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Active Management of Labour: The Irish Way of Birth

The Irish Way of Birth

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"As a human female physiologic process labour is both a universal phenomenon and a highly individual experience. It is predictable that it will occur, but unpredictable and idiosyncratic in its actual occurrence. Despite attempts to package labour into discrete phases and stages, it is better understood as a whole, with an ebb and flow and rhythms of its own. It is intensely physical and emotional, consuming all of one's attention and energy, yet life-giving and empowering in that intensity. How then is it possible to manage labour?'(1)

In Ireland, as elsewhere, the attitude and practice of practically every obstetrician has been coloured by the policy of active management of labour. Such a practice engenders many questions: How did such a managerial approach to a natural physiological process originate? Should we be proud of an Irish system of labour management which has migrated to many parts of the English speaking world?

Along with a reputation for supposedly maintaining low caesarean section rates, it has also accumulated a tremendous number of eminent critics, who while recognising that there are some distinctly positive aspects to active management (e.g. the guarantee of continuous support once labour is considered to be established) assert that the framework for its basic tenets are based on unscientific assumptions. Prominent amongst them is Prof. MJNC Keirse, former Professor of Obstetrics and Gynaecology at Leiden University in Holland, and now Professor of Obs and Gyn at Flinders University of South Australia, who also co- edited *Effective Care in Pregnancy and Childbirth.*

If you are having your baby in hospital, it is a good idea to be aware of how the policy, which originated in Dublin at the National Maternity Hospital (NMH), came into being. One should attempt to understand its basic tenets, positives and negatives, and be aware of the potential for misinterpretation, especially outside of its place of origin. The term "active management" has come to signify different aspects of what may broadly be described as labour management. In order to distinguish the basic ideas from the misinterpretations it is necessary first to describe the policy as defined by its originators.

The principal points of active management are as follows:

- A precise "beginning" of labour is diagnosed.
- The guarantee of labour not lasting longer than. twelve hours. Artificial rupture of the membranes (ARM) is performed routinely, if dilatation of the cervix (neck of the womb) is not maintained at a

rate of l cm per hour, after 3 cms plus has been reached.

- Augmentation of contractions with synthetic oxytocin is employed if dilatation does not increase at the rate mentioned above
- The guarantee of not being left alone in labour, but of receiving continuous companionship from a midwifery student or medical student.
- The progress of the labour is charted on a graph called a partogram.(2)

The active management of labour system has been the subject of controversy and debate. It is a policy that has been finely honed over the past twenty-five years. As a model it has been studied and implemented in Europe, the USA and Australia. It is highly regarded in some obstetric circles and the motives of its main exponents, O'Driscoll and Meagher and latterly Boylan, are not in question. Clearly they believe, on balance, that this is the safest and least traumatic way for women to give birth. This, however, is not a view shared by everyone.

For a woman having her first baby, it can be difficult to believe how culturally shaped childbirth practices can be. Thus it can be difficult to distinguish the brand of "normality" which active management strives to create from that of a labour where the woman can labour freely without such intervention and at her own pace. The imposition of time limits has become an ingrained feature of how labour is "managed" and although it is not scientifically justified, every woman is expected to conform to the strict pattern of dilatation of 1 cm per hour, as though childbirth was in some way a mechanical operation.

The idea that the opening of the neck of the womb (dilatation of the cervix) should happen at a precise rate is one of the components in the active management "package". The time and progress of this opening-up process are plotted on a graph or partogram and the woman is guaranteed that she will not be in labour longer than twelve hours.

