby to fit through.

Differences between the female and male pelvis

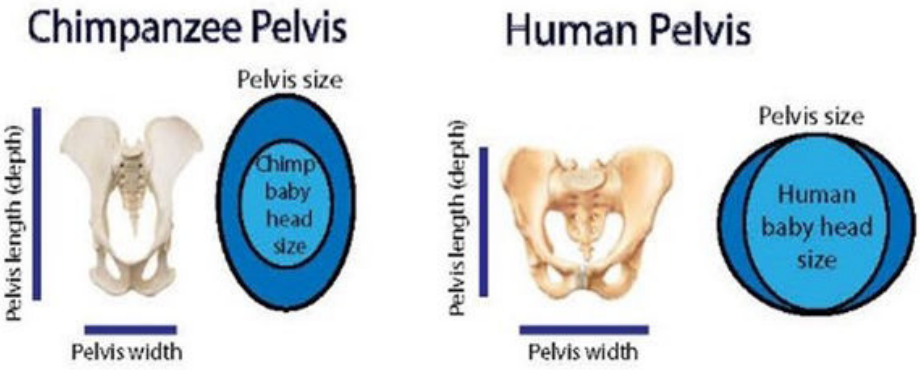
The female and male pelvis are significantly different in their structure due to the different roles each needs to perform. The female pelvis is wider, flatter, and less curved than the male one. This allows for easier childbirth as it gives more space for a baby's head and body to fit through. On the other hand, the male pelvis is narrower, deeper, and more curved than the female one. This gives a male greater stability when standing or running.

Female characteristics	Male Characteristics
Bones are lighter and thinner	Bones are heavier and thicker
It is wide and shallow	It is narrow and deep
The pelvis inlet - this is the first part of the pelvis baby must fit through, is oval shaped	The pelvic inlet is heart shaped and smaller
The pelvic outlet – is much larger than that of the male pelvis	A smaller pelvic outlet compared to the female pelvis
The pubic arch at the front of the pelvis is wide	The pubic arch is narrow
The sacrum and coccyx - the back of the pelvis and the 'tail bone' can move and open out, creating more room for baby to move through to be born	The sacrum and coccyx are more curved and cannot move in the same way as the female pelvis

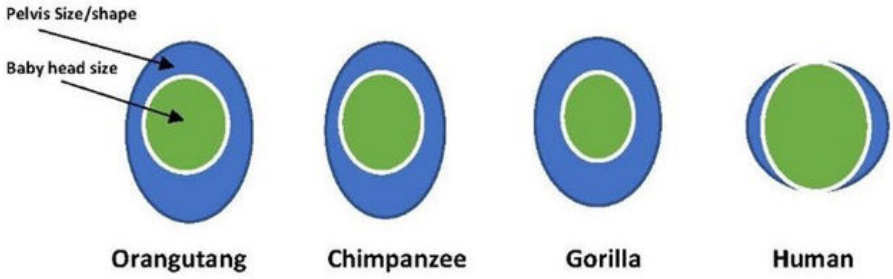


The differences between human and non-human birth

It is generally accepted that giving birth at least appears to be less complicated for other mammals – particularly for some of the great apes such as chimpanzees – than it is for humans. To really understand why this may be so, it is important to understand the differences between the human female pelvis and the non-human female pelvis.



The female pelvis in humans is significantly different from that of great apes. Humans have a shorter, and more rounded pelvic structure, while apes have a wider, longer, funnel like one. The female pelvis in humans is adapted to allow for the passage of a baby during childbirth, while that of great apes is not as well suited for this function. However, the available space within their pelvis is much greater compared to the size of their baby's head than it is for humans. This means that an ape baby does not need to go through the cardinal movements like a human baby does because it can easily fit through the mother's pelvis. Humans also have significantly larger heads in comparison to their mother's pelvis than great apes at birth, and therefore require a wider birth canal to facilitate the passage of the baby's head. These differences in the structure of the female pelvis in humans and great apes are important for understanding how the two species adapted to their different environments over time.

