



Rotational Positioning™

Rotational Positioning™ is a technique developed by Nikki Macfarlane, director of Childbirth International. This technique is designed to assist babies during labor in rotating through the pelvis if they are in the ROA, ROT or posterior positions.

The technique can be used either at home or in a hospital or birthing center and requires no specialized skills - simply an understanding of the physiology of labor and a mom who is prepared to give it a try.

You may freely print off this guide and use it in your own practice as a doula or childbirth educator. The guide cannot be edited in any way and may not be copied and distributed without our express permission. The technique can not be used in a workshop or training session without our express permission. Please credit Nikki Macfarlane as the author of this document and the originator of this technique.

History of Rotational Positioning™

Why did we develop Rotational Positioning™? Nikki had been working as a doula and childbirth educator for many years in the United Kingdom. When she moved to Singapore in 1998 she established a thriving doula and childbirth class practice. Singapore has a wholly obstetric model of care for pregnant and birthing women and a high rate of epidurals and cesareans.

At the end of 2000 Nikki reviewed the statistics of the women she had worked with and the outcomes for them in their births. She observed that where women's babies had started labor in a ROA, ROT or posterior position, they had significantly higher rates of epidurals and cesareans. The highest levels of intervention occurred when the baby began labor in the ROA position. In fact, these women had epidural rates of 68% compared with 12% for women whose babies began labor in a LOA position.

Reading through her notes, Nikki noticed that the babies that began labor in the ROA position tended to rotate in a clockwise direction. This began the path of investigating possible reasons for this and exploring ways that a support person could assist the mother so that the intervention rates were reduced.

Nikki began to contact health professionals to see if anyone knew why ROA babies were so problematic. After talking to midwives, obstetricians, osteopaths and physiotherapists, many agreed that babies on the right tended to have more intervention in their births but had never analyzed what may be causing this or how it could be resolved. The phenomenon of a baby rotating in a clockwise direction was acknowledged but it was unclear why this occurred.

Further research led to some assumptions being made about the reason babies have a tendency to rotate clockwise and these have become important in the use of Rotational Positioning™.

Problems associated with persistent posterior positioning

Reading through the research that has been carried out, it is clear that persistent posterior positioning in labor is associated with significantly higher levels of intervention.

- Prolonged labor - 12% for posterior vs. 1.7%
- Assisted delivery - 24.6% for posterior vs. 9.4%
- Cesarean birth - 37.7 vs. 6.6%
- Anal sphincter injury - 7 times higher in posterior births
- Augmented labor - 38.9% for posterior vs. 36.8%

Source:

Ponkey, S., et al. "Persistent fetal occiput posterior position: obstetric outcomes", *Obstetrics and Gynecology*, 101 (5), May 2003, pp. 915-920

Fitzpatrick, M., et al. "Influence of persistent occiput posterior position on delivery outcome", *Obstetrics and Gynecology*, 98 (6), Dec 2001, pp. 1027-1031

So what does persistent posterior positioning have to do with ROA and Rotational Positioning™? What Nikki observed was that if the baby started labor in a ROA position, the baby tended to rotate in a clockwise direction and as the mother approached active labor the baby moved to a posterior position, usually ROP. By this time she would be exhausted and now, accompanied with the constant back pain, would choose an epidural. The mother would be laid on her left side and labor would stall. Often at this time, her membranes were also ruptured (waters broken). After a period of time the baby would be diagnosed as persistent posterior and a cesarean was suggested. The outcome for the vast majority of these babies was a cesarean birth.

Further research had found that posterior positions tended to result from a malrotation from an anterior position, rather than babies starting off labor in the posterior position. Nikki contacted the authors of this research but unfortunately, they had not recorded whether the babies in the study had started labor in the left anterior or the right anterior position. The findings though correlated to Nikki's observations where babies started anterior (ROA) but then trended to move to a posterior position. She had never observed any babies starting labor in the LOA position and rotating to posterior.

