Active management of labour

True purpose has been misunderstood

EDITOR,—I wish to dispel any misunderstanding that may have arisen concerning the true purpose of active management of labour,¹ introduced in the *BMJ* in 1969.² The purpose is to enhance the experience of childbirth for mothers, particularly first time mothers, whose need is greatest.³ The result has been that every expectant mother who attended this hospital during the past 25 years—about 150 000—was given two firm assurances: that labour would not last longer than 12 hours and that a sympathetic nurse-midwife would afford personal attention throughout. The rate of caesarean section was not a motivating factor.

Rates of caesarean section did not become an issue until much later, and in a different context. In 1969 there were no substantial differences among institutions in Britain or between the two sides of the Atlantic; rates rarely exceed 5% (of total births). Through the 1970s a fourfold increase occurred across the United States and the rate reached 20%. This dramatic development had repercussions worldwide. Meanwhile an official inquiry identified dystocia as the main reason for the change.⁴ Seven times as many caesarean sections were being performed for this indication across the United States as in Dublin. The sharp contrast between the active approach to the management of labour adopted in Dublin and the passive approach pursued, contemporaneously, in the United States constituted strong, albeit inferential, evidence that active management of labour could offer a viable alternative to spiralling rates of caesarean section.⁵ The possibility remains that the adoption of some or all of the components of active management of labour by hospitals in Britain has exercised a restraining influence.

Several specific points merit further comment. James G Thornton and Richard J Lilford define active management of labour as a package of interventions in labour—namely, strict diagnostic criteria for labour, early amniotomy, early use of oxytocin, and continuous personal support.¹ It is unfortunate that the first and the last of these should be classified under the emotive term “intervention.” The criteria for diagnosing labour attributed to the National Maternity Hospital are not correct, while the authors imply that it would be preferable not to provide clear guidelines in respect of diagnosing labour, in which case first time mothers, their relatives, or indeterminate hospital staff would be left to make this crucial decision.

We prefer short letters that relate to a recently published article and we are unlikely to publish letters longer than 400 words and containing over five references. Letters may be shortened. Your letters should be typed with double spacing and include a word count. All authors need to sign the letter and provide one current appointment and address. We encourage you to declare any conflict of interest. Please enclose a stamped addressed envelope if you require an acknowledgment.

The authors do not mention that the purpose of early amniotomy is to ensure that dangerous concentrations of meconium are not concealed behind intact membranes before the cumulative strain of labour is brought to bear on the fetus; the procedure is not performed to shorten labour.⁶ Patients correctly informed on this score might well express a different preference with respect to timing. In practice, records show that spontaneous rupture of membranes occurs in one in three cases before admission. The authors also do not make clear that early oxytocin recommended for selective, not routine, use when progress is slow and only in first time mothers.⁷

Finally, I question whether the clinical material analysed in this study—given the small numbers, its fragmented nature, and poor compliance—is of sufficient quality to sustain any firm conclusion.

KIERAN O'DRISCOLL
Professor emeritus

National Maternity Hospital,
Dublin 2,
Republic of Ireland

- 1 Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *BMJ* 1994;309:366-9.
- 2 O'Driscoll K, Jackson JA, Gallagher JT. Prevention of prolonged labour. *BMJ* 1969;iii:477-80.
- 3 O'Driscoll K, Stronge J, Minogue M. Active management of labour. *BMJ* 1973;iii:135-7.
- 4 National Institutes of Health. *Caesarean childbirth: report of a consensus development conference*. Bethesda, NIH, 1981. (NIH publication No (PHS) 82-2067.)
- 5 O'Driscoll K, Foley M, MacDonald D. Active management of labour as an alternative to caesarean section for dystocia. *Obstet Gynecol* 1984;63:485-90.
- 6 O'Driscoll K, Coughlan M, Fenton V, Skelly M. Active management of labour: care of the fetus. *BMJ* 1977;iii:1451-3.
- 7 O'Driscoll K, Meagher D, Boylan P. *Active management of labour: the Dublin experience*. London: Mosby 1993.

