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**A site to discover how to improve fetal positioning for easier birthing**


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**Belly Mapping is a way that a mother can tell for herself what her baby's position is. The following article is a variation of Belly Mapping: Using kicks and wiggles to predict posterior labor in the Vol. 12. Issue 4 (Fall 2004) International Doula, a quarterly publication of DONA International (previously Doulas of North America**

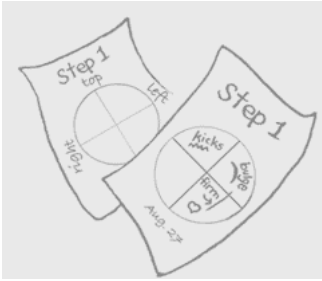
**Belly Mapping** by Gail Tully, BS, CPM, CD(DONA)

Too often, the posterior (sunny-side up) baby isn't identified until labor is troubled. Mothers ask, sometimes after the cesarean for a long, OP labor, "Why didn't anybody know? Can't the nurse or doctor tell when doing an exam?" Medical studies compare ultrasound imagining with vaginal exams by nurses and doctors. Trying to feel with the fingers which way a baby's head was directed was not possible 60% of the time in the first stage of labor and 30% of the time in the second stage. Fortunately, other clues exist.

Belly Mapping is a three-step process for identifying baby's position in the final months of pregnancy. Parents can use Belly Mapping for their own enjoyment. Medical care givers can enhance their skills by using the visual clues of Belly Mapping. Doulas will be able to suggest strategies for fetal repositioning when a posterior lie is suspected.

Most women, in the ninth month, can tell without Ultrasound if their head down baby is facing the right, left, front or back. A few women, though, will find it hard to use Belly Mapping alone. Firm tone, abundant amniotic fluid, a placenta on the anterior wall, or a well-padded tummy can mute the kicks and bumps from which to map baby parts.

Mothers often know more about their baby's position than they first think. If a woman hasn't already, encourage her to take a day or two to learn her baby's habits. She will notice more details of baby's movements when she is semi-sitting and breathing deeply and slowly.




## Step One: Draw a Pie

A mother, or if she prefers, her doula, can draw out a paper map of the baby's kicks and wiggles. Simply draw a circle with four equal quadrants by drawing a line vertically up the circle and a horizontal line across it. It will look like a pie with four equal pieces.

Where the lines cross is the mother's navel. The bottom of the circle is where the pubic bone is. The viewer's left is the mother's right side and visa versa. With words or with pictures, the mother or doula marks each quadrant where she feels:

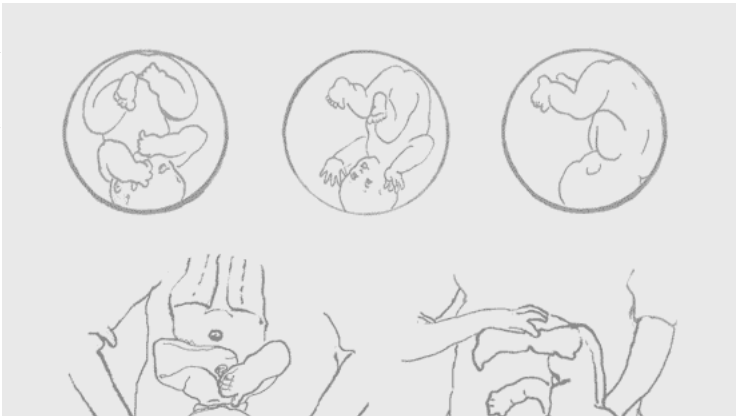
The biggest kicks,
Smallest kicks or wiggles,
The firm back, A big bulge, usually up top, or on one side or the other
If you know, circle where the head is, and
If you remember where the heartbeat was last heard, draws a heart there.
Leave out any parts you are unsure of, and just draw what you are sure of.