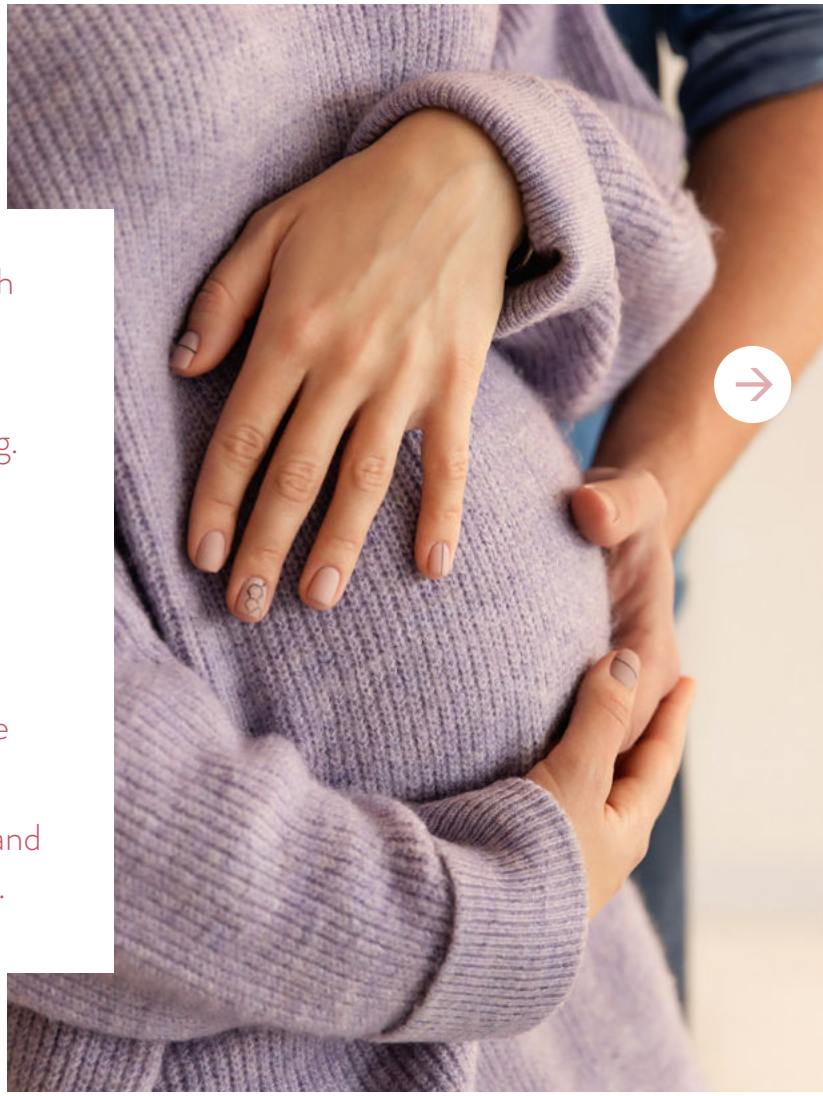


The human female pelvis also has some other features that distinguish it from those of great apes. For example, humans have wide pubic arches which provide greater stability during labour, and narrower sacral curves which reduce strain on the mother's body during birth. Ultimately, the female pelvis in humans and great apes are vastly different, but both have evolved in response to their respective environments over the course of evolution.

What prevents upright positions from being used?

In relation to benefiting from more upright positions in childbirth, the function and movement of the pelvis is one of the key elements that facilitates a safe and healthy birth. However, there can be barriers that prevent optimal function, for example: being forced to stay on a bed, lying on your back or a care provider that believes any other position is ineffective or even dangerous. In addition to the physical aspects of supporting upright positions, there are many widely held beliefs that can impact on an individual's ability and confidence in their body's very well adapted physiology.

The following are just some of the commonly held myths (that are not true) about the female pelvis and its role during childbirth:



- Women are not very good at giving birth because of our poorly adapted pelvis.
- The female pelvis is adapted this way through the evolution of upright walking.
- Small 'boned' females struggle to give birth to normal sized babies.
- Being tall or short, slim, or heavy is an indication of the ability to give birth.
- Women commonly grow babies that are too big to fit through their pelvis.
- Women's bodies are not overall bigger and healthier than they were 100 years ago.

CHAPTER 2

Walking upright

It is a well-established fact that inequalities in healthcare provision account for most long-term morbidities and mortality during childbirth, not the fact that we walk upright. This is the case within specific groups in high income as well as low-income countries. Women from disadvantaged or marginalised groups are many times more at risk from long term morbidity or mortality than those that are not in these groups, even though we all walk upright. If problematic childbirth was specifically due to a poorly adapted female pelvis, then the same rates of obstructed labour would be apparent in every female population equally, however they are not. As there are now almost 8 billion people on the planet, with twice as many births as deaths happening every second, we should be confident in assuming that female humans are efficient at giving birth rather than poorly adapted. The female pelvis is well designed for human childbirth, and it is an outdated concept to believe otherwise. More recent studies have specifically explored the relationship between walking upright, the female pelvis and childbirth. This included one from Harvard University in 2015 that found no connection between hip width and efficient walking. They concluded that:

> *"Our results show that the idea of a link between pelvic width for birth and pelvic width for locomotion is an outdated notion,"* continued the author. *"It's not supported by our data or any other scientific evidence we have seen. Instead, our findings point to a much more complex relationship between the dimensions of childbirth and bipedalism."*
>
> *"This idea, that pelvic width for birth and pelvic width for locomotion are connected, is deeply ingrained in this discipline,"* said the first author of the study. *"Everyone thinks they know this is true...but it's wrong, and it's wrong for two reasons. First, the way we had modelled the forces involved didn't make sense. Second, we found that you can't predict, from the width of the pelvis, how much energy someone is using, so we've been looking at this biomechanical problem entirely wrong."*

This was further confirmed by a team of researchers led by Marcia Ponce de León at the Anthropological Institute of the University of Zurich that provided additional, new insights. Using computed tomographic data, they tracked pelvic development from birth to old age and found that until puberty, male and female pelvis are similar in

width. With the onset of puberty, the male pelvis remains on the same developmental trajectory, while the female pelvis develops in an entirely new direction, becoming wider and reaching its full width around the age of 25-30 years. From the age of 40 onward, the female pelvis then begins to narrow again. The researchers hypothesize that these processes are steered by changes in hormone levels. With the onset of puberty, oestrogen concentration reaches high levels, which are maintained until menopause. High oestrogen levels thus maintain high fertility and guarantee that the female pelvis develops and maintains its most favourable form for childbirth.

> *"This implies that the female body can modulate its pelvic dimensions 'on demand', and is not dependent on genetically fixed developmental programs,"* explains Ponce de León. *"At the same time, hormone levels also depend on environmental and nutritional factors. "This suggests that difficult childbirths are not necessarily an evolutionary mis-step, but more a question of the balance between the hormones and the external factors influencing the size of the birth canal and the prenatal development of the child."*

Based on this information it is apparent that more difficult childbirths are not an evolutionary problem because we walk upright.