An hour after admission to the labour ward, an assessment is made. First the membranes (the bag of waters surrounding the baby) are ruptured. The waters must be clear and it must be a first baby and presenting head first (vertex). If an hour later there has not been sufficient dilatation (1 cm), an oxytocin drip may then be set up to accelerate the contractions. There is strict adherence to this policy for first labours, what is termed the labour of a primipara, in the NMH.(3)

The assumption at this point is that if progress is not sufficient, that such a labour could eventually be "prolonged". The fundamental principle is that there is "insufficient uterine action", i.e. that the womb is not contracting adequately if it has not opened sufficiently in that one hour. Critics of the policy consider this concept to be a presumption(4), and without scientific basis, which did not utilise the work available on how the contracting powers of the womb could be evaluated(5). As the womb of a woman having her first baby has to work very hard to dilate a cervix which is rigid and unstretched, it will obviously take somewhat longer to do so (than it would in subsequent labours). Oxytocin will "augment" contractions, but their effectiveness will be determined by how soft and "favourable" the cervix is. Oxytocin itself has been shown to have no direct effect on the neck of the womb (cervix), only on the myometrial muscle fibre of the womb (70% of the organ).

Forty-five per cent of first-time mothers in the NMH are predicted to be "at risk" of having prolonged labour(2), and there can be a combined figure of 54 per cent for induction and acceleration of women having their first baby(6). This contrasts with 3.1 per cent of women who received oxytocin for acceleration in a study of a birth centre in the US(7), which compares well with the more historical Liverpool estimate that 1-2 per cent of all labours, and 4 per cent of first labours could be declared seriously "inefficient" (8) As Jeffcoate comments: "*It may not even be the care or the caregiver, as much as the setting and the maternal empowerment that is possible outside the anxiety driven hospital environments*"(9) which accounts for the difference.

Goer further observes: "*Active management introduces psychological hazards as well. By defining deviation from the average rate of dilatation as pathologic, it tells the 45 per cent of women who have augmentations that they are abnormal.*"(4)

Further, active management does not take into account normal biorhythms. The mother may simply want to go to sleep and take a break if she has "*gone out of labour*" or she may need to snack lightly (as a study at the Jubilee Hospital in Belfast discovered) in order to recoup her energies. In this study one group of mothers was allowed to eat light snacks such as yoghurt, jelly or fresh fruit which enabled them to have shorter labours (by ninety minutes) , less need for pain relief and less acceleration with oxytocin, than the group that had to fast. The outcome for their babies was also better, as nearly all of the babies in the eating group had higher Apgar scores. Labour was compared with running a marathon: the energy required was similar.(10)

So "giving birth on an egg" may be a good idea, but once in hospital a labouring woman may not be allowed to eat, in case she may require a general anaesthetic (this policy persists even though the use of general anaesthetic is becoming more and more rare). Feeding a labouring woman lightly, with, for example, scrambled egg, was the age-old means of dealing with a first labour. In first labours the first stage (until the cervix is fully opened at 10 cm) is usually longer than that in subsequent labours, and active management evolved principally as a means of curtailing this phase. This practice reduced the number of staffing hours on the labour ward and ensured that as many women as possible were processed through the hospital as quickly as possible, while guaranteeing that they would have one-to-

one support from a staff member.

"It would appear that there are a large number of situations in which augmentation of labour is not directed at correcting a perceived abnormality in a woman's labour but at shortening the labour commitment of her caregivers."(11)

On the surface, the motive - eliminate the longer first stage in a first labour - appears commendable, even tenable. However, each intervention carries risks for both mother and baby. Rallying a mother's own powers and improving her labouring environment is a kinder and equally efficient (or perhaps better) method than rupturing her membranes and applying oxytocin. Active interventions actually create more pain because the cushioning effect of the waters or membranes is removed and the baby's head is now directly able to create a "battering-ram" effect against the cervix as the womb is being driven by a very powerful synthetic hormone.

"When physicians think about it, they like to think of themselves as managing the labour itself, steering its course, speeding it up or slowing it down, handling or managing it much the way one manages a car on a highway."(12)

One positive feature of the policy in the NMH is that the use of Kiellands rotational forceps has been forbidden because of the possibility of damage to the mother and/or the baby. The attitude to pharmaceutical pain relief is also conservative because it is considered an important personal achievement for every mother to have a spontaneous delivery if possible. Pethidine is disliked for its unpleasant side-effect: nausea, the lapsing into a state of drugged disorientation and self-pity followed by the inevitable hangover - not to mention its recognised failure to provide adequate pain relief. Originally, epidurals were regarded with caution because of the knock-on effects in the second stage of labour when a mother needs to be able to push her baby out and because of its masking effects which would obscure the occurrence of a ruptured womb, "*There is*" as O'Driscoll and Meagher point out, "*a grey area between anaesthetics and obstetrics into which not a few disasters of childbirth fall*"(13)

