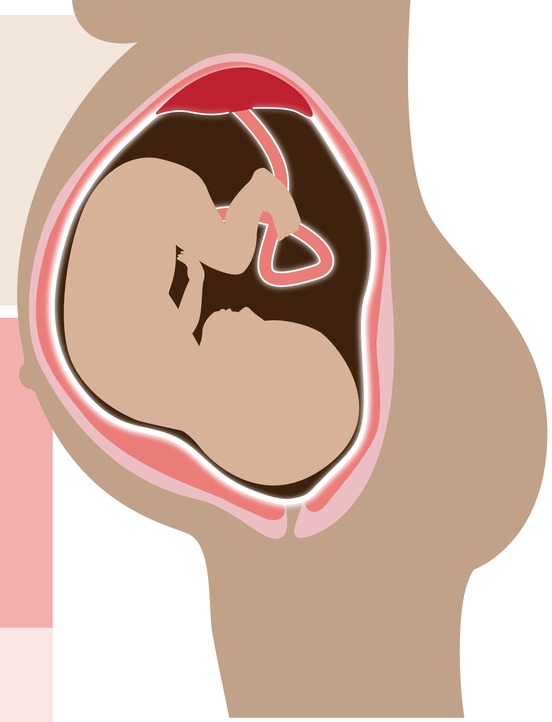
MEMBRANES MATTER

Avoid ARM



H

Hold off unless indicated

'HALO' aims to avoid the injudicious use of Artificial Rupture of Membranes (ARM); the deliberate rupture of the fetal membranes resulting in the drainage of amniotic fluid. Fetal membranes produce labour enhancing hormones [1]; maximise lubrication of the birth canal [2]; regulate the amniotic fluid volume [3, 4] protect the fetal and placental blood flow from the full pressure of contractions [5] and protect the baby from ascending infection [6]. ARM should be avoided in normally progressing, low-risk labour [7, 8].

Waitemata District Health Board (WDHB) Normal Birth Guideline states "concerns about progress less than 2cm in 4 hours after establishment of active labour should be referred to an obstetric registrar for assessment and advice" [9]. These parameters have recently relaxed from 1cm per hour in response to growing respect for the non-linear relationship between cervical dilation and time [10, 11] . When progress is considered slow one of the first interventions used is ARM even though it does not significantly decease the length of labour [12] unless it is combined with intravenous (IV) SyntocinonTM [13]. SyntocinonTM is indicated in cases of true dystocia but can trigger a cascade of intervention [14] and should never be used to hasten the completion of a healthy physiological process [15].

Hand over to a colleague & take a break

Midwives know that providing "continuous, one-on-one support" during labour has been shown in a randomized clinical trial of nulliparous women to reduce the need for oxytocin stimulation with no increase in caesarean deliveries or adverse outcomes[16]. To sustain this support in a long labour, self-care is essential [17]. Self-care is made possible when midwives are well supported by their colleagues and managers. A strong ethos of collegial support between midwives brings safety for mother and baby[12]. Manageable caseload sizes, regular time off, support from practice partners, well negotiated financial arrangements and clearly communicated boundaries with women also improve sustainability [18].

A

Adjust maternal position regularly

Mobilisation and upright positioning during the intrapartum period assists with fetal descent and uterine contractions, minimizes the weight of the pregnant uterus on the inferior vena cava to allow adequate oxygenation of the fetus [19, 20] increases the pelvic diameter [19, 21] shortens the first stage of labour, lowers the rate of epidural use [20] and assists with fetal rotation [22-24]. Swaying, lunging, stepping and other naturally adopted positions using support people, furniture and other props e.g., bean bag, Swiss ball or birth stool can improve application of the presenting part [25] promoting optimal hormonal feedback which in turn increases the strength of contractions and the level of endorphins [26].

Advocate for optimal environment

Once a woman is in labour, environments that can offer privacy, promote social support, allow freedom of movement, are calming and include scenes of nature will support physiological progress [27-30]. These variables are more readily available in primary birthing units which have reported better outcomes for low-risk women and babies compared with secondary or tertiary hospitals [31-33]. Exploring place of birth options antenatally will help women make fully informed decisions [33]. WDHB is adding a primary birthing unit to the maternity facilities available at Waitakere Hospital. This innovation will greatly enhance the 'place of birth' choice in West Auckland communities.

L

Look after latent phase; apply warmth or TENS

Midwives at a WDHB primary birthing unit described "mothering" women in early labour. Tucking women into bed with their partners and providing wheat bags or a TENS machine in the latent phase created what women described as a safe, nurturing environment [12]. This "mothering" can also be provided in a woman's home in early labour as encouraged by the WDHB Normal Birth Guideline (2016) unless women are unduly anxious or requesting admission.
Warmth can reduce the intensity of pain [34], but care must be taken with temperature in the presence of pharmacological pain relief. Some women find transcutaneous electrical nerve stimulation (TENS) a very effective pain relief option [35] however, it has never been the subject of a controlled trial.

Liquids: ensure good hydration

The most recent Cochrane review recommends that women self-regulate their oral liquids during labour [36]. Oral hydration whenever possible is preferable to IV fluids [37] which can slow labour, cause pain, a loss of freedom of movement and the possiblity of fluid overload [38]. IV fluids are indicated when women become ketotic (Dawood, Dowswell & Quenby 2013) at which point a rate of 250mL/hour will reduces the rate of dystocia, caesarean and vomitting more successfully than the more common 125ml/hr [39] . Accurate fluid balance assessment must be undertaken for the duration of any labour with IV therapy. Volumes greater than 2500mL administered over the course of labour can result in; newborn weight loss of >7% [36, 40] and neonatal hyponatremia [41]. With these risks in mind, in a low-risk labour, if there are concerns about slow progress and evidence of ketosis, there may be a case for IV infusion at 250ml/hr for a planned period before the decision is made to ARM.

O

Observe discretely: low lights, quiet voice, minimal disturbance

Calm quiet and privacy are essential for normal labour to progress; people should avoid entering birthing rooms unless absolutely necessary [9]. Skilled midwives keep the room as calm as it can be in order to take the necessary recordings for the particular stage of labour and escalate surveillance only in response to abnormal findings. Intermittant auscultation is the prefered method of fetal surveillance in low risk labour [42, 43]. This respect for an undisturbed environment protects the woman and baby from unnecessary intervention and can positively influence women's satisfaction with their labour and birth experience [44]. Vaginal examination required to gain access to the cervix and membranes to perform ARM is invasive and sometimes painful. Labour often becomes more painful after ARM due to a surge in prostaglandins and oxytocin [45]. It is difficult to quantify how the baby experiences ARM but it is associated with fetal heart rate changes [46] and changes in blood flow that could indicate a fetal stress response [47].

Optimise oxytocin opportunities

Oxytocin works in collaboration with catecholamines to moderate the pace of labour. Breast and nipple stimulation causes the womb to contract and may increase levels of endogenous oxytocin [48]. Contractions become more regular after stimulation with no ill effects [49, 50] although these were small trials. Nipple stimulation connects a woman to her augmentation process in a way that is within her control [51] and may provide an option for low-risk women who are comfortable experimenting with this method.

Summary

Models of birth that expect a linear relationship between time and a woman's cervical dilation are no longer considered scientific. Progress in physiological birth requires private, safe, warm, calm and undisturbed environments for both mother and the baby. Removing the fetal membranes without proper indication is ill-advised. HALO provides midwives and allied professionals evidence around the various forms of minimally invasive support measures that can help to avoid ARM in low risk labour.

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