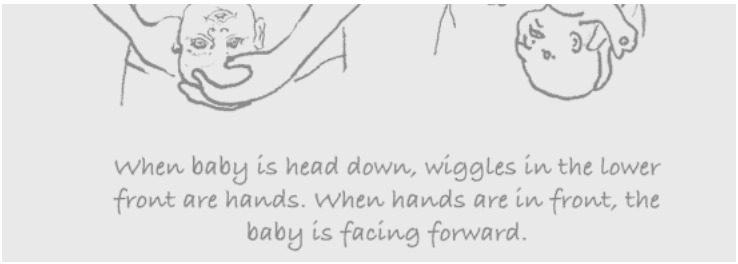
## Step Two: Visualize the baby

Get a cloth doll or teddy bear.

Match the toy feet to the feet on your "map," and so on.

Choose a doll or bear with bendable arms and legs.





When baby is head down, wiggles in the lower front are hands. When hands are in front, the baby is facing forward.

To make Belly Mapping easier, keep in mind three opposites in the baby's body:

Head and bottom
Tummy and back
Feet and hands.

These opposites show up in opposite sides of the "pie." The bottom is always opposite of the head, up when the head is down. So, when head down, baby's feet are at the top, hands might be felt in the bottom half. (Feet kick stronger than hands.) Limbs are opposite the back. Knees bend, but when the legs stretch, the feet bulge out like a ball. Baby can make a triangular shape when straightening the legs. The buldge where the feet poke out seems rounded. Be reassured, the baby does not have two heads!

Getting the parts clear in your mind gets easier with practice!

If a mother has been told her baby is head down, she holds her doll head-down with the doll's head near her own pubic bone.

A mother turns the doll so it's feet are in the same "pie piece" that she feels the biggest kicks. A baby's feet are on the belly side of the baby, so turn the doll's back towards the other side of the "pie."

If a bulging butt rises up, as it often does near the top of the womb, match the doll butt to that quadrant. This bulge can be confusing, are both bulges feet, or is one a head? If the baby is head down, it can't be the head. Is baby breech? (The head will not have legs extending of it.)

Knees bend often changing where kicks are felt. A posterior baby's knees may be the baby parts closest to the surface and can occasionally be felt close to the mother's navel.

Opposite from the kicking feet is a firmness--the baby's back. This is the quadrant where baby's heartbeat is best heard at the clinic visit.

When completely posterior, neither side of the womb is particularly firm and filled in. Knees, feet and hands might be moving on both sides of the womb. Whenever hands are felt in the front, right above the pubic bone, the baby is facing forward.

Hands often feel like wiggles, or champagne bubbles might feel, if felt at all. In a head down baby, wiggles between the pubic bone and navel (not thumps on the pubic bone) are certainly hands. But in a breech, low wiggles can be a foot "tapping." Other sensations in this area could be bladder pressure, forehead "grinding" in a face-forward baby, pubic bone shifting or, if deep, cervical ripening.

Now think of how a baby's arms and feet move. They are always going to be more on the tummy side of the body and often near baby's mouth.

***If a mother can feel hands in front, baby is facing the front!***

## Step Three: Naming the Position

Sharing a common name for fetal positions helps us study and talk about birthing together. Three questions in this very specific order give us the position name:

1. Which side of the mother is the baby's back on?
2. Which part of the baby is coming into the pelvis first?
3. Which side, front or back of the mother is that baby part along?

In this specific order, a one word answer tells us:

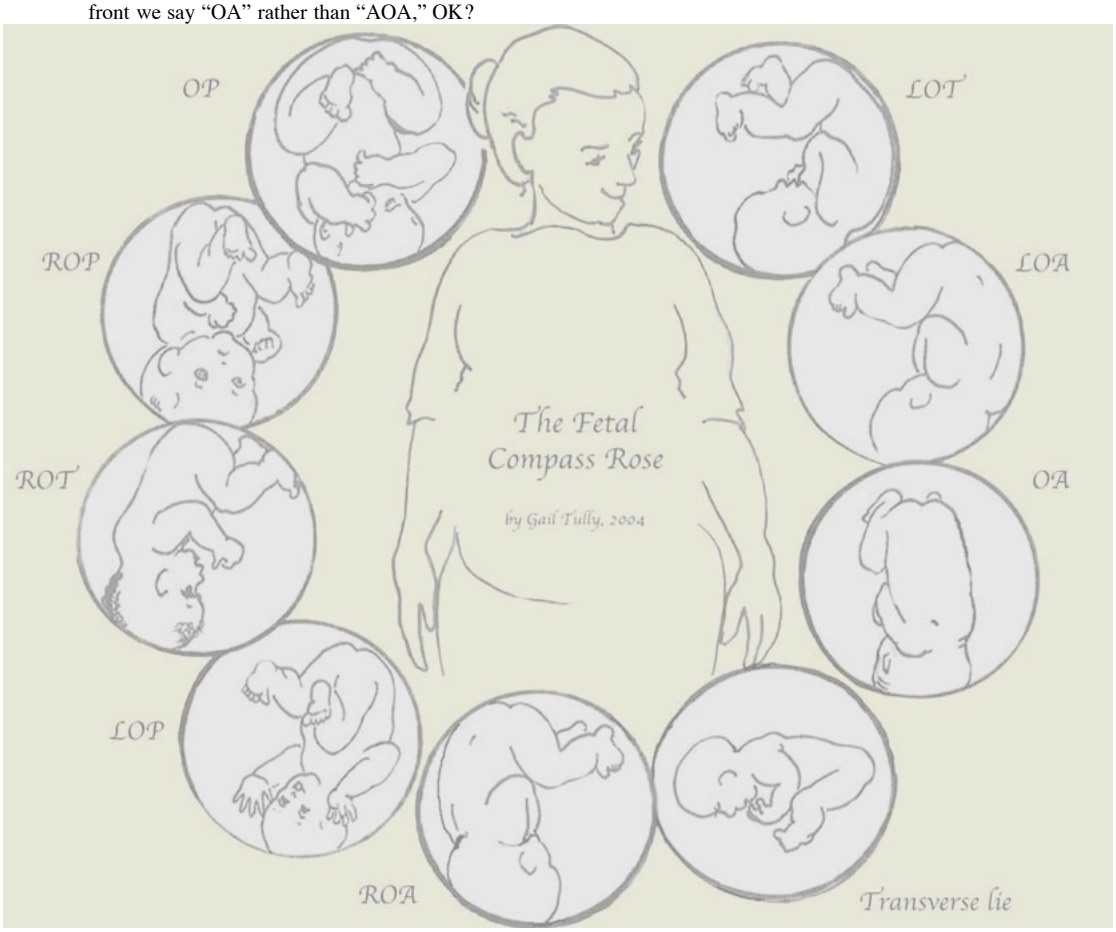
1. Mother's side
2. Baby's part
3. Mother's side, front or back

The first answer, for instance, can be "Left" or "Right," ("L" or "R.")

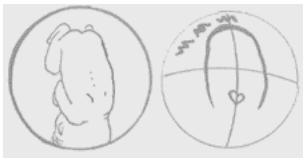
The second answer tells which of the baby's body parts is coming first that has importance in the birth process. The most common part will be Occiput.Th occiput is the bone shaping the back of the skull. Another landmark is the sacrum, which is the triangular shaped bones making up the base of the spine. "S" is used for a breech (bottom first) even if the feet come before the sacrum. The chin ("M for mentum) is used for face-first, and "Fr," Frontum (brow), is for forehead-first babies, rare but adventurous variations.

The third and last letter is for the mother's front, back or hip. The words, anterior (towards the front of the body); posterior (towards the back of the body); or transverse (to the side or sideways) are used. If question one and question three have the same answer, we just use number three.

Talking the talk: A Left Occipital Transverse baby has her 1.) back leaning into mother's left; 2.) head down and 3.) she's facing mother's hip and kicking mother's upper right abdomen. We say she is LOT. (When the words "transverse" and "lie" are used together, the baby is lying sideways in the womb.) When a baby's back is up front we say "OA" rather than "AOA," OK?

