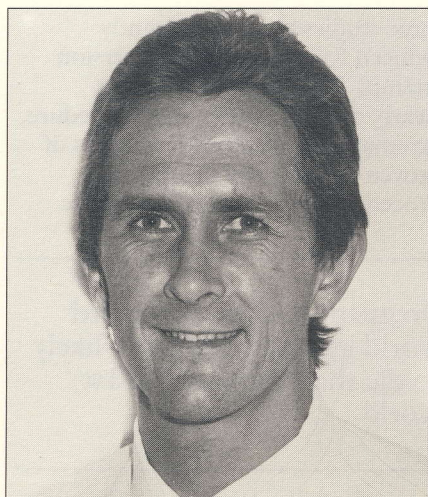


## Ways of Making Birth Difficult

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### Curriculum vitae

Justus Hofmeyr attended Parktown Boy's High School and the University of the Witwatersrand Medical School, where he was President of the Students' Medical Council 1972/1973, and organiser of the Rand Bursary Fund for Soweto Pupils. In 1977-1978 he worked as a Medical Officer at Holy Cross Hospital, Transkei, before returning to the University of the Witwatersrand to specialise in Obstetrics and Gynaecology. In 1982 he established the "Midwives' Active Birth Unit" at the Johannesburg Hospital and in 1983 he was awarded the Witwatersrand University Council Overseas Research Scholarship to study fetal physiology in Oxford. In 1988 he was appointed Professor and Head, Department of Obstetrics and Gynaecology, Coronation Hospital and University of the Witwatersrand. He is married to Carol Baker, who has contributed significantly to the development of the concepts set out in this paper, and they have two sons.

### Summary

*The remarkable achievements of the modern obstetric era are to some extent diminished by firstly, the failure to make current care available to all, and secondly, the continued use of various procedures which have been shown to be ineffective, and which may contribute to the hardship of childbearing women.*

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### KEYWORDS:

Obstetrics; Prenatal Care; Mortality; Episiotomy; Fetal Monitoring; Labor.

This century has seen quite remarkable improvements in the survival of mothers and babies in industrialized societies. These improvements have coincided with a far reaching assumption of control of the process of childbirth by the medical and nursing professions. Without wishing to detract from these achievements, I shall use this paper to examine two areas in which we have failed to use our skills and knowledge in the best interests of childbearing women: ways in which we have indeed contributed to the hardship of those who give birth.

The first is our failure to ensure that the benefits of modern obstetrics reach more than a select minority of the world's population. Today, pregnant women in the so called "third" world countries are sixteen times more likely to die than those in the "first" world.<sup>1</sup> The extent of the discrepancies within Southern Africa was impressed on us when working in a rural Transkei hospital in the late

1970's. Epidemiological studies from that time<sup>2,3</sup> showed that the perinatal mortality rate in rural Transkei was almost three times the figure for white South African pregnancies. The infant mortality rate was seven times greater. When we consider that in rural areas a major cause of infant death is gastro-enteritis resulting from the use of bottle feeding, and that, as I hope to show in this paper, certain obstetric practices may result in increased use of bottle feeding, then we must concede that even such improvements in perinatal mortality as have been achieved with the introduction of modern obstetric techniques may in part be offset by increases in infant mortality resulting from the concomitant introduction of bottle feeding.

The second category of ways in which we may have contributed to the hardship of childbearing women, is by the incorporation into routine obstetric practice of an array of clinical procedures which are of doubtful value or even harmful. It is perhaps the very overt overall success of obstetric and neonatal practice in terms of progressively diminishing death rates for mothers and babies which has allowed the value of questionable individual elements of this practice to go unchallenged for decades.

In 1979 Archie Cochrane, Director of the MRC Epidemiological Research Unit in Cardiff, identified obstetrics as the specialty whose practice was least supported by scientific evidence of its value. Second in line for the "Wooden Spoon" award was cardiology. In the last ten years, the extent of critical scientific evaluation of obstetric practises has been remarkable, the primary impetus coming not from the medical

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profession but from the increasing refusal of women, particularly in the United Kingdom and North America, to accept Obstetric practices they found objectionable, without good evidence of their value.

The process of scientific evaluation has been spearheaded by Iain Chalmers and the National Perinatal Epidemiology Unit in Oxford, culminating in the publication in 1989 of the book "Effective Care in

### Certain modern obstetric practices may actually result in bottle feeding

Pregnancy and Childbirth", in which all the available evidence of the effectiveness of obstetric practices, in particular that from randomised control trials, has been evaluated and synthesised.<sup>4</sup> Writing in the foreword, Cochrane was able, shortly before his death, to withdraw his slur on Obstetricians. In the final summary of the book is a daunting list of 61 obstetric practices, many of which have for decades contributed to the discomfort and distress of childbearing women, which should on the basis of available evidence be abandoned. I have selected from this list four illustrative examples which are of particular interest to me.