The size of the pelvis

The female pelvis is a complex and fascinating part of the human anatomy. As it is the bony structure that supports the uterus and the growing baby during pregnancy, it is directly, but not solely, responsible for helping the baby to pass through the mother's body during childbirth. However, in most obstetric and midwifery textbooks the internal dimensions of the female pelvis are given as an average size that is the same for every woman, regardless of her height. This seems at odds with the promotion of the idea that smaller women have more problems giving birth as it is well known that adult height correlates to pelvic size, and in most individuals' growth of all parts of the skeleton is in proportion to their height. This means that a person who is taller will not only have longer legs but also longer arms, spine, pelvis, skull, hands, and feet than someone who is much smaller in stature. Of course, this is not always the case, as every human is unique, but in general we know this to be true.

However, if we follow the obstetric teaching that the space within the maternal pelvis has little variation in all women, then why would it be a common belief that smaller women have more difficulty giving birth? Surely if they have the same comparative internal pelvic

dimensions as a woman that is very tall, being short is irrelevant. Yet every day, all over the world healthy women are coerced into agreeing to multiple interventions based on nothing more than their height.

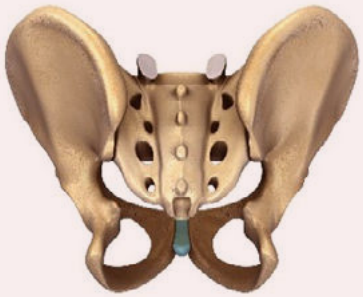
Women's body sizes are often subjectively judged for being one thing or another. This includes being judged as 'small' - this may mean that they are an average height but just not very tall, or those that are slim, or those who (from no more than external visual opinion) have apparently a narrow pelvis, so can't give birth to normal sized babies. However, we know that many 'small' women give birth to large babies with as much ease and/or difficulty as subjectively larger women.

But if we are taught that a woman of 4'11" has on average the same pelvic dimensions as a woman of 5'11" then we can't use both smaller stature and skeletal size to justify intervention. What may be more relevant is the size of the baby comparative to the size of the mother. However even that theory is questionable because we also know that it is not unusual for short women to give birth to bigger babies with no difficulty at all.

There is some evidence that shows taller women (those over 163cm) have slightly longer pregnancies, by around 4 days on average, than those under this height. However, the size of the baby or height of the father has not been shown to influence the length of pregnancy. We know that size variations within normal ranges of the baby at term matters less than its physiological development and readiness to be born and breathe air does. Having a predicted 'big' baby does not mean labour will begin earlier than if baby is a little smaller and it does not mean it will very probably become 'stuck' if pregnancy lasts longer than 40 weeks and the mother is short or slim.

The size and shape of the female pelvis can be affected by environmental factors, such as nutrition and illness during childhood. Additionally, genetics plays an important role in growth during childhood, which can ultimately influence adult height. This would indicate

The female pelvis from the front
The hormone Relaxin allows the joint at the front of the female pelvis (symphysis pubis) to stretch and widen creating more space for baby to be born.



The female pelvis from the back
Relaxin allows the sacroiliac joints at the back of the pelvis to stretch allowing the illia (hip bones) to move up and out allowing more space deep within the pelvis for the baby to be born.

that while individual female pelvic structures may be proportionally similar, they will not be identical across all individuals.

We know that the baby's skull can adapt and mould during labour to present a smaller diameter to help it negotiate and fit through its mother's pelvis. We also know that the female pelvis adapts and moves to create more space for the baby. This is in part due to the effects of a hormone produced during pregnancy named Relaxin. This hormone allows the ligaments that hold the joints of the bones of the pelvis to stretch and move. The pubic bone at the front of the pelvis and sacroiliac joints at the back are particularly affected by Relaxin as these joints are the ones that move during childbirth.

Despite knowing this, in some places it is still not uncommon for mothers to be told that they appear to be too small, too big, too heavy, or too thin to give birth safely to a larger sized baby. Unfortunately, some are told this even when the baby is not predicted to be large. This is based on the outdated belief that Cephalo Pelvic Disproportion (CPD)- that is when a baby's head is too big to fit through its mother's pelvis - is more common than it is.

Historically CPD was much more common than it is today. Pelvic abnormalities caused by disease e.g., polio infection, or poor nutrition and lack of sunlight (Rickets), could make the bones of the pelvis and lower legs deformed. As our nutrition, healthcare and lifestyle have improved, pelvic abnormalities have become rare. In the few cases where CPD does occur in developed countries, it's often the result of congenital abnormalities that people are born with or severe injuries, for example, a pelvic injury during a traffic accident. It is estimated that true CPD now affects only around 0.5% of births in developed countries.

Unless there is a diagnosed abnormality in the mother or her baby no one knows if she will be able to give birth vaginally, there are too many variables. We can guess but that's all it is, guesswork.

The size of the baby

The size and position of the baby and the available space within its mother's pelvis may make it more, or even less, challenging when giving birth for some women. However, in the absence of a medical complication that may affect it, we have no way to predict if an individual woman regardless of her body size can give birth to her unique baby, regardless of its size. Estimating the weight of a baby from ultrasound is not very reliable near term. For a 9-pound baby, an ultrasound's predictive accuracy is typically 15 to 20

percent off. Which means we may over- or underestimate by more than a pound. An estimated weight also gives no consideration as to how much the baby's head can mould, how strong the contractions may be or how much the mother can move instinctively (creating maximum room in her pelvis) during labour if her baby is apparently larger than average. An estimated 'large' baby or 'small' mother is not an indication for induction or intervention without evidence that there is an actual (rather than an unlikely) theoretical problem, before labour has begun. If you would like to explore this in more depth, there is some excellent discussion on the Evidence Based Birth website created by Rebecca Dekker. Specifically, it examines the research evidence, or lack of evidence around the incidence and potential complications of having a predicted large baby.