Posterior positions result from malrotation from an anterior position

- 68% of persistent posterior labors, start anterior
- 32% of persistent posterior are posterior at the onset of labor

Source:

Gardberg, M., et al. "Intrapartum sonography and persistent occiput posterior position: a study of 408 deliveries", *Obstetrics and Gynecology*, 91 (5), May 1998, pp. 746-749

In the next section we will explain the different positions and the reason why babies appear to rotate in a clockwise direction.

Positions - what are they?

In order to develop a good understanding of Rotational Positioning™, you first need to have a thorough understanding of the different positions and how they are determined.

All positions described are from the mother's perspective. So, when we talk about a baby on the right, we mean if the mother was looking down, the baby would be on the right of her belly. The occiput is at the back of the baby's head. Place your left hand on the very top of your head. Now place your right hand immediately below the left one - the right hand is now lying on the occiput. It is the part of the baby's head that "presents" when the baby is lying head down in the uterus and in a good position. This is the position that creates the smallest diameter and therefore the easiest to pass through the pelvis.

ROA - Right Occiput Anterior: the baby is on the right of the mother's belly, with the occiput, or back of the baby's head, lying against the front of the mother's belly

ROT - Right Occiput Transverse: the baby is lying near the mother's right hip, with the occiput against the right hip.

ROP - Right Occiput Posterior: the baby is lying to the right of the mother's body, with the back of the baby's head, or occiput, against her back.

Direct Posterior: the baby is lying with its back and occiput against the mother's lower spine.

LOP - Left Occiput Posterior: the baby is lying to the left of the mother's body, with the back of the baby's head, or occiput, against her back.

LOT - Left Occiput Transverse: the baby is lying near the mother's left hip, with the occiput against the left hip.

LOA - Left Occiput Anterior: the baby is on the left of the mother's belly, with the occiput, or back of the baby's head, lying against the front of the mother's belly

Causes of posterior positioning

After much research, Nikki identified the possible cause of posterior positions. The findings from research and anecdotal evidence are:

- Dextrorotation: like other natural objects, the human body has a tendency to move in a clockwise direction
- Muscular imbalance: psoas muscles and round ligaments can be tighter on one side than the other, pulling the uterus to one side
- Posture: poor maternal posture and lack of forward movement (e.g.housework) increase the risk
- Morphology: short stature and short waistedness increase the risk of posterior positioning
- Placental location: increased incidence with anterior placental sites

Clockwise movement and what is happening

Nikki observed a possible link between babies turning in a clockwise direction from ROA and slow labors.

if the baby is ROA at the onset of labor, labor tends to start with a regular pattern but then, as the baby moves towards the right hip, contractions space out. In many cases the mother decides to start walking around or rock on all fours to encourage the contractions to speed up again. If we assume that the baby is trying to rotate in a clockwise direction, moving to all-fours is counter to what the baby is trying to do as the baby then has to move against gravity. By the time the baby reaches the right hip, mothers are exhausted.

As the baby continues its clockwise rotation, it now moves to a position directly behind the right hip. As the sciatic nerve is compressed back and leg pain is likely to begin. The mother is uncomfortable in any position and finds the relentless discomfort in her back more tiring. At this point she may also start to feel some pressure in her bottom as the baby begins to move towards the back. This can lead her to think she is further advanced in labor than she really is and head to the hospital or birthing center where she plans to have her baby. On arrival, she is unlikely to be more than 2-4 cm. This news creates a level of despondency and an increasing likelihood that she will opt for an epidural.

As the epidural is placed, the caregiver will often suggest rupture of membranes as well, with the intention of increasing the frequency of the contractions. The result of this is that it is more difficult for the baby to rotate without the advantage of the fluid. In addition, most caregivers place a mother with an epidural onto her left side. If the baby has not yet fully rotated past the right hip, the baby needs to work against gravity to rotate further.

Oxytocin may also be suggested to increase contraction frequency and strength. If an oxytocic drip is used (e.g. pitocin or syntocinon) to increase the frequency of contractions, the uterus is less likely to relax fully between the contractions. The baby carries out most of its rotation between contractions and so the drip makes it more difficult for the baby to rotate.

Let's consider why the contractions start off in a regular pattern and then gradually space out as the baby begins its rotation.