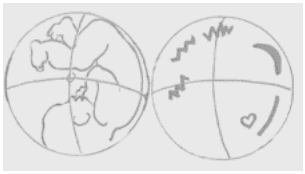



By 34 weeks, a baby's back will shift position less often and the head, once down, hardly ever changes direction. Learn more about head turning in the next chapter. Here are the head down possibilities:



OA
Baby's back is firm in mother's center front. Any kicking is way up on top and a little on the right,
Baby's butt presses up in the top center,
Baby's head is low and mother walks as if walking around a ball. Which she is!
Baby's heartbeat is in the front and can be found and heard easily in a wide area.

LOA
Baby's back is on mother's front left. Any kicking is way up on top and a little on the right,
Baby's butt presses up in the top left and occasionally center.
Baby's head is low and mother walks as if walking around a ball, which she is.
Baby's heartbeat can be found and heard easily left and center.



LOT
Baby's back is on mother's left side and may swing forward temporarily.
Baby's butt is in mother's upper left,
Baby's feet are clearly in mother's upper right and sometimes go across to top,
Baby's hands may only give an occasional wiggle on mom's lower right, if at all,
Usually the lower half of mother's belly is quiet,
Baby's head engages by the due date in first time mothers and often in others,
Baby's head may feel low and making pressure twinges on mother's cervix and upper thigh or groin,
Baby's heartbeat is on mother's left and center and is easily found and heard.

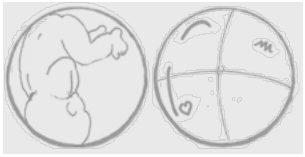
LOT, LOA and OA are each ideal for the start of labor and will finish as "OA." For generalization, I call these the "Three Anteriors." In these positions, the baby's chin tucks well before labor allowing the crown of the head to lead. The Left Occiput Transverse, LOT, is the most common starting position for easier births. Generally, few caregivers pay strict attention to the actual head position so the LOT baby is often called LOA or just OA. The LOA baby's nose points halfway between LOT and OA. Both LOA and OA require less rotation than LOT and may be faster yet, but are less common.

LOP
Baby's back is on the left, but not very close to the surface, some softness may be beside the back on the left.
Baby's butt makes a bulge in the upper left.
Baby's hands and feet are felt all over mother's front but favor her right.
Baby's head may begin to dip into the pelvic brim in what is called engagement before the due date. Some cervical pressure twinges may be felt occasionally.
Baby's heart is heard on mother's left.

ROT
Baby's firm back is on the right side. Mother's womb is softer on the left side.
Baby's butt makes a bulge in the upper right,
Sometimes this bulge is straight up.
Baby's hands and feet are felt in the left side.
Baby's heart is heard on mother's lower right side.

ROP
Baby's back is hard to locate, but is on the right side.
Baby's butt only occasionally makes a bulge in the upper right or top.
Baby's hands and feet are felt all over mother's front but more to the left.
Baby's heart is heard on mother's lower right side.

OP
Baby's back is hard to locate.
Baby's butt may make a bulge in the top center.
Baby's hands and feet are felt all over mother's front.
Knees, feet, hands and elbows are felt moving, making some mother's wonder how many are in there!
Baby's head might slightly overlap mother's pubic bone. It may not be engaged by the due date. A woman can feel thumping or grinding on her pubic bone that may occasionally hurt with baby's movement. Don't confuse this with loose pubic cartilage which can hurt with movement, such as when rolling over or while walking.
Baby's heartbeat may be hard to find, but may be heard in the center in women who don't have much belly fat or amniotic fluid. Hands may hit the Doppler or fetoscope device used for listening. Mother's movement often shifts monitor away from the narrow range that the heartbeat can be heard.