Historical population studies have shown that babies are on average bigger and heavier than they were 50 years ago. One study showed that infants born after 1970 were on average 450g heavier and 1.4cm longer at birth than those born in previous decades. However, it is also known that adults are now taller with larger frames than in the past too. In fact, a study from the UK showed that in developed countries, males and females are on average 9-12cms taller than they were around 100 years ago. This is likely due to better nutrition, healthcare, and disease reduction. So not only are babies bigger than they used to be, but their mothers are too!

Movement and engagement

Although it is a popular belief, there is no evidence that you can force baby to engage in the pelvis through any activity before baby is ready to; or even if you could that this in turn will necessarily start or progress labour on its own. It is more common for first babies to move into the pelvis (engage) prior to labour but subsequent babies often do not engage until labour begins. Many women can have a deeply engaged baby and a dilated cervix without being in labour, this is normal variation between bodies and not a sign of something not working as it should. However, it is logical to assume that if a mother moves in ways that create the most space within her pelvis it might make it easier for her baby to engage deeper into her pelvis. When the time is right this will help labour progress, but it won't cause labour to begin. Movements, exercises, or positions prior to labour should not be viewed as a method of 'starting' labour but more a way to help labour progress when it does start.

Maternal weight & height

There is no correlation between weight with the size of an individual's pelvis. Weight, at either lower or higher ends, that contributes to total body mass has no bearing on pelvic

size, because weight can alter and change throughout life. However maternal height does. This does not mean that taller women will always be able to give birth vaginally with less difficulty than shorter women as there are many variables that contribute to a successful vaginal birth. What we do know is that many short, slim women give birth to what is considered a large baby with no complications at all, and some tall women have difficulty in birthing smaller babies. And of course, it is the opposite for others! What is important to stress is that height is not used as a direct measure of well-being or ability to give birth because the variation of height within a given population is largely determined by genetic factors.

The baby's journey

For the human baby to be born it must make a series of turns and movements through the mother's pelvis. In obstetric terms these are known as cardinal movements. These movements are in response to the baby being pushed down through the pelvis by the contraction of the uterus (womb). The resistance of the cervix and bony landmarks within the maternal pelvis force the baby to respond by moving to follow the path of 'least resistance'. For humans this is a complex process but in the absence of a medical complication we are well designed to be able to do this safely.

How well the cardinal movements work in sequence is influenced by several things that impact on how easy or how difficult it is for the baby to be born. These include:

- The available space and position a baby is in. This affects how easy it is for it to engage in the pelvis to begin with.
- How well the baby then moves through the pelvis, by turning its body and head. This is determined by the space available and the force of contractions.
- The strength of contractions. If contractions are not of sufficient strength, then the uterus can't push the baby through the pelvis as well as it should.
- Lack of space. If there is a lack of space in the pelvis the baby will not fit through either, no matter how strong contractions are.

During labour and birth, it is instinctive to move in ways that not only ease discomfort but also create the most space within the pelvis for baby to move through. The mother makes these movements in response to the sensations and signals her body uses to help guide her. In turn this makes contractions work more efficiently. Restricted movement of the mother can in turn limit the amount of available space that the baby needs to negotiate. Maximum space will require less force from contractions than a restricted space will.

Cardinal movements: moving through the maternal pelvis to birth

When regular contractions begin and as labour progresses pressure increases on different parts of the baby's head and shoulders, the baby then turns to fit through different parts of the mother's pelvis. The baby's own reflexes, coupled with the downward force from contractions help to steer it through the available space following the 'path of least resistance'.
The cardinal movements (position changes) of the baby occurs in the order of

- **Engagement:** When the baby's head moves down into the pelvis. This can happen in late pregnancy in first babies but often does not happen until labour begins with second or subsequent babies.
- **Descent:** When the baby's head moves deeper into the pelvis as it is pushed down by the strength of contractions. This moving down happens throughout labour.
- **Flexion:** The baby's head tips forward, and its chin is tightly tucked to its chest. This happens in early labour.
- **Internal rotation:** This allows the longest part of the baby's head to match the longest part of the mother's pelvis
- **Extension:** The baby's chin comes off its chest and the neck arches as the head is born up under the pubic arch at the front of the pelvis. The baby's face is now looking towards the mother's anus.
- **Restitution/external rotation:** After the head is born, there is generally a short pause, particularly in 1st births. This allows the baby to again turn to fit its shoulders through the widest part of the mother's pelvis. Once this happens the baby's face will move from looking down to now facing either of her inner thighs. This movement allows the shoulders to fit through and under the pubic arch at the front of the mother's pelvis.
- **Expulsion:** Soon after the shoulder closest to the mother's pubic arch moves out from under it the opposite shoulder follows very shortly after. The rest of the baby's body is then born. Occasionally this process happens all in one apparent movement relatively quickly once the head is born.

Head moulding

Another adaptation that takes place is the moulding of the baby's head to make it smaller. It is very common for newborns to have what appears to be an oblong head shape immediately following birth. This is a normal adaptation to help the baby to fit through the maternal pelvis that happens during labour as baby is pushed down through the maternal pelvis and birth canal. It is caused by the movement of the bones of the baby's skull in response to downward pressure from contractions and resistance from below from the mother's tissues and pelvis shape. These forces make the bones of the baby's skull move to change the shape and size of its head, making it easier to be born. The bones of the baby's skull can easily move and even overlap because they are not yet fused together. This ability of the baby to adapt the size and shape of its head to fit through the maternal pelvis is commonly called 'head moulding' and it is more noticeable in some babies than in others. It usually changes back to the more expected round shape within 24 hours following birth.