Contractions occur as a result of the uterus receiving oxytocin from the brain. Regular, consistent contractions occur as a result of a feedback mechanism. If the baby's head is in good, even contact with the cervix, a feedback response tells the mother's brain to release ever increasing quantities of oxytocin, thereby increasing the intensity of the contractions and the rate of dilation. If the baby is in a position with its head flexed, or tucked close to its chest, the contraction starts at the top of the uterus and moves in a downward direction, over the baby's body, and then over the occiput, or back of the baby's head. This encourages the head to become more flexed and the roundest, smallest diameter of the head sits neatly over the cervix. This results in a more even and consistent pressure on the cervix and a more pronounced feedback response.

However, if the baby is in a posterior position, or less anterior one, the contraction moves over the front of its body and the baby's chin, encouraging the head to become less flexed. This leads to the head sitting unevenly over the cervix and therefore, the feedback response becomes less significant, leading to less consistent and weaker contractions.

If the mother can encourage the baby into an anterior position more quickly, the feedback mechanism will become stronger again and the mother is less likely to have interventions as her labor progresses more rapidly.

It is important to note that there is nothing "wrong" or pathological about a posterior labor. It is simply slower path to the birth. The problem is not in the nature of the labor, but the way in which the mother can manage the slower progress and prevent exhaustion. In addition, if caregivers are using an active management model, the mother may find that her labor does not conform to the expected rates of progress and is more likely to have intervention suggested. However, the

interventions do not help rotation happen any faster as we have seen above. Therefore the common outcome is that labor does not speed up as expected and the mother is more likely to have a cesarean birth.

Dextrorotation - why clockwise?

- Everything in nature has a tendency to move in a clockwise direction
- The human body also has a tendency to work in a clockwise direction - look at the heart and the intestines as examples of this
- Uterine pacemakers lie on the left of the fundus (top of the uterus), moving contractions in a slightly clockwise direction
- Moving clockwise from ROA towards LOA protects the baby's head, avoiding the symphysis pubis, which is not padded with as much ligament as the posterior of the pelvis

Assumptions

In order to accept that Rotational Positioning™ may have some merit, we need to make certain assumptions. There has been no scientific research carried out on this technique. It is anecdotal and experimental. However, the early results seen with several midwives and doulas who have begun to use it have been encouraging. It does not appear to have any risks associated with it and is an easy intervention to use for unskilled supporters as well as caregivers.

The assumptions we need to make are:

1. Most babies that become posterior begin labor at ROA
2. Babies prefer to turn clockwise
3. Gravity aids rotation
4. The faster a baby rotates, the lower the incidence of complications
5. The baby will continue to turn until it finds a position where the head can comfortably descend through the pelvis - babies do not consciously move to an anterior position! They are simply rotating until they fit comfortably into their pelvis and can descend. If there is enough space for the baby to fit when in a posterior position, that is how it will be born. If not, it will continue to rotate until there is enough space.

How do you do it?

In this section of the guide we will look at how you do Rotational Positioning™, when it is appropriate, and what to expect to see if it is working.

Rotational Positioning™ should **NOT** be used in every labor where the baby is lying either ROA or posterior. If this is done it becomes yet another active management technique carried out. It is helpful in some labors only. If labor is progressing, and/or the mother is comfortable with the way her labor is going, there is no need to use anything. If it is not broken, don't fix it!

If the mother feels her labor is not progressing as she would like it to, or her caregivers are suggesting other interventions that she is not comfortable with, it may be appropriate to suggest Rotational Positioning™ as a way of avoiding other problems. The results are not immediate or a quick fix. If there are other compounding factors such as true cephalopelvic disproportion, obstructed labor, a very exhausted mother, fetal distress or an overdistended bladder, it may not have any effect at all.

If you do use Rotational Positioning™ and it is working, you would expect to see changes in the position of the baby, the contractions or how the mother is feeling, over a 1-2 hour period. If there are no changes at all in this time, it is unlikely to be successful.

Step 1 - Is it needed?