### External Cephalic Version

A good example of how obstetric practices may come into routine use without good evidence of their effectiveness is found in the history of external cephalic version before term. For several decades it was routine practice to attempt to turn any baby

presenting by the breech between 32 and 36 weeks of pregnancy, to the cephalic position. Because of the gratifying immediate results of this procedure, it seemed inconceivable that it was not worthwhile. However, the only way to be sure that such a procedure is of value is by means of a randomised control trial: women with breech presentation who agree to participate are randomly allocated to a study group, in whom external version is attempted, and a control group, in whom no version is attempted. These two groups are followed till delivery, and their outcomes compared. One such study was published in 1956 and its results were ignored. Only 20 years later, when it became clear that up to 1% of babies were dying as a result of the procedure, did the practice wane, and subsequently two further randomised control trials have confirmed the earlier finding that external version attempted before term had no measurable effect on the eventual chance of the baby being born head first.<sup>5</sup> In contrast, a new procedure described by Erich Saling in Berlin, in which external version is attempted

### Many ways in which we doctors have indeed contributed to the hardship of those giving birth

in the last few weeks of pregnancy with the help of tocolysis to relax the uterus, has been evaluated in three published randomised controlled trials. In all three trials the number of babies born head first following external version was 3 times greater than when no version was attempted.<sup>5</sup> The caesarean section rates in all

three studies were significantly reduced following external version attempt. The distinction is thus clearly drawn between one procedure, external version at term, which is of proven benefit, and the previous procedure, external version before

### Pregnant women in the 3rd world are 16 times more likely to die than those in the 1st world

term, which was in routine use for decades, and the cause of many babies' deaths, without ever having been shown to be effective.

### Episiotomy

Another obstetric procedure which has been widely used on a routine basis because of the apparent self-evidence of its value, is episiotomy, which is believed to reduce the trauma to the perineum during childbirth and to be more easily repaired than the spontaneous tears which might otherwise occur. By means of a postal questionnaire we investigated sexual function following the first birth of women delivered either with episiotomy, with second degree tear, with intact perineum or by caesarean section.<sup>6</sup> Three months after delivery similar proportions in the groups with episiotomy and with second degree tear complained of painful intercourse. One year after delivery the pain related to spontaneous tears had resolved, but a significant proportion of those who had undergone episiotomy, had persisting pain. This was reflected in a lower frequency of intercourse in this

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group. A possible explanation for the prolonged pain is that episiotomy involves the cutting of nerves, which is unlikely to occur during spontaneous tearing.

Because this was a retrospective study, its results cannot be regarded as conclusive, but even the possibility that episiotomy may be followed by long-term pain during intercourse, is cause for concern. There are obviously certain situations in which episiotomy is required, but to continue using episiotomy on a routine basis one would require good evidence of its effectiveness. In fact, the randomised trials reported to date have failed to confirm any of the theoretical advantages of routine episiotomy<sup>7</sup>.

### Electronic Fetal Heart Rate Monitoring

One of the most pervasive innovations in clinical obstetric practice of the last two decades has been the use of electronic monitoring of the fetal heart rate. To justify a policy whereby every woman in

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A list of 61 modern obstetric practices which contributed to the discomfort and distress of childbearing women

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labour is restricted by belts, transducers and attachments to a monitor, one would like to be sure that the procedure was of benefit. The findings of several randomised control trials of the effectiveness of routine electronic monitoring compared with auscultation, show that the use of electronic monitoring

alone, as is the practice in most hospitals, is associated with an enormous increase in the caesarean section rate.<sup>8</sup> When combined with measurement of the pH of fetal scalp blood, the increase in caesarean sections is much smaller. In spite of

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### To continue using episiotomies on routine basis, is unwise

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increased interventions in the electronically monitored labours, there was consistently no reduction whatsoever in the number of babies who died, who had poor Apgar scores or who needed admission to the special care nursery. There was a significant reduction in the rare occurrence of neonatal seizures. These occurred only following labour which was prolonged or artificially stimulated with oxytocin, and none of the babies had problems on follow-up. Thus there may be a case for the use of electronic monitoring in certain complicated labours, but in normal labours, electronic monitoring has no measurable impact on the outcome for the baby, in spite of causing a huge increase in caesarean section rate when used without scalp blood sampling.