Cardinal movements and head moulding are necessary for human babies because of the shape and size of the baby's head compared to the size and shape of the human female pelvis it must move through to be born. It is when one of these movements does not happen, for any reason, that babies become 'stuck', and labour does not progress.

CHAPTER 3

Optimal positions during childbirth

Optimal positions are chosen by the woman in response to the sensations of her labour. Some women do not believe that they can be in tune with the sensations within their body during childbirth or have come to view 'natural' as 'unnecessary'. This is akin to believing that it is unnecessary to respond to or even feel any sensation to achieve orgasm. Fortunately, most of us know this is untrue and understand very well that natural responses really do help to achieve a desired outcome. Responding to the cues of your body during childbirth is every bit as necessary as responding to the cues of your body during any other part of the reproductive cycle.

> *"We have a secret in our culture, and it's not that birth is painful. It's that women are strong."*
>
> **Laura Stavoe Harm**

Some may lack confidence and feel that their own experience or feelings are less accurate or reliable than those who may advise or provide care for them. It is not unusual to hear stories of women attending hospitals in labour feeling that birth is close, only to be told to go home as they are not judged to be contracting frequently or strongly enough to be in established labour. However, their baby is born very shortly after this. Women are very capable in knowing how they feel and defining what they are experiencing at any time. However, a lack of confidence can inhibit trust in the incredible ability of the female human body when approaching childbirth.

> *"Even if it has not been your habit throughout your life so far, I recommend that you learn to think positively about your body."*
>
> **Ina May Gaskin**

This does not mean a blind belief that some potential problems could arise and to not prepare to either avoid or manage them with appropriate (medical or otherwise) support. Indeed, encouraging instinctive movement and more upright positions is one way to avoid some medical interventions becoming necessary to begin with. What it does mean is that women do know how their bodies feel and that they have an innate ability to give birth and that is the very basis of our physiology. Anything over and above these facts will affect the progress or outcome of labour but optimising natural physiology should be the foundation of planning for a healthy birth. Instinctive movement creates optimal physiology that helps to guide the mother into positions that will make it as easy as possible for her baby to be born.

Instinctive movement

Instinctive movement during labour is a natural process that allows the mother's body to work in coordination with her baby as they move through labour together. As the baby's head descends and rotates, so too does the mother's body respond with subtle shifts and changes in position to help accommodate for these movements. This instinctual urge to move is often the mother's best guide during labour, as she can find positions and movements that feel most comfortable for her body. Sometimes this may mean changing positions frequently, walking, swaying, or rocking to ease discomfort and helping to progress labour. Indeed, promoting instinctive movement is often recommended as a way of establishing an effective and efficient labour. In fact, research has shown that women who are able to move freely during labour experience shorter labour times and fewer interventions than those who remain confined or stationary. Therefore, it is important for the mother to trust her body's instinctive urges and keep active to ensure a safe birth.

In addition to aiding progress, instinctive movement can help reduce pain in labour by releasing tension and encouraging better blood flow to the uterus. Moving can be a welcome distraction from the intensity of labour, and many women find that getting up and moving around helps them to cope with contractions more effectively. Additionally, instinctive movements involving hip swaying, squats or circles can help move and open the joints of the pelvis, providing much needed relief as the baby moves through the birth canal.

> *"Women today not only possess genetic memory of birth from a thousand generations of women, but they are also assailed from every direction by information and misinformation about birth."*
>
> **Valerie El Halta**

Overall, instinctive movement is an important part of labour that can help mothers to have a safe, successful birth and a more positive experience. Trusting in their body's innate wisdom and allowing themselves to move as they feel compelled to can both promote progress and reduce discomfort during this life-changing event. If you are currently pregnant or planning for your birth, remember to follow your body's instinctive urges during labour and use movement as a tool to help you through the process.

Do we need to learn how to give birth?

Giving birth is primarily an instinctive behaviour and our bodies have an innate ability to do it. Just like our bodies know when to grow or loose teeth, enter puberty or menopause we know how to give birth. It is not a learned behaviour. However, that does not mean that we can't influence how it unfolds, making it a more positive or indeed negative

experience by taking certain actions at the end of pregnancy or during labour. Social and cultural influences common within our own communities can also impact on how childbirth is expected to be experienced and what is or isn't acceptable. These can be from where labour and birth takes place, who attends the birth, sound, movement, rituals, and many other specific things that are part of the social constructs of childbirth. However, for most women gaining knowledge and planning around how they can make childbirth the most positive experience for them is crucial to their wellbeing. Learning about how important instinctive movement and upright positions are can be a crucial part of this essential preparation.

A healthy baby is all that matters

Fortunately, we are moving on from the idea that the women's health and wellbeing matters less than the baby's. There is an increasing expectation from those that are pregnant that giving birth should be a positive and enjoyable experience as opposed to an ordeal to be endured. Historically it has been common to believe that a mother is expected to sacrifice her health, wellbeing, or even life by submitting to any intervention (including non-urgent, routine, or unnecessary ones) to be rewarded by healthcare professionals with a healthy baby. If she resists, then the implication is that she is selfish and does not care about her baby.