The titration rate for the oxytocin adopted by the policy of active management in the NMH is at a very high level. Oxytocin is introduced at 6 milliunits per minute, increasing to 40 milliunits per minute. In contrast, the Food and Drug Administration (FDA) in the USA recommends that it be introduced at 0.5 to 1 milliunits per minute and increased in increments of 1-2 milliunits at 30-60 minute intervals until the desired contraction level is established. The artificially strong contractions thus produced are extremely painful and there is no consideration given to other (alternative) forms of pain relief. But in*An Obstetrician's View of Pain* in 1975 Professor O'Driscoll, while acknowledging "the protective and the diagnostic value of pain" does not acknowledge that accelerated contractions are frequently, also, more painful.(14)

Anecdotal evidence suggests that many women who having experienced the two kinds of birth, normal and accelerated, would tell a different tale. In the recent past the hospital has loosened its restrictions on epidurals for first-time mothers in particular. This may be in recognition of the increased pain caused by

oxytocin as well as a response to the generally higher demand for epidurals by women themselves.

The Bottleneck

Statements which describe the labour ward as the "bottleneck" in a maternity service and the number of deliveries as the "throughput" smack very strongly of production-line terminology . The "prototype" of the labouring woman who may be "disorganised and frightened, and not acting witch sufficient dignity and purpose" has not only an industrial, but a Victorian ring to it. One is reminded of the brave woman in labour in Joyce's Ulysses who "had manfully helped".

"It is not possible to plan maternity hospital accommodation or to allocate midwifery staff, in particular, on a rational basis unless the number of patient-hours to be serviced can be calculated in advance."(13)

In developing the policy of active management Professor O'Driscoll believed that the unit costs and efficient development of nursing staff had not previously received sufficient attention(3) [1972] A baby born in NMH in 1972 cost only £4.72 whereas in other hospitals "the unit cost of production" could be up to £12.00. This cost effectiveness was achieved by 622 babies being born for each trained midwife compared with 173 in other hospitals. The vision for the future was of large units, not less than 5,000 deliveries, where within a few years, labour would be completely controlled and managed.

"By 1968 the hospital was bursting at the seams there was a very real risk that crowding and pressure of work would reduce the high standards now regarded as normal."(15)

Cost, time and staff allocation are important components of the policy but what are the hidden costs in terms of the mother's experience of labour? The definition of "prolonged labour" has suffered some change and mutation also in anticipation of the years of "maximum throughput". In 1963 it was thirty-six hours, in 1968 it was twenty-four hours and in 1972 it was formally reduced to twelve hours. The increase in deliveries from 5,063 in 1965 to 8,964 in 1981 was 78 per cent. In order to cope with the increased pressure of these numbers and guarantee one-to-one support for every woman in labour, the only option considered was to reduce the time allocation on the labour ward for each woman. This increased throughput (1963-73) was of course only possible because of the techniques of active management of labour

What do Women Want?

"There is an almost appalling contrast between the frequency with which augmentation of labour is employed in obstetrical practice and the paucity of well controlled research data to judge the effectiveness of the interventions used for this purpose. Presumably the need for the use of augmentation is often based on a desire to accommodate assumed maternal wishes for a relatively short labour and an agreeable "birth experience". Yet there is an almost total lack of controlled research indicating whether or not women prefer a labour of shorter duration even if this is achieved, by oxytocin titration to a (possibly longer) spontaneous labour."(5)[1989]

Many women have a slow gradual lead-up to labour which can last for a number of days but which allows

the woman to go about her everyday tasks as usual and adjust herself to be increasingly strong contractions. The mucous plug may come away and there may be occasional contractions. Each labour is unique and the normal course of labour will follow a curve rather than the straight line expected in the partogram.