ROA
Baby's back is in the front right and feet hardly felt in the left.
The heartbeat heard on the right and the back of the neck would be felt a bit towards the right.
Since I have been routinely charting the fetal head position in late pregnancy, I have not felt a baby in an ROA starting position. I don't have access to ultrasound verification, but I don't think ROA is a "start" position. I don't think babies like to face the descending colon coming down through mother's left rear pelvis. Many babies who start OP, ROP and ROT will move past ROA momentarily, then swing LOT to engage in the pelvis, move below the sacral promontory, and then emerge in OA. Fewer babies engage as ROT and rotate to ROA in midpelvis, and continue down to finish as either an ROA or OA.

An Ideal Start Position is one in which the baby's head doesn't have to rotate far to fit the pelvis. LOT, LOA and OA are each ideal for the start of labor and will finish as "OA." For generalization, I call these the "three anteriors." In these positions,

the baby's chin tucks well before labor allowing the crown of the head to lead. The Left Occiput Transverse, LOT, is the most common starting position for easier births. Generally, few caregivers pay strict attention to the actual head position so the LOT baby is often called LOA or just OA. The LOA baby's nose points halfway between LOT and OA. Both LOA and OA require less rotation than LOT and may be faster yet, but are less common.

Four other start positions more often lead to posterior (or continue as) direct OP in active labor. Right Occiput Transverse (ROT), Right Occiput Posterior (ROP) and Left Occiput Posterior (LOP) join direct OP in adding labor time. LOP is easiest to solve. I may mean any or all of these when I say "a posterior position."

Fetal Position influences the course of labor.

Three Anteriors, above

Four Posteriors, below

The three "anteriors," LOT, LOA and OA are all ideal for the start of labor. Both LOA and OA require less rotation than LOT and may start a faster labor, but may be less common than LOT. Generally, few midwives or doctors pay strict attention to the actual head position so the LOT baby is very often called LOA or just OA.

Four starting positions often lead to (or remain as) direct OP in active labor. Right Occiput Transverse (ROT), Right Occiput Posterior (ROP) and Left Occiput Posterior (LOP) join direct OP in adding labor time. The LOP baby has less distance to go to get into an LOT position. The incidence of posterior babies at the start of labor is scantly studied, and existing studies almost universally ignore all but direct posterior babies.

As labor begins, the high riding ROT baby struggles to ROA getting past the sacral promontory at the base of the spine, and then swings to LOT to engage in the pelvis. Most babies go on to OA at the pelvic or perineal floor. If a baby engages as a ROT he or she will commonly go to OP, but a few to ROA in midpelvis, and continue down to finish as either an ROA or OA. Some of these babies will rotate quite easily, especially in mothers with round pelvises, good vertical positions with strong contractions and who have given birth well before.

Childbirth texts estimate 15-30% of babies are OP in labor. Jean Sutton in Optimal Foetal Positioning describes that 50% of babies tend toward posterior in *early* labor upon admission to the hospital. My observations are that 75% of babies have their hands in front *before* early labor, indicating their backs are closer to their mother's backs than her front. Strong latent labor swings about a third of these to LOT before dilation begins (in "pre-labor" or "false labor").The difference between the text books and Jean Sutton's and my observations indicates that some of the babies starting in a posterior position rotate without much attention on the labor. In other words, no problem. It's about a third that have a dramatic effect, and a few more that have some effect.

Only 5-7% of babies emerge directly OP, the rest rotate in labor. At least 12% of all cesareans are for OP babies that get stuck due to the larger diameter of the OP head in comparison to the OA head. It's more common for ROT, ROP and OP babies to rotate during labor and emerge facing back (OA).

Due to the physical therapy background of DONA co-founder, Penny Simkin, our DONA birth doula trainings and annual conferences include helpful techniques for babies whose heads are less than ideally aligned in the pelvis. Two key books, Optimal Foetal Positioning and The Labor Progress Handbook, give caregivers non-surgical strategies with movement and gravity.

Belly Mapping is a pleasant, bonding experience for a family. Fears about posterior fetal positioning should be reduced with a calm and confident response about a variety of solutions a mother can choose from. Simple demonstrations of some of the techniques taught in doula trainings, such as the Abdominal Lift, the Lunge and the Open Knee Chest will reassure parents that rotational support is available.

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