Position of the baby in relation to the pelvis when it is moving past the right hip

The first step is to determine whether or not Rotational Positioning™ might be appropriate to use. Answer the following questions:

1. Has labor begin to slow down or decrease in intensity?
2. Is the mother concerned about the rate of progress?
3. Is the mother asking for relief from back pain?
4. Is the caregiver concerned about the "lack of progress" and suggesting interventions?
5. Does the mother want to avoid interventions as much as possible?

If the answer to the above questions is yes, Rotational Positioning™ may be appropriate to use. If labor is progressing at a rate that the mother is happy with then there is no need to consider its use, regardless of the position of the baby.

Step 2 - Assess the position of the baby

If you have suggested the use of this technique and the mother has agreed, the next step is to determine exactly where the baby is currently lying. This will determine the next few movements and positions that the mother adopts.

IMPORTANT: Remember that you are using positioning with the consideration of gravity. Always work WITH gravity so the work for the baby is easier.

Ask the mother where she thinks the baby is lying. In most cases, she is more aware than anyone else. If she is unsure, ask her where she is feeling the baby kick. If the baby is kicking on the left side of her belly or just left of her bellybutton, it is probably lying on the right.

Stand in front of the mother a few feet away when her belly is exposed. Look at each side and see if you can notice whether one side is more pronounced than the other.

Stand behind the mother with your hands on her hips. Close your eyes and feel the hips. Does one side seem to protrude more than the other?

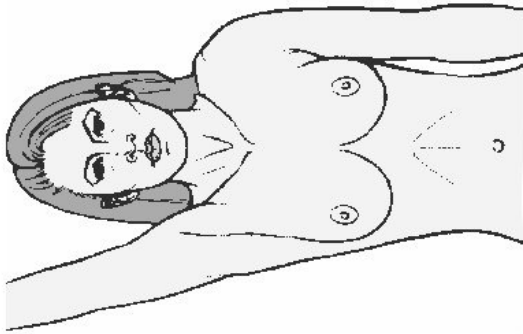
If you are still unable to assess and there is no caregiver available to palpate the mother's belly and determine the position of the baby, look at the nature of her labor. Were the contractions regular and strong and now have spaced out or reduced in intensity? Could this be because she is simply exhausted and needs to rest? When was the last time she ate or drank anything?

Contractions that become less regular could simply be her body's way of taking a break if she is exhausted or low on energy.

Is she experiencing back pain? Is it constant or only there at the peak of contractions? If it is constant the baby is probably posterior. If she lies on her back, is there a dip in the center of her belly - if so, the baby is probably already posterior. If you think the baby is already posterior, go straight to step 4.

Step 3 - Rotation to the right hip

The next step is to encourage the baby to move towards the right hip, using gravity to the baby's advantage. Suggest that the mother lie on her right side. If the baby is near the hip this may be uncomfortable. Ask her to try this position for at least 3 contractions - at this point it seems to become less uncomfortable and many women will start to drift asleep between contractions.



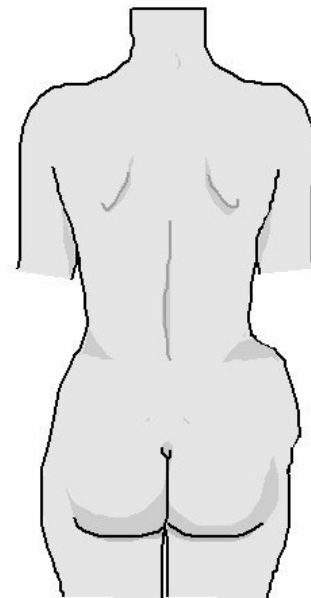
While the mother is lying on her right side, you can make her as comfortable as possible with pillows and apply counter-pressure on her left hip with downwards pressure. This seems to work a little like the double-hip squeeze and can be very helpful during contractions.

Heat or ice packs placed just behind the right hip also help to ease any discomfort. If she needs to get up and move around, it may be

helpful to apply strong counter-pressure to the right hip while she is standing.