This may be a vestige of historical or religious beliefs where women were seen as the property of men and their sole purpose was to provide children for him, regardless of the outcome for her. Or perhaps because mortality for mothers was higher in the past it was seen as noble and self-sacrificing to suffer injury or death for your baby, even though there was no choice involved in this. As a parent you may well feel this way about your baby but that does not mean you should be treated as if this is the case. Mothers are just as important as the unborn baby carried in their bodies and a healthy baby is not all that matters.

Sometimes having a healthy baby is often presented as the 'either/or' option, where women need to choose between their own wellbeing and the baby's. But it is not selfish to want to feel healthy, happy, and positive as opposed to traumatized, and to have a healthy baby. Indeed, this should be the most basic expectation of us all.

If a woman and/or her baby are injured, traumatized, or suffer serious morbidity due to any medical treatment, or lack of treatment, then something has gone terribly wrong. It is not acceptable to continue or perpetuate the narrative that avoidable injury is the price women pay for a healthy baby. Particularly if we know of ways to promote safety

and improve the experience of childbirth by encouraging instinctive movement and more upright positions.

This does not mean that giving birth is not incredibly intense or even traumatic if a medical problem does arise that was beyond anyone's control. After all this is a normal physiological process that can have challenges or difficulties on occasion, as all normal functions of the body can. However, mothers being traumatized due to the routine restriction of movement during birth (despite the numerous well-known risks directly attributed to this practice) is not only outdated but should be a last resort rather than the default within modern care practices.

CHAPTER 4

Supporting instinctive movement and upright positions

Most women give birth in hospitals in developed countries and in these clinical birth settings it is even more important to make sure that we create a culture and environment that deliver the best possible care for birthing women and their babies. While instinct plays a very important role in labour and birth, a balance between it, medical care and evidence is not unreasonable if the medical care is indeed evidence based.

Using evidence, (from many different sources not only formal research), helps us to make informed decisions about what works best, and this knowledge can be used to support instinctive behaviour. It is important to remember that instinct, choice, and evidence all play their part in healthy, positive, and safe births.

There are many things that can play a part in supporting instinctive movement and more upright positions. This includes supportive care, environments and resources that encourage movement as well as a belief in the value of them. When women give birth in environments that are designed to support optimal physiology and are cared for by those that understand the importance of instinctive movement, childbirth becomes not only a more positive but also a safer experience. This is true even when there are additional considerations that may impact on it. All medical care should work with and promote the optimal function of the body, even if that function is impaired for some reason. This means, for example, that if a woman chooses to have an epidural during labour, that she is helped to move and change position regularly. For most women giving birth in modern hospitals, childbirth is not exclusively an all-natural or an all-medical experience. For many it can include aspects of both. However, this does not mean that the foundation for care is not to promote optimal function whenever possible. The following will look a little more closely at ways to promote normal and optimal function.

The benefits of promoting comfort

Feeling more comfortable in one position as opposed to another provides an obvious clue to optimal function. Pain and discomfort prompt us to move and find ways to alleviate the pain and make us feel less discomfort. If it is unbearably uncomfortable in one position, then this is the body's signal to find a way to ease it by moving. It is not beneficial to be forced to adopt or stay in one position because a care provider or support person believes it is better for them. Indeed, it is a strange belief that deliberately increasing discomfort rather than finding ways to make it more manageable is better for mothers than their own instinctive movements in response to their body's own signals.

Opting for positions such as kneeling, squatting, all fours or standing can help to reduce discomfort and this is why these positions are more instinctive than semi sitting or lying flat on the back with legs raised. Indeed, it would be very uncommon to see a woman instinctively use either position for extended periods of time during labour as many find them more uncomfortable than upright positions. Remaining mobile and moving into positions that are most comfortable allows the body to instinctively find the most effective positions for them, and their baby.

Massage and the use of water, in a bath, birth pool or shower have been found to help relax muscles and reduce painful muscle stress during labour. Massage helps to reduce pain and discomfort because stimulating the skin can increase oxytocin and endorphins, the body's own relaxation and pain relief hormones. While water is a great way to promote blood circulation around the body and provide relief from muscle tension.

These can all work together to ensure that childbirth is a safe and comfortable process for both mother and baby. However, it is important to remember that every woman will be different, so there may need to be some experimentation with positions, massage, water, or other techniques such as hypnobirthing, to find what works best for them.

Instinct and the nervous system during childbirth

There is no doubt that the environment where labour and birth take place can impact on not only the experience of but also the outcome of childbirth. During labour our sympathetic and para sympathetic nervous systems are activated in turn as we react to the hormones naturally produced by our bodies. These hormones are in part produced in response to how we feel physically and emotionally. The sympathetic nervous system responds to the surges of adrenaline that are needed during the pushing stage. This gives us bursts of energy and makes us alert. The para sympathetic system responds to the waves of the hormone oxytocin that creates contractions and feelings of calm. This means that optimum levels of oxytocin during labour are created by rest, ease, comfort, confidence, and security. Stimulation of the sympathetic nervous system (adrenaline) before it is needed can cause a state that is known as psychovegatitive regulation- this is when contractions slow and stop.

Many people giving birth will find that they have regular frequent contractions at home (where they are more relaxed) only to find that they slow down or stop when they leave home and go to a hospital where bright lights and an unfamiliar environment stimulates adrenaline. This is psychovegative regulation in action. We can see this same effect in other mammals where it is known that disturbing the mother can cause her labour

to slow or even stop. This normal adaptive response works to inhibit contractions by stimulating the sympathetic nervous system (increased adrenaline due to fear) to allow the mother to find a safe place to birth. This response can be triggered by environmental disturbances such as bright lights, noise or distractions, fear, stress, talking, lack of privacy, comfort, or support. Stimulation of this stress response during labour is one of the most important causes of avoidable birth complications. If instinctive movements during labour are restricted or prevented, the nervous system may respond by slowing or stopping contractions and this may lead to an obstructed labour requiring intervention. The good news is that by ensuring privacy, low lights and avoiding distractions we can help to re-establish contractions and get an apparently 'stalled' labour back on track.