How can this be explained? The essential problem is the inability of electronic monitoring to distinguish between fetal heart rate patterns which are caused by fetal distress and those which are due to the adaptation of the fetus to labour. For example, slowing of the fetal heart rate which recovers only slowly at the end of a contraction has been interpreted as a sign of fetal distress. Occasionally this is the case, but more often the

heart rate changes are a reflection of the remarkable capacity of the fetus to adapt to the reduced supply of blood to the placenta which occurs during normal contractions of the uterus. When the oxygen supply to the fetal lamb is reduced, remarkable energy-conserving mechanisms come into play.<sup>9</sup> The fetus stops its breathing as well as body movements. Blood supply to all the non-essential parts of the fetus, that is all except the heart, brain, adrenal glands and placenta, is greatly reduced by constriction of vessels supplying these areas. This causes an increase in blood pressure which is usually compensated for by a slowing of heart rate similar to that seen in human fetuses during labour contractions. Failure to recognise the range of heart rate patterns which may indicate no more than the ability of the baby to adapt to labour, has resulted in the enormous overdiagnosis of fetal distress and unnecessary intervention in the process of childbirth which has been a feature of the inappropriate use of electronic fetal heart rate monitoring.

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External cephalic version *before term* had no measurable effect on outcome; external version *at term* is of proven benefit

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In general terms, the problem is that of a diagnostic test which has a high rate of falsely diagnosing that there is a problem. If used in a group of women with a high risk of problems, such as where we know that the baby has not grown well, or the labour has been induced or is prolonged, then the benefit of detecting the large

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number of true problems will outweigh the harm done by unnecessary intervention when the test was falsely positive. If, however, the same test is used in healthy women in normal labour, the value of detecting the rare case of fetal distress is greatly outweighed by the harm caused by unnecessary intervention such as caesarean

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#### A supportive labour environment is a biological necessity

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section, for almost all the babies diagnosed as being distressed will in fact be well.

This principle applies to a great number of modern obstetric tests and interventions which may be of value in high risk pregnancies, but which have been applied routinely to all pregnancies without evaluating the possibility that they may do more harm than good.

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#### Companionship During Labour

Of all the modern obstetric interventions which have unnecessarily contributed to the hardship of childbearing, few can be more unpleasant than the policy of excluding from hospital, the supportive companions of labouring women. That this has been a major departure from the natural course of events, is indicated by a study by Kennell and Klaus<sup>10</sup> of 124 non-industrialised societies, in all but 2 of which, labouring women routinely received companionship from other women. In many hospitals today

public opinion has reversed the previous prohibitions, and companions, usually the husband, are admitted to the labour wards, though the extent to which husbands are effective in this role has not been established. However the majority of women in southern Africa and probably world wide, who labour in western style hospitals, do so without community companionship.

This in spite of two reports<sup>11,12</sup> that in a rural community for whom hospital was a particularly threatening place, labour was made considerably quicker and less complicated by the presence of a supportive companion or "Doula" to reduce the stressfulness of the hospital environment. As labours with companionship lasted on average 7 compared with 15 hours, there must be a powerful mechanism whereby the hospital environment interferes with the process of labour.

How can such dramatic effects be explained?

The information from animal studies suggests that environmental

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#### The use of electronic monitoring alone is associated with increase in the number of Caesarean Sections

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disturbance leads to the release of catecholamines which interfere with the contractions of the uterus and the blood flow to the placenta, and there is some evidence that this mechanism may operate in humans.

The question which has intrigued us

is as follows: if stressful factors associated with the hospital environment have such profound negative effects on the progress of labour, could they also be interfering with women's physiological and psychological adaptation to parenthood? We have been concerned that, for all the success of modern obstetrics in terms of making childbirth safe for mothers and their babies, we are seeing an epidemic of

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#### A supportive companion made labour considerably quicker and less complicated

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desperate mothers who cope poorly with their babies, fail to breast-feed successfully and develop depression.

We put forward the hypothesis that lack of support, encouragement and praise during labour may leave women feeling anxious, lonely, unvalued and incompetent and that these feelings may pervade the critical early stages of parenthood with self-perpetuating loss of confidence, self-esteem and the ability to cope as a mother and breast-feed successfully. We have put this hypothesis to the test in a randomised control trial of social support during labour.

First-time mothers in established labour who have no supportive companion of their choice and who agree to participate in the study are randomly allocated to a control group, who continue with routine hospital care, or a study group who in addition receive emotional support from a companion recruited from the community. The labour companions have no nursing background and

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have been asked to do no more than to comfort, encourage and praise the labouring women. The clinical and biochemical aspects of the study will not be dealt with in this paper.