If the mother is awake, it is important to get her up every 30-60 minutes to determine if the baby is rotating. This allows the woman to stretch and rock her pelvis and empty her bladder regularly. It also allows you to see if there has been any rotation taking place. If the woman is sleeping, the rest at this stage is more important than any observations. Leave her sleeping! In most cases, the mother will drift in and out of sleep, waking for contractions.

Many women are initially reluctant to lie on their right side. This may be because they have been told or read throughout pregnancy that it is better to lie on the left side to optimize oxygen flow to the baby. Or it may be because the position is initially uncomfortable. However, if she remains on her left or in a forward position such as all fours, and the baby is trying to rotate clockwise, progress is significantly slowed down. Reassuring the mother that resting during labor is as beneficial as upright positions is important here. If the mother has not taken any food or drink for some time, it is also important to ensure this is available if she wants it. Her body is working hard and denying her of energy when this is such hard work is unnecessary and more likely to lead to problems later.



As the baby moves towards and past the right hip, the hip protrudes significantly.

Signs of rotation at this stage are:

- increasing discomfort in the right hip as the baby moves past it

- the right hip bulging significantly - you can feel this when she gets up to the bathroom and you place both hands on her hips and close your eyes to really feel what is happening
- mother needs to left or stretch her right leg when she gets up or comments on pain down the leg - this is due to compression of the sciatic nerve as the baby moves towards the back of the pelvis
- you can feel a bulge in the back of the pelvis on the right as the baby rotates
- the mother notices that the baby's kicks are now closer to her bellybutton or moving towards the right of her belly
- looking at the mother from the front you notice that the right side is no longer more prominent than the left side



Do not expect to see any change in the contractions frequency or intensity at this stage. remind the mother that as the baby rotates she may begin to experience back pain. You cannot avoid this if it is going to happen - but knowing about it and knowing it can be dealt with makes it much easier to manage.

Continue with this until you notice that the baby has moved completely past the hip. It is important not to move to step 4 until the baby is at the back of the pelvis. In most cases, the most significant sign is the starting of back pain but have a good feel of the mother's hips before you move to the next stage.

If you have already felt the right hip bulging and now it is the same as the left hip, and the back pain has started, the baby is probably now lying in a posterior position and you are ready to move on.

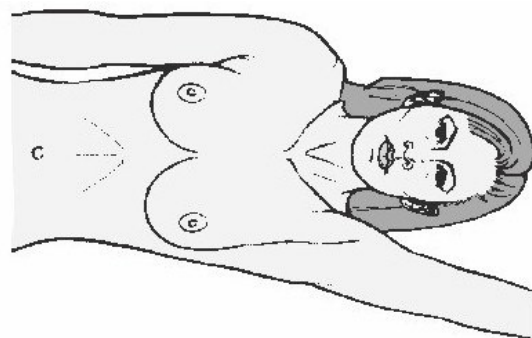
Let the mother know what fantastic progress she is making. If she is aware of how the baby is moving around and rotating through her pelvis she is a lot less likely to become despondent.

Step 4 - Rotation through posterior

Once the baby has rotated past the right hip it is now lying in a posterior position. This tends to be the most challenging part of the labor. Consider gravity again - the baby is now trying to move clockwise, towards the left hip. The most effective way to achieve this is for the mother to move to a left side lying position.

The signs to look out for to indicate the baby has rotated to a posterior position are:

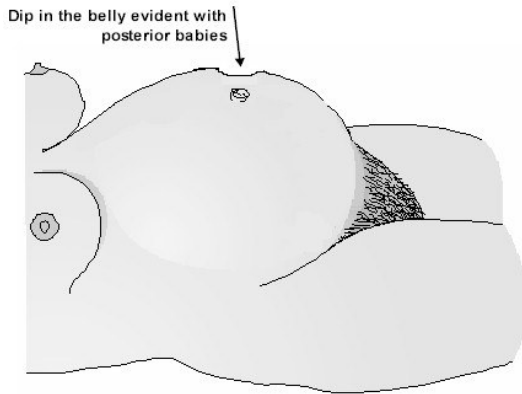
- constant or intermittent back pain



Mother moves to a left side lying position once it is clear that the baby has already rotated fully past the right hip