Hormones and instinctive movement

Oxytocin: This is often the most well-known hormone associated with childbirth due its connection with contractions. However, it not only causes the uterus to contract, but also promotes feelings of love, joy, happiness and bonding. It is also produced when we have sex, orgasm, laugh and breastfeed. Oxytocin can be inhibited if we are uncomfortable, fearful or don't feel in control. Restricting a mother's movement by confining her to a bed can often result in these feelings and emotions. This in turn can prevent labour from progressing as it should.

Endorphins: Endorphins are crucial to promoting maternal nursing behaviour. They are the body's natural pain killers that help the mother and baby to cope with labour. They function best and reach optimal levels when the woman is undisturbed and moves into any position that creates comfort. Artificial pain killers, that are also more likely to be used when movement is restricted, inhibit the natural rise in endorphins and this in turn inhibits the rise of the essential hormone prolactin.

Prolactin: The optimal production of endorphins allows prolactin to rise, this is essential for breastfeeding and bonding. Maternal endorphins cross the placenta and promote suckling behaviour in the newborn. Following the birth endorphins are produced during breastfeeding and peak at around 20 minutes after a feed commences.

Adrenaline/Noradrenaline: These stress hormones have the biological effect of suppressing the oxytocin so that the frequency and strength of contractions decrease. This is a normal adaptive response to protect the birthing mother: see psychovegatitive regulation. However, in a normal labour and birth adrenaline rises just before the birth alongside oxytocin. This enables the mother to have a sudden alertness and energy. High levels also cause increased alertness in the baby which remains high for around 12 hours after the birth.

Women's experiences of movement and birth positions

Millions of women labour and give birth all over the world every year. Yet it is still a personal and unique experience. So many things influence the outcome and how an individual experiences childbirth with no two births being experienced as exactly the same. However, many mothers report that instinctive movements and the position they were in when giving birth had a huge impact on their experience. To try to capture a snapshot of this, in 2016 a small survey was created by Birthsparks to gain feedback from mothers concerning movement and birth positions. The following are some of the responses collected from just one of the survey questions.

Q: How much did mobility and movement/changing positions impact on your birth?

I was active all the time – couldn't stand still. I was dancing, trying Yoga positions and so on... it happened all very fast– maybe too fast?

Because I was hooked up to machines, I was told to be on the bed but didn't know the machines could move.

I didn't need to be examined; I should have been left alone to listen to my body as I already had been.

With my second, I thought I would want to be on all fours. I ended up having a home birth and it felt like my bed was too squishy and there was nothing to hold onto.... plus, I transitioned so quickly I couldn't move that significantly. So, did a side/back combo.

I was more comfortable standing up but was told to lie on the bed so they could get a trace of the baby.

I was in the pool, hanging over the side on all fours for the duration of my active labour. Midwife suggested I try changing and turning over to sit but I hated that position so back I went until baby came out!

I felt like my primitive brain took over once my contractions started and I automatically fell to all fours whilst labouring at home.

Hospital birth – Dr had me put my feet in stirrups only when pushing. It was fine because I felt comfortable that she was able to see everything and guide me. I didn't use pain meds, so I knew when to push. Also, my entire labour was quick and went smoothly. If it wasn't going well, I would have tried another position. She offered me a mirror to see but I didn't want to.

I had to ask if I was allowed to move even though I had said in my birth plan I wanted to be able to move freely.

I had tried various positions and been pushing for a good while so accepted that intervention was needed for my baby to be born. I wouldn't have chosen to be on my back otherwise.

Did 5 hours of labour in the pool, was asked to get out to check dilation which was 9.5cm, and then encouraged to stay on the bed which I did. I would have preferred to be back in the pool. I went with the midwife's suggestion though, to be safe.

Try more positions on how to move the baby into a birth optimal position or readjusting baby's position to help him to be born.

My baby was 9.5lb and actively labouring on hands and knees then lunge and squat really helped due to gravity!

I wish I would have had more knowledge around birth so I could make my own informed decisions.

I just did it! No one supported me or didn't support me, it is up to me what I do, during my labour!

I felt that my options prior to birth were out with my control.

Nothing. I learned from my first labour, where I was induced and restricted to the bed, that this had a very negative impact on my birth experience and post-natal recovery.

CHAPTER 5

Upright positions

The most important thing about upright positions during childbirth are that they are the ones chosen by the person in labour. No one other than her knows more about what she is feeling, and it is the promotion of instinctive behaviours that really matters. However, it may be useful to look more closely at the most common upright positions used during childbirth.

Variations of sitting positions

Sitting upright using a CUB with both chambers inflated

This position is great for early labour when there is a need or desire to stay mobile and be able to move the hips freely without standing. If induction or continuous monitoring is required, then sitting on a CUB is easy to incorporate while encouraging the most effective upright positions. This position allows the (sacrum) back of the pelvis and its joints (sacroiliac) to move freely.

Top Tip: Sitting upright on the CUB in late pregnancy and early labour can help your baby to engage into your pelvis and relieve lower back and pelvic pain.

Sitting upright using a CUB with only one chamber inflated

This position can create a gentle, modified, supported 'squat' position. This can promote relaxation when fully dilated and during the stage of transition before the feeling of needing to bear down (push) has grown. This position can also help to open the space deep within the lower part of the pelvis in the pushing stage as baby turns and extends its head as it is born.