Continual audit is important

EDITOR,—Active management of labour was introduced not with the intention of reducing rates of caesarean section but rather to reduce the incidence of prolonged labour.¹ This it has done in the National Maternity Hospital, Dublin, and in most other studies without increasing rates of operative delivery—indeed, it has reduced this rate in some studies.

I suggest that James G Thornton and Richard J Lilford² have failed to consider two components of active management of labour—namely, antenatal education and, in particular, strict audit by peer review. The organisational aspects of active management of labour, with all deliveries being assessed by one person and discussed at weekly meetings of senior midwifery and medical staff, lends itself well to the model of a continual cycle of medical audit. In this, small changes to management are continually being made and continuous audit ensures that all interventions are kept to the minimum. Indeed, this may be the most important ingredient of active management of labour.

The management of labour does not lend itself well to randomised controlled trials, as Thornton and Lilford point out with regard to the trials of amniotomy and early oxytocin.² How appropriate is it to extrapolate results and conclusions from a randomised trial in one unit to another unit where not only the background intervention rates but also the training of the staff and the expectations of the women are different?

Before further large, expensive, and often inconclusive trials are performed it might be better

to ensure that experienced staff work in labour wards³ and that continual local audit is used to determine standards and expectations; then appropriate changes in management could be instigated.

M S ROBSON
Consultant obstetrician and gynaecologist

Wycombe General Hospital,
High Wycombe,
Buckinghamshire HP11 2TT

- 1 O'Driscoll K, Jackson JJA, Gallagher JT. Prevention of prolonged labour. *BMJ* 1969;iii:477-80.
- 2 Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *BMJ* 1994;309:366-9. (6 August.)
- 3 Royal College of Obstetricians and Gynaecologists. *Minimum standards of care in labour. Report of a working party*, London: RCOG, 1994.

Standards vary among institutions

EDITOR,—James G Thornton and Richard J Lilford's dissection of the package of active management of labour into its various components is like that of a mechanic trying to decide which component of a car's engine makes it go.¹ The authors fail to realise that it is the sum of the parts that makes active management of labour a highly skilled form of management that requires expert handling to be effective and safe. Meta-analysis of active management of labour can give meaningful results only when applied to the whole of the package delivered appropriately by expert staff. Different institutions are as likely to show different outcomes as two different models of cars are likely to give different performances.

Amniotomy and oxytocin are vital components to active management but are too often applied inappropriately: amniotomy may be deferred for several hours after the patient has been deemed to be in labour, oxytocin schedules may be arbitrarily altered, and infusions may be stopped and started in response to changes in the cardiotocograph without fetal blood sampling being done if fetal distress is suspected. The central role of the patient is often forgotten. Adequate antenatal education explaining the aims and methods of active management is essential to ensure patients' cooperation and compliance. Undoubtedly the increasing consumerism and legalisation of obstetric care will result in many changes in the traditional practice of active management of labour as originally defined by O'Driscoll and Meagher,² but the core idea of a carefully orchestrated and audited expert team approach involving the patient, midwife, and obstetrician committed to achieving a safe and normal delivery for both mother and infant will remain.

JOHN F STRATTON
Registrar

Department of Obstetrics and Gynaecology,
Northwick Park Hospital,
Harrow,
Middlesex

- 1 Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *BMJ* 1994;309:366-9. (6 August.)
- 2 O'Driscoll K, Meagher D. *Active management of labour*. London: Saunders, 1980.

Non-randomised studies cannot be ignored

EDITOR,—James G Thornton and Richard J Lilford's assessment of the components of active management of labour is the equivalent of taking a

car to pieces and finding that a gearbox left lying in the road goes neither very far nor very fast.¹ The strict diagnosis of labour is not the final component of the management of labour—that is delivery of the placenta; rather it is the first component, both in chronological sequence and in importance.² The fact that 40% of women diagnosed as not being in labour returned promptly in unequivocal labour implies that the remaining 60% were spared inadvertent and unnecessary induction of labour at that time.

Artificial rupture of membranes is done to confirm the presence of clear liquor as oxytocin is dangerous if no liquor can be seen or if meconium is present. Speeding up established labour has never been claimed to confer more than marginal benefit. Care is taken not to use this method of inducing labour without good indication. Thornton and Lilford discuss use of oxytocin with amniotomy on the basis of three trials, for which meta-analysis gives inconclusive results. Of the two peer reviewed trials, the first concluded, after stepwise logistic regression, that oxytocin is effective. The second³ used oxytocin in a dose so low that 20 hours would be needed to reach the Dublin hospital's target dose, intended to ensure delivery within 12 hours.

