

Midwives often talk about how we can re-collect the kinds of knowledge which were held by our predecessors who attended births before they were taken over by medicalisation and moved out of the home environment. Occasionally, somebody discovers knowledge which is both 'old' and 'new', recognises its implications, and this becomes their passion. Such is the case with Jean Sutton and the rhombus of Michaelis, an area of the lower back which plays a key role in physiological birth. Much of this article is based on a discussion/interview with Jean which took place during August 2002; her words are in italics.

Before we get into the finer details of what Jean affectionately calls "the rhombus", I should add that part of the point in writing about this is that this is the kind of knowledge that some midwives will see as very obvious; they will have read about it in *The Practising Midwife* before (Sutton 2000), heard Jean speak or be independently aware of this feature of birthing bodies. They might be surprised that anyone feels the need to write about it again. Yet others will not have heard of the rhombus of Michaelis or of the difference that their knowing about this can make to the women they attend. Such has been my experience in talking to midwives about this kind of experiential / physiological knowledge or, as Jean calls it, "women's wisdom". What seems obvious to one midwife will be news to another.

So where is this rhombus, and what does it do?

The rhombus of Michaelis (sometimes called the quadrilateral of Michaelis) is a kite-shaped area that includes the three lower lumbar vertebrae, the sacrum and that long ligament which reaches down from the base of the skull to the sacrum. This wedge-shaped area of bone moves backwards during the second stage of labour and as it moves back it pushes the wings of the ilea out, increasing the diameters of the pelvis. We know it's happening when the woman's hands reach upwards (to find something to hold onto, her head goes back and her back arches. It's what

Sheila Kitzinger was talking about when she recorded Jamaican midwives saying the baby will not be born 'till the woman opens her back' (Kitzinger 1993). I'm sure that is what they mean by the 'opening of the back'.

The reason that the woman's arms go up is to find something to hold onto as her pelvis is going to become destabilised. This happens as part of physiological second stage; it's an integral part of an active normal birth. If you're going to have a normal birth you need to allow the rhombus of Michaelis to move backwards to give the baby the maximum amount of space to turn his shoulders in. Although the rhombus appears high in the pelvis and the lower lumbar spine when it moves backwards, it has the effect of opening the outlet as well.

When women are leaning forward, upright, or on their hands and knees, you will see a lump appear on their back, at and below waist level. It's much higher up than you might think; you don't look for it near her buttocks, you look for it near her waist. You can also feel it on the woman's back, it's a curved area of tissue that moves up into your hand, or you may suddenly see the mother grasp both sides of the back of her pelvis as the ilea are pushed out and she is suddenly aware of those muscles that have never been stretched before. Normally, the rhombus is only out for a matter of minutes, it comes out just as second stage starts, and it's gone back in again by the time that the baby's feet are born, in fact sometimes more quickly than that.

As a student midwife, I spent a lot of time holding and rubbing woman's backs for them, and the first time I heard Jean speak about the rhombus, I realised that this is what I had felt moving. At the time, I always assumed it was the baby's head pushing the sacrum backwards. (Now I am wondering if I was unwittingly interfering with the physiology of these women's labours!) I also recalled women in labour raising their hands just before their baby was born. In one hospital, they would grab the 'monkey bars' which had been provided for the women who had epidurals. I

learned to see these bars not as a negative reflection of the degree to which technology prevailed in hospital birth, but as a potentially important and useful tool in the birth room.

In some birth centres and forward thinking hospitals, you can find gymnasium-type bars on the wall or brightly coloured ropes hanging from strengthened parts of the ceiling. These act as supports for women needing something to hold while their pelvis moves. It is interesting that, in the UK, we tend to be focused on getting women off the bed and onto the floor, with our sales pitches for beanbags, birth balls and padded mats which offer knee protection to the crawling woman and her midwife. While I know of a few exceptions, we do not seem to have become as aware as our European and American colleagues of the need for aerial as well as ground-based equipment in the birth room.

Hindering Physiology

Jean cites a number of examples of ways in which the rhombus can be effectively prevented from helping the pelvis to open:

- *If women are on their back with their legs up, then their strong gluteal muscles prevent the rhombus from moving backwards.*
- *If a woman has her hands behind her knees and is pulling her legs up towards her tummy, the rhombus is also prevented from moving.*
- *If she's got an epidural in, the nerve supply is interfered with so that the impulse for it to happen is obstructed.*

So what do women need to know?