Top Tip: Keep lights, noise, and distractions at the minimum during this time to allow the mother's natural physiology to work efficiently.

Sitting upright on a hospital bed

Upright positions for birth are possible even if mobility is restricted and sometimes it is necessary for birthing women to need or want to use a hospital bed. This may be due to epidural use, a need for rest or other complicating factors. In these situations, it is even more important to do all we can to promote as much normal physiological function as we can. The CUB can be used in this position on a hospital bed even if the user has an epidural, internal

or external continuous monitoring or reduced mobility for other reasons.
Top Tip: Remember to put the back of the bed and bed siderails fully up in this situation. Pillows can be used to support the lower back.

Variation of kneeling positions

Kneeling upright

Kneeling in active labour is a very instinctive position and a great way to manage strong sensations. It is one of the best positions for helping the baby move through the pelvis because it allows all the joints within the mother's pelvis freedom to move and adjust as much as they need to. Many find kneeling and variations of kneeling positions the most comfortable during labour. The CUB provides a stable surface to lean on and a comfortable place to relax over between sensations.
Top Tip: place cushions or pillows under the knees to increase comfort and remember to stand or stretch the legs out to avoid the knees becoming sore.

All fours

The female human body is designed to give birth in more upright positions where all parts of the pelvis can move freely. This position creates the most space while making uterine contractions effective. Without support, an all-fours position can quickly become tiring on the arms, wrists, and knees. The CUB provides a support for rest and relaxation between sensations while maintaining this optimal position.
Top Tip: Use pillows, cushions, or mats under the knees to relieve possible discomfort. This position allows free movement of the pelvis and its joints and can be useful if back pain is experienced. It is also a great position for birthing the baby in.

Asymmetrical (lunge) kneeling

A kneeling lunge position is where only one knee is raised with the foot flat on the floor. This position can help the baby to rotate through the pelvis during labour and it is often instinctively used during labour as the mother responds to the sensations of her baby making its way through her pelvis.
Top Tip: It is a useful position for helping an OP (back-to-back) baby turn before birth. If baby is in this position, trying 3 full contractions in this position with one knee raised, then alternating to the other side for 3 contractions may be helpful.

Other upright or beneficial positions

Squatting

Squatting without support can be difficult for many women, especially in labour! However, using the CUB can help you to maintain balance while supporting the upper body making squatting a more usable position for those unused to it. This position can be useful in active labour when working hard through surges.

Top Tip: Make sure to alternate standing and kneeling with this position to avoid stress or discomfort on the feet and ankles, especially if the user is unused to squatting. This position should not be maintained for long periods as it increases pressure on the perineum that can cause swelling.

Standing

Standing and walking, particularly in early labour, is common as the mother tries to find ways to decrease discomfort. Walking around between contractions and leaning forward during them is a common and effective coping strategy. It is also physiologically beneficial as it allows optimal blood flow to the uterus and free movement of the joints of the pelvis. Dancing, stepping from foot to foot, swaying or rocking the hips are common during labour and often used in conjunction with standing upright. These can help to increase feelings of wellbeing, control, and ability to cope with labour. It is common to witness repetitive, rhythmic movements in this position and as labour progresses increasingly deep bending of the knees if standing is the predominant position being used.

Top Tip: It is not necessary to lay down to give birth, indeed some give birth to the baby while standing up. Although giving birth standing up is not any more dangerous than giving birth in any other position, be aware that in an undisturbed instinct led birth that this is a possibility.

Side lying

Sometimes it is necessary for the person in labour to want or need to lay down on a bed. However, this does not prevent the use of positions that can still allow the free movement of the bones of the pelvis. Indeed, what is known as a left lateral position where the woman lays on her left side with the top leg supported by a pillow, cushion or CUB (in a single inflation) has been shown to be more beneficial and less harmful for those using a bed to birth than either a semi sitting, or lithotomy position is.

Top Tip: Put a pillow under the head to increase comfort and encourage regular movement of both legs in this position.

Checklist for an upright birth

The following may help you to consider things that will influence your birthing experience by identifying anything that affects instinctive movements and upright positions for birth. There are no right or wrong answers as this is specific to you, your needs and wants. We hope it is helpful. (You may wish to print this out and write your own thoughts).

Positions for labour: Do you have strong feelings about one position? If so, what is it that stands out to you about it?	Notes:
Confidence: Do you feel confident in your body's ability to function normally? If not, why not? What could you do to change this?	
Positions for giving birth: Do you have strong feelings about one position more than another for birthing your baby? If so, why?	
Managing labour: Have you identified any specific coping methods to use as well as upright positions and movement for childbirth? e.g., hypnobirthing	
Place: Where do you plan on labouring and giving birth?	
People: Will the people you want there be able or allowed to be with you?	
Preparation: Have you created a birth preferences plan that highlights optimal physiology that you can share with your midwife or doctor?	
Partner: Have you talked about your desire to promote instinctive movement and the use of upright positions with your partner?	
Environment: Can you control the lighting or temperature. How can you add to your comfort?	
Privacy: Are you confident that your privacy will be respected?	

Resources: Will there be a birth pool, CUB, or other important resources available to you?	
Facilities: Does your chosen place of birth have the facilities that matter to you?	
Inhibition: Is there anything you feel will inhibit your labour and birth?	
Choice: Do you feel supported in your choices? Or do you need more support to achieve your preferences?	
Knowledge: Do you understand the reasons for promoting instinctive movement and upright positions.	

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