Turner *et al* observed over 1000 consecutive labours at Northwick Park Hospital managed actively.⁴ Changes in rates of caesarean section and normal delivery had significance values of between $P < 0.05$ and $P < 0.0001$. The implication that changes of this order of significance arose as the result of poor randomisation or some factor other than change in practice when an entire obstetric population was studied strains credulity to its limits.

The National Maternity Hospital in Dublin has records of labour in over 200 000 consecutive women having their first baby. These data may be observational and non-randomised but cannot easily be dismissed, certainly not without explanation.

Thornton and Lilford's meta-analysis is seriously flawed. Meta-analysis may be useful for searching through piles of chaff, looking for missed grains of wheat, and thereby for examining issues on which trials have been inconclusive. In this meta-analysis the chaff seems to have been added back to the wheat.⁵

T H BLOOMFIELD

Consultant obstetrician and gynaecologist

Department of Obstetrics and Gynaecology,
West Wales General Hospital,
Carmarthen,
Dyfed SA31 2AF

1 Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *BMJ* 1994;309:366-9. (6 August.)

2 O'Driscoll K, Meagher B, Boylan P. *Active management of labour*. London: Mosby, 1993.

3 Cohen GR, O'Brien WF, Lewis L, Knuppel RA. A prospective randomised study of the aggressive management of early labor. *Am J Obstet Gynecol* 1987;157:1174-7.

4 Turner MJ, Brassil M, Gordon G. Active management of labor associated with a decrease in the cesarean section rate in nulliparous. *Obstet Gynecol* 1988;71:150-4.

5 Hawkins DF. Clinical trials—meta-analysis, confidence limits and "intention to treat" analysis. *J Obstet Gynecol* 1990;10:259-60.

Strict definition of labour is essential

EDITOR,—In their critique of the package of interventions that constitute active management of labour James G Thornton and Richard J Lilford point out that controlled trials of these interventions have failed to show a reduction in operative delivery similar to that seen in Dublin, yet they fail to offer a hypothesis to explain those results.¹ In dismissing the approach piecemeal they leave the shortest part of their analysis to perhaps the most important part of the regimen: that the women should be in labour.

The definition of labour in the original papers was strict.² It could be argued that the success of

the package of interventions depends on the reduced rate of false positive diagnoses of labour. The 40% of women who return in labour 24 hours after initial assessment may have been in the latent phase and so naturally preparing themselves for labour. Being adequately established in the active phase of labour may be the factor that has led to the results in the hospitals involved. If the randomised trials cited did not use such a strict definition of labour then they were probably actively managing something entirely different; this alone may explain the failure of the trials to match the outcomes in the National Maternity Hospital.³

JOHN HUGHES

Senior house officer

Christie Hospital and Holt Radium Institute,
Manchester M20 9BX

1 Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *BMJ* 1994;309:366-9. (6 August.)

2 O'Driscoll K. *Active management of labour*. London: Baillière Tindall, 1986.

3 Gee H, Olah KS. Failure to progress in labour. In: Studd J, ed. *Progress in obstetrics and gynaecology*. Vol 10. London: Churchill Livingstone, 1993.

WHO partogram helps

EDITOR,—James G Thornton and Richard J Lilford's review of active management of labour¹ was accepted for publication too late for it to include the results of the multicentre trial of the World Health Organisation partogram.² Although not a randomised controlled trial (it would be impossible to conduct such a trial free from bias), this trial of the impact of use of the partogram with an agreed protocol for managing labour on the outcome of labour is important because of its scientific rigour, the fact that it was a multicentre study, and, in particular, the large number of women in labour included (35 484). Its findings largely reinforce Thornton and Lilford's conclusions but add force to the argument for monitoring all labours with a partogram incorporating alert and action lines similar to Philpott and Castle's original design.³

The crucial factor in active management of labour is the timing of interventions, whether these be amniotomy, augmentation with oxytocin, caesarean section, or transfer to a central unit. A partogram is able to indicate the optimum timing of these. Before they introduced the WHO partogram all eight centres participating in the trial (in Indonesia, Malaysia, and Thailand) practised ad hoc management of labour, which varied from late amniotomy in conjunction with early oxytocin to early amniotomy combined with augmentation with oxytocin. The partogram was introduced with a protocol that defined labour strictly and encouraged delaying all interventions (except amniotomy) until the active phase action line was reached.