We need to tell women that if they want to have a short second stage of labour and they don't want to have to spend ages pushing, then they need to make sure that their pelvis will open to make enough space for the baby. And that this is perfectly safe as long as they have something to hold onto and that it will be gone back into place as soon as the baby is born. More importantly, they need to know that they

shouldn't let anyone else move their legs while they are in second stage labour because, while they themselves will feel if they are moving them incorrectly, it is possible for an attendant to put the leg down so that the pelvis goes back in the "wrong place" – this isn't a very technical way of saying it but at least women understand what you mean.

I think we need to get women to understand that, although epidurals are great for pain relief, they actually get in the way of a spontaneous second stage and vaginal birth. In many cases, the reason they've got an epidural is that the baby wasn't in the best position when it started, and the baby in the less suitable positions needs all the space he can get to turn around in. The OP baby needs the rhombus of Michaelis to move backwards so he has room to turn round so he can come out as an OA baby. The woman should then get out without having her pelvic floor damaged. Pelvic floor damage is a major worry for women, but if they can be in an upright position with their weight well forwards so that the rhombus is free to move, very little damage is done to their internal anatomy.

Gathering Midwifery Knowledge

So there it is; free, simple, helpful information. While Jean's articles and books go into slightly more depth, you know almost as much about the rhombus of Michaelis as she does right now.

Which is part of the problem.

Jean hasn't been able to find an anatomy textbook which assigns any role to the rhombus, although many draw and identify it. It was identified in the literature as early as 1932, when a New Zealand obstetrician called Corkill asserted that there is 16cm of space in the outlet of the pelvis during the second stage of labour. It appears not to have occurred to anyone to explore the difference between this assertion and the received midwifery textbook 'wisdom' that the diameter of the outlet is 13cm. The only other possible link to this area

that Jean has identified is in Michel Odent's (1987) work on the fetus ejection reflex.

Jean feels sure that, *"there must be some seriously large nerve plexus that triggers it off"*. She has proposed that this could be linked with the Ferguson reflex, or that the plexus might be the G-spot, identifying parallels between the actions of women (and men) during orgasm and the second stage of labour. Thus far, although a couple of midwives have become interested in researching this area, it has not attracted the level of interest which might be expected of something so potentially important to the physiology of labour.

One of Jean's hopes in preparing this article is that midwives who have observed the rhombus in action will contact her, as she would like to collate records of the actions of the rhombus during physiological second stage. My interest is also in what we can learn by thinking about the different types of knowledge which we access as midwives, and noticing what we can about the relative emphasis which is put upon these.

Given the lack of research and the miniscule quantity of discussion in midwifery and medical literature about the rhombus, you never can tell whether common sense wisdom is really that common. While Jean asserts that an understanding of this area can lead to a vastly increased chance of a woman having a physiological vaginal birth, I can only find six references to this on the Internet and in midwifery journal searches, and at least half of these are written by Jean herself. By contrast, when I looked for information on the Canadian Term Breech Trial last week, I found over 100 web pages discussing this listed on just one Internet search engine.

I know a comparison of these two examples may bring accusations of contrasting apples and oranges, but it being the season of goodwill and all, I am hoping I might be forgiven! Which of these is the more useful source of information for women and midwives? Is it the one which was generously funded, feted, dramatically stopped, cited around the world

and which has changed hospital practice and limited women's choice overnight, despite a number of serious methodological and philosophical concerns? Could it be that those who lead the way in generating knowledge through large-scale research are asking loaded questions, putting money into certain high-profile areas and ignoring the kinds of knowledge that could make a real difference to women?

Or maybe it doesn't matter. We don't really need an RCT to see if the rhombus of Michaelis makes a difference. We just need to talk about it more amongst ourselves; spread the word to women and other midwives; email Jean so she can do something useful with our observations; think more about how we can re-collect knowledge as women and midwives. All of which are low-cost and reasonably pleasurable

And as it is the holiday season and I feel compelled to end on a positive note, it seems only fair that Jean, being (marginally) less prone than I to 'rant' about these sorts of things, should get the last word:

If midwives want to be assisting women to have as many normal births as possible ... to be able to promise women that birth is quite manageable ... that they don't need to have the interventions ... that it's simple and it's safe, as long as it follows the process, then having the back open is just part of that process. If we can understand this, we'll be getting back part of our midwifery skills.

References

Corkill TF (1932). Lectures on Midwifery and Infant Care. Whitcombe-Toombs, NZ.

Kitzinger S (1993) *Ourselves as Mothers*. Bantam, London.

Odent M (1987) The fetus ejection reflex. *Birth* 14(2):104-5.

Sutton J (2000). Birth without active pushing and a physiological second stage of labour. *The Practising Midwife* 3(4): 32-34.