Psychological questionnaires are administered 24 hours and again 6 weeks after delivery, without knowledge of the group to which each woman has been allocated.

Preliminary results have shown that 24 hours after birth the state anxiety score, indicating current anxiety, and the women's perception of labour pain were significantly reduced in the supported group.

More than twice as many supported women felt that they had coped very well during labour, and they reported a significantly higher number of activities already carried out with their babies. Thus, 24 hours after birth, there was evidence that the labour companionship had reduced anxiety and pain perception and enhanced the sense of having coped well. But how long would these effects persist?

Six weeks after the birth, the average self-esteem scores had become significantly higher in the supported mothers, and state anxiety remained lower. Significantly more supported women reported that they were pleased to be a mother and were managing motherhood well, and had found the transition to motherhood easy. Significantly more supported women described their babies as "beautiful", "special", "clever" and "easy to manage". Significantly more felt that their baby had his or her own personality and that they could communicate well with their babies, and more than five times as many thought that their baby cried less than other babies.

Fifty-six percent (56%) of supported women compared with 36% of controls were still breast-feeding without supplementation, the average duration of such feeding having been significantly longer in the supported group. Demand feeding tended to be more common, fewer had introduced solid foods, and more had brought their baby with them to the Postnatal Clinic. One tenth as many supported women reported feeding problems, half as many reported the baby having a running nose or cold, none reported a poor appetite, compared with 27 percent in the control group,

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### The threatening hospital environment interferes with the process of labour

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and less than one third as many had had to take their babies to see a doctor, for one or other problem.

The differences between the two groups were quite remarkable, and already at this stage, lend strong support to our view of a supportive labour environment as a biological necessity, required to enable women to feel nurtured, valued and competent, thus setting a pattern of feeling supported and competent as mothers, feeling good about themselves and their babies, succeeding with breast feeding and establishing a self-perpetuating cycle of positive family relationships. The extent to which the mere presence of a companion during labour can achieve improvements in all these areas is probably a gross underestimation of the overall negative effect of hospital practices

on this process. Denial of proper companionship and affirmation for labouring women must rate as one of the most devastating of the many ways in which modern obstetric practice has unwittingly created hardship for childbearing women.

If we were to change our evaluation of our practice from one based purely on hospital statistics to one which gave weight also to things which really mattered to those in our care, such as confidence, competence and happiness in motherhood, I suspect that the changes in our practice would be quite revolutionary.

### Conclusion

That technology will continue to advance, shaving ever-diminishing fractions off the perinatal mortality rates in Europe and North America, we can rest assured. The quest for zero defect is unstoppable. But the true achievements of our time, those against which we will be judged by history, will be firstly, the extent to which we succeed in making the very real benefits of modern obstetrics accessible and acceptable to all; and secondly, our capacity to resist the routine use of obstetric procedures which are not effective, and which may interfere with the complex and vulnerable processes of birth and adaptation to parenthood.

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Scheduling status **S5****Anafranil Simple  
Regimen 75****Presentation**

Clomipramine hydrochloride. Film-coated tablets of 75 mg.

**Indications**

More serious depressive conditions such as major depressive illness, reactive depression and secondary depression. Major depressive illness will include: endogenous depression, unipolar depression, manic-depressive depression, involuntal melancholia, masked depression.

Reactive depression will include: neurotic depression. Secondary depression will include: depression associated with alcoholism, schizophrenia and parkinsonism, depression associated with personality disorders, depression caused by medicines (and senility with depression).

**Dosage**

The tablets must not be chewed. The dosage and mode of administration should be determined individually, the usual daily dose being 75 - 150 mg. Initiate treatment with low doses in elderly patients (usually 10 mg t.i.d.). See full prescribing information.

**Contra-indications**

Known hypersensitivity to tricyclic antidepressants of the dibenzazepine group. Concomitant use of MAO inhibitors. Acute stage of myocardial infarction.

**Precautions**

Heart failure, disturbances of cardiac conduction, postural hypotension, lowered convulsion threshold. Disorders of micturition, glaucoma. Pregnancy, lactation. Road-users. Alcohol.

**Adverse reactions**

Anticholinergic reactions, cardiovascular effects, insomnia, transient confusional states, increased anxiety, skin rashes, convulsions, disorders of hepatic function.

**Packs**

Supplied in packs of 30.

Reg No. W/1.2/140

Full prescribing information is available on request.

Name and business address of applicant.

CIBA-GEIGY (PTY) LIMITED  
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