"The patient herself is bullied into declaring precisely when she first experienced symptoms of labour. For the sake of peace she states a time, but she knows, as we all know, that the onset is usually gradual with intermittent and indefinite warnings which may or may not be significant. Several hours or days may elapse before it is certain that parturition is in progress. All records and statistics dealing with length of labour are therefore to some extent fictitious."(8)

To be able to pinpoint exactly a stage when labour can be said to have begun is essential for management and control purposes. A cornerstone of the policy is an exact determination of the "beginning" of labour, which is indicated by the cervix being at a very precise stage of opening-up or dilatation. This should be happening in the presence of strong contractions, which is all very well, but the diagnosis is a subjective one and no two people will draw the same conclusion. So it is possible to "start the clock" without a woman being ready or in truly established labour. When the cervix is more than 3 cm dilated the membranes may be ruptured. There is then no turning back; a woman is now committed to delivery once the breaking of the waters has been performed. As Professor Keirse comments:

"If labour starts spontaneously, we usually do not rupture the membranes unless there is a special reason for doing so, such as either conventional surveillance and for external monitoring. The reason for our policy is quite simple. When there is a need to interfere with nature, we feel that we should only employ procedures that have been shown in adequately conducted trials to be better than not interfering at all except at the express wish of the women concerned."(16)

It is claimed that this policy ensures low intervention rates, a claim that ignores the possible direct effects, both on the baby's well being and on the confidence and well-being of the woman in labour. For instance, one of the hazards of artificial rupture of the membranes is the possibility of the baby's cord being brought down with the rush of waters and emerging before the baby's head, thereby cutting off the blood supply (prolapsed cord). This necessitates immediate delivery of the baby if death or damage is to be averted. ARM has to be performed before it is safe to infuse oxytocin, which makes it difficult to understand how, in a review of almost 31,000 deliveries of first time mothers in Holles St, the deaths of babies with prolapsed cords were excluded from the review.(17)

Lower Caesarean Rates?

Considering that the national caesarean section rate for Holland is 7.9 per cent (1991) and is achieved by means of a midwife-centred system of care, and without active management, the rising caesarean section rates at the NMH (9.8 per cent in 1993) demonstrates that the policy variously described as the "Dublin method", or the "Dublin experience", can no longer claim distinct advantages. Although its supporters claimed that active management was responsible for low caesarean section rates (4.2 per cent in 1965;

4.l per cent in 1975; 5.1 per cent in 1985) in the NMH, these rates have not held. The opposite has been the reality; as the number of births declined and the proportion of women having more than three or four children declined, the caesarean section rate began to climb. The caesarean section rate for first time mothers in 1994 was 11.1 per cent.(6)

Although still a policy which is attractive from an administrator's point of view, the low rates of caesareans were perhaps the main selling point of active management, particularly in the US, where caesarean rates had escalated as high as 50 per cent in some private hospitals, and where there was a drive to lower them.

Figures for one public hospital, catering for the highest risk segment of the population in New York, show that a reduction of staffing hours must be the main, if not the only, advantage of active management. The North Central Bronx Hospital has an intake of 80 per cent black and Hispanic women, 70 per cent of whom are considered at risk or at high risk (there is a very high proportion of drug addicts, especially "crack" users). This hospital had a caesarean section rate of 11.8 per cent in 1988 and a minimal use of oxytocin (6.4 per cent). The system in this hospital was constituted on a Dutch model with midwife-centred care.(19)

Further examples of alternatives to active management, which actually*do* lower the caesarean rate have been documented. In 1990, an Austrian obstetrician, Alfred Rockenschaub, wrote to the Lancet describing the outcomes in his hospital, the Ignaz Semmelweiss Institute. For two decades the hospital had adhered to a non-interventionist policy, despite several attempts via litigation to force them to. (The other two hospitals in Vienna adopted the standard interventionist policies, with routine fetal monitoring and increased caesarean section rates).