- right hip moves back to a normal position once the baby has rotated fully past the right hip
- if the mother has a vaginal examination at this stage, the baby may still be high, or found to have a deflexed or asynclitic head
- as the baby moves towards a direct posterior position, the sacrum begins to move outwards
- a reddish line appearing on the buttocks - a continuation of the crack of the bottom, moving upwards a few centimeters (half an inch - one inch)

One of the most prominent signs of a posterior baby is a dip in the mother's belly. If she lies on her back this is usually clearly seen as a slight depression around the bellybutton, or just below it. It may look almost like a donut shape.



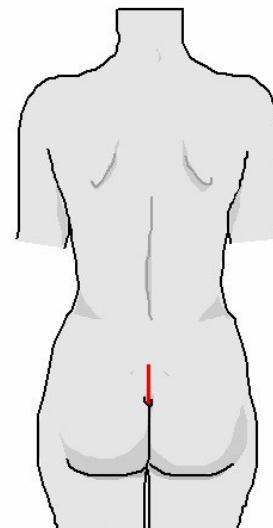
The line appearing on the bottom is what is usually seen at the end of labor, as the baby moves down through the pelvis in second stage.

At the same time as the line appears, the mother begins to feel a lot of pressure in her rectum and may have some slight pushing urge. This is all due to the head pressing against the bowel and pushing out the sacrum. The sacrum is the triangular shaped bones at the base of the spine - you can feel the sacrum move outwards as the baby moves past it. If the mother is feeling an urge to push, you can ask her if it is irresistible and throughout the whole contraction, or only at the peak. If she can

resist the urge to push at this stage it is probably only the head pressing on the rectum and not because she is advancing quickly through labor and already in the second stage.

Ask yourself if there are any other signs of second stage. Has she been through a transition like state? Are the contractions lasting for 90 seconds? Has she had any significant show?

One of the very unusual things we have noticed at this point is that if you place your hand on the mother's sacrum, with your finger tips pointing towards her feet, your middle finger lies about where the coccyx, or tailbone, is. If you concentrate you can often feel the baby's pulse here in your middle finger. We can only assume this is because the pulse is transmitted through the bone as the baby's fontanel lies directly below the coccyx. When the baby is posterior remember the baby's head is more likely to be extended than flexed. This means that the rear fontanel lies closer to the coccyx than it would if the head was flexed.



IMPORTANT: If at all possible, it is important to avoid positions where the mother is forward, such as all fours, until the baby has fully rotated to an LOP position, behind the left hip. Also, avoid rupture of membranes if possible as the waters make it easier for the baby to rotate.

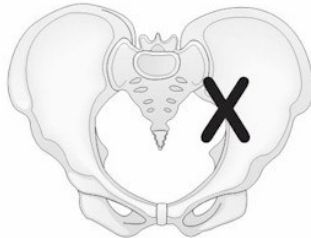
Remember to have the mother lying on her left side at this stage. As the baby continues to rotate

through the posterior positions, she will probably be experiencing constant or intermittent back pain. Strong, firm pressure to the sacrum in addition to heat or ice packs can significantly reduce the discomfort. If the mother has had an epidural, you help her move from her right side to her left side once the baby rotates past the right hip. If she wants to be in water it is better to be in the bath rather than a shower as it is easier to lie down in a bath and utilize gravity to help rotate the baby. While water will help relieve discomfort it is more difficult to get the full advantage of gravity encouraging the rotation of the baby and also very difficult to apply any counter-pressure.

You can determine when the baby has rotated by asking the mother what she is feeling. Have the baby's kicked moved to the right side of her bellybutton? Are the contractions being felt anywhere differently from earlier? Often, as the baby moves to a direct posterior position the contractions are only felt in the back but as the baby moves towards the left hip they begin to also be felt in the front.

Step 5 - Rotation past the left hip

Once the baby has moved to behind the left hip, the mother can now move to a forward position to encourage the baby to move to LOA. LOA is the best position for the baby to be born from as it provides the greatest amount of space. The most effective position at this stage is all fours, or hands and knees. Another position to get the baby past the left hip is lunges or asymmetric positions, where the left leg is higher or more extended than the right leg. This can adjust the pelvis slightly to provide a little more room on the right and enable the baby to pass over the hip.