The results were a reduction in prolonged labour by 41% and in emergency caesarean sections by 3% despite a reduction in the number of labours augmented by oxytocin by 54%. A fall in the mean number of vaginal examinations during labour probably contributed to the 59% reduction in cases of postpartum sepsis. Intrapartum stillbirths and neonatal morbidity fell.

Although the trial protocol suggested that use of oxytocin should be delayed until the action line was reached, even this may be regarded as over-active management. Among those labours in which the action line was reached caesarean section was most likely if oxytocin had been started earlier, but the eventual mode of delivery was little influenced by the introduction (or not) of oxytocin when the action line was reached.⁴ Amniotomy once the active phase of labour was reached reduced the likelihood of progress in labour moving beyond the alert line. The necessity for and timing of transfer in delayed labour from a peripheral to a central unit

would be clarified by early amniotomy in the active phase.⁴

The participants in the WHO trial agreed that the partogram improved the discipline of and communication about management of labour and freed midwives' time; this may be an important element of the partogram's success as more time can be devoted to "companionship."

Thornton and Lilford's review and the WHO trial point the way towards effective management of labour worldwide. Both papers agree that reduced but timely intervention is the key to success.

CHRISTOPHER LENNOX

Consultant obstetrician

Law Hospital,
Carlisle ML8 5ER

1 Thornton JG, Lilford RJ. Active management of labour: current knowledge and research issues. *BMJ* 1994;309:366-9. (6 August.)

2 World Health Organisation Maternal and Safe Motherhood Programme. World Health Organisation partograph in management of labour. *Lancet* 1994;343:1399-404.

3 Philpott RH, Castle WM. Cervicographs in the management of labour in primigravidae. *Journal of Obstetrics and Gynaecology of the British Commonwealth* 1972;79:592-602.

4 World Health Organisation. *The application of the WHO partograph in the management of labour*. Geneva: WHO, 1994. (WHO/THE/MSM 94.4.)

Authors' reply

EDITOR,—T H Bloomfield's and John F Stratton's analogy to cars, while colourful, is poor. Try ours. Imagine a successful motor racing team that claims to improve its cars' performance with a package of special fuel, oil, and tyres but also has expert drivers. Let us pretend that trials of all three components combined are impossible. Nevertheless, when other teams perform trials of the special fuel and oil separately and of both fuel and oil-combined they show no clear benefits, but trials of the tyres show definite advantages. The original team might still argue that the combination conferred a special advantage, but we believe that neutral observers would conclude that the tyres were the important factor.

Bloomfield is correct to remind readers, as we did, that the size and quality of the trials of oxytocin alone and of oxytocin combined with amniotomy, in contrast with those of the trials of routine amniotomy and professional support, are such that the overview's conclusions are insecure. More well conducted trials, including trials of different oxytocin regimens, are needed.

Observational data can be found to support all views, but we are glad to have an opportunity to remind readers of the problems with the study at Northwick Park Hospital.¹ Doctors there compared the rate of caesarean section in a selected group of nulliparous women managed actively with that in all nulliparous women who had delivered in the hospital over the preceding five years.

The controls were thus not matched for gestation, number of babies, or presentation; even if they had been, other changes may have been responsible for any real fall in the rate of caesarean section. Indeed, the rate also fell in multiparous women over the same period, although active management was not applied to that group. The apparently low P value is irrelevant since the question is not whether the fall was a chance effect but whether it was caused by the active management—and, if it was, by which component—or even by antenatal education.

We acknowledge that active management was originally introduced to reduce the duration of labour but contend that its present popularity derives from its effect on the rate of caesarean section. As we stated, in so far as active management consists of accurate diagnosis of labour, continuous professional support, and regular peer review we endorse it. We remain unconvinced,