At the Semmelweiss they adopted a policy of intensive preparation for childbirth through an education programme, and minimum interference in labour. Caesarean section was restricted to obstructed labour, failed trial of labour, major forms of placenta praevia, and rare conditions such as prolapsed cord or pelvic tumour. Most women required little or no analgesia, and less than 1 per cent received epidural anaesthesia. Their caesarean section rate was 1.05 per cent. In the other units it was 10.29 per cent(20)

Replicating Active Management

No institution in Ireland or outside of Ireland has been able to faithfully replicate this policy but many hospitals have used at least two of its components: artificial rupture of the membranes and oxytocin infusion. The acid test of any policy is the number of babies, proportionally, who die around the time of birth (the perinatal mortality rate). One particular hospital in the US was not convinced that aiming for a low caesarean section rate with the help of active management techniques was advisable.

In 1983, Parkland Memorial Hospital in Dallas, Texas, compared its rates of caesarean section and outcome for babies with the National Maternity Hospital in Dublin. Although the Dallas hospital had a much higher caesarean section rate (18 per cent) than Dublin, considering its population mix of black,

Hispanic, Asian, and poor white women, it had a lower perinatal and intrapartum (during labour) death rate for babies. Given the all-white clientele, plus a middle- class segment of women attending the NMH, better rates would have been expected, but the comparative figures were dramatically different. The incidence of intrapartum death in low birth weight (less than 2,500 gms [5.6 lbs]) fetuses without malformations was seven times greater at the National Maternity than at Parkland. Also significant was the twofold increase in frequency of infants in this weight category who survived but suffered seizures. (21)

Details of the quality of support during labour and the incidence of anaesthesia and analgesia (these being contributory factors to the raising of the caesarean section rate) is not given, but the comparison illustrates an aspect of this policy which has not received adequate recognition; that is, the social character of the women giving birth in the Ireland of the 1960s and 1970s when this policy evolved. Most were multipara, or women having second or subsequent children who would be back to have their babies year after year in a hospital which had never had a high caesarean section rate. How could such a policy be imposed on a large hospital in the US where the number of very young women having a first baby was in almost inverse proportion to the Dublin multiparas? It would be impossible to achieve the same rates.

The industrial concepts which this policy reflect were not fully followed through. In its home location the policy was implemented "with near military precision" by its originator, Professor Kieran O'Driscoll, but the replicating and possible misinterpretation of this policy are a cause of deep concern. It is a policy designed for the management of a first labour and it is this essential characteristic which has been widely ignored. Stimulated by lectures and a series of articles in the professional press, other hospitals began to use some of the techniques from the early 1970s . But even by then warning bells had been sounded about the potential injurious effects of using oxytocin liberally, for example, in an effort to eliminate cephalo/pelvic disproportion (a baby being too large for the mother's pelvis).(22) In 1974, Liston and Campbell also noted an increased number of distressed babies in Aberdeen, during labours where oxytocin was used.(23) An exponent of active management has himself commented on this:

"It cannot be overemphasised, however, that the method must be restricted to normal primigravidas at term with singleton vertex presentations and no evidence of fetal distress. Misapplication of the method to other, wholly unsuitable categories of patient, has sometimes given rise to reports of obstetric disasters, such as fetal hypoxia and trauma, complicating breech or brow presentations or uterine rupture in parous women, including those labouring after previous caesarean delivery."(24)

Women having second and subsequent babies normally have shorter labours but they too may have their membranes ruptured in early labour and have oxytocin administered. This is one of the most disquieting aspects of this policy, because oxytocin not only creates contractions or pains of an entirely different shape, duration and intensity but also exposes this category of woman to the risk of rupture of the womb or uterus. (The risk is admittedly a very slight one; in 50,000 actively managed births in NMH, not one such rupture was recorded). This risk is given rise to by driving the uterus at a pace which nature did not intend and in many cases masking the increased pain by the use of epidural anaesthesia.

The misinterpretation of the active management policy has been expensive in human terms. Its unrestricted and inappropriate use may also, eventually, have consequences for practitioners. As Taylor and Taylor point out *"We are also left with the uncomfortable belief that the unfortunate misapplication of oxytocin is going to prove costly to obstetricians and their defence societies."*(25)

Will it be the "bottom line", as is so often the case, which finally motivates a wholesale and long overdue reappraisal of this policy?

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Common Criticisms of Active Management of Labour