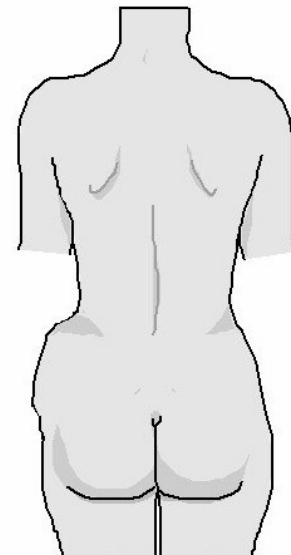


Position of the baby's head in relation to the pelvis when the baby is lying LOA

While the mother is on all fours it is helpful to have someone lie beneath her and firmly massage her belly with single strokes from her left to her right. This helps encourage the baby to rotate the last part of the way. These strokes should only be done between

contractions and stop during them as they can be very uncomfortable if the mother is contracting.

In most cases, once the baby moves to an LOA position, contractions increase in intensity and frequency as the baby's head becomes more flexed and the head makes more consistent and even pressure on the cervix, increasing the feedback mechanism. Up until this stage in primips (first time moms) the mother may not dilate past 4cm. However, once the baby rotates to LOA dilatation may be rapid. In a multip (second or subsequent baby) the mother may continue to dilate regularly despite the posterior positioning.



While the baby is rotating past the left hip, the mother may feel a lot of discomfort in the hip or down her left leg. As was the case on the right side, this is due to compression of the sciatic nerves on the left side of the pelvis. Hot or cold compresses placed just behind the hip can be helpful. Also firm counter-pressure on the left hip can be helpful.

As the baby makes the final part of the rotation, the contractions will most likely begin to be felt wholly in the front and the back pain will ease or disappear altogether.



If the mother is not comfortable on all fours, standing in the shower and leaning forward, or rocking on a birth ball can be helpful. She could also move to the bath at this stage if one is

available. Adopting a position in the bath such as kneeling forwards will help encourage the rotation as well as easing any discomfort the mother is feeling. If the mother is on the bed, moving her to an all fours position or kneeling over the back of the bed will help.

If the mother has had an epidural, this can be more challenging. If it is possible and the mother is willing, the epidural can be turned down slightly to give her some additional feeling in her legs. This can then enable her to move to all fours with support from a person on either side. If you place a birth ball on the bed she can lean over that and rest on it between contractions.

Summary

Rotational Positioning™ appears to be effective when a baby is attempting to rotate in a clockwise direction during labor. At this point, there is no research to support this technique, but the anecdotal evidence from doulas and midwives using the technique is extremely positive.

Rotational Positioning™ will not always be effective and is not helpful at all during pregnancy. It may still be helpful to use techniques such as Optimal Fetal Positioning (OFP) in late pregnancy to encourage anterior positions. However, our experience has been that this is only effective if the baby is already posterior, and preferably on the left of the pelvis. When a baby is ROA OFP simply encourages the baby to stay there.

Rotational Positioning™ is most effective for primips (first time moms). In second or subsequent pregnancies, babies seem to either rotate much more rapidly on their own, or may even rotate across the front of the pelvis.

A few things to remember:

- picture the baby trying to rotate and use gravity to assist
- explain the progress to the mother to provide encouragement and motivate her
- do not expect consistent rates of progress - throw away the curves!
- focus on rest and conserving energy for the majority of the time that you are using Rotational Positioning™, ensuring the mother is eating if she is hungry and remaining well hydrated
- avoid rupture of membranes and oxytocics to speed up labor wherever possible

Finally, we would love to hear your experiences of Rotational Positioning™. If you use it in a labor and find it works, or was ineffective, please use the discussion group on the main page to share your experiences. We would like to see research being carried out on this technique, but in the meantime, perhaps accumulating people's experiences will help us to refine the technique and determine how it can be used most effectively.