



SOGC

CLINICAL PRACTICE GUIDELINES

POLICY STATEMENT

No. 40, October 1995

DYSTOCIA

This document has been reviewed and approved by the Maternal Fetal Medicine Committee and the Clinical Practice Obstetrics Committee of the Society of Obstetricians and Gynaecologists of Canada (SOGC). The final draft was approved by the SOGC Council as a Policy Statement in March, 1995. The document was developed with the cooperation of Drs. William B. Fraser (Quebec, QC), Isabelle Krauss (Quebec, QC), Michel Boulvain (Quebec, QC), Lawrence Oppenheimer (Ottawa, ON), Kenneth J. Milne (London, ON), Robert M. Liston (Halifax, NS) and Andre B. Lalonde (Ottawa, ON).

This Policy Statement supersedes the guidelines on dys tocia featured in the 1985 panel on Caesarean Section and the section on dystocia featured in the 1991 and 1993 VBAC guidelines.

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EXECUTIVE SUMMARY

- A. The latent and active phases of labour are defined.
- B. Dystocia should not be diagnosed in a primiparous woman if the cervix has not reached three to four cms and near 100 percent effacement. In a multiparous patient, the cervix should have reached four to five cms and be 70 to 80 percent effaced prior to a diagnosis of dystocia being considered.
- C1 The following approaches have shown clear benefits in the prevention or treatment of dystocia:
 - A Continuous support for the labouring patient
 - B Upright posture in the first stage of labour
 - C Prostaglandin E₂ gel is indicated and preferable to oxytocin to ripen the cervix. Elective induction is to be avoided
 - D A low dose epidural with minimal motor blockade may not increase the risk of operative delivery
 - E No absolute time limit should be set for the second stage if good progress is maintained and in the absence of fetal compromise.
- c2 Approaches which are promising but which require further evaluation:
 - A Amniotomy to correct dystocia
 - B Oxytocin administration to correct dystocia
 - C Delayed pushing for women who have received epidural analgesia
 - D Use of a partogram
 - E Routine Oxytocin augmentation in the second stage for women who have received epidural analgesia
- c3 Approaches which cannot be advocated in light of current evidence:
 - A Elective induction of labour or induction for fetal macrosomia
 - B Routine intra-uterine pressure monitoring when oxytocin augmentation is being used
 - C Termination of the epidural at the end of the first stage of labour

All women in labour should be provided with close continuous support by a professional caregiver. Women should be encouraged to assume the most comfortable position for them, encouraged to ambulate frequently and should be offered active management of labour. If epidural analgesia is used, it should be given in low dosage to avoid motor block, and use of oxytocin in the second stage should be considered if needed.

All institutions offering planned obstetrical deliveries should implement these guidelines and regularly audit management of labour and delivery to ensure compliance with these guidelines.

A. INTRODUCTION

Dystocia, abnormal progression in labour, is a cause of much distress and anxiety for both labouring women and those providing for their care. As reported by the National Consensus Conference on Aspects of Caesarean Birth,¹ dystocia is the indication for approximately one-half of all primary Caesarean sections. The problem of dystocia and its treatment is multi-faceted. The following document attempts to summarize the supports and interventions that can be used by care providers in an attempt to prevent or treat abnormal labour. With Canada having the second highest Caesarean section rate in the Western developed world, the SOGC has reviewed all the indications for Caesarean section and is pursuing plans to assist physicians in the reduction of Caesarean section rates in Canada. This dystocia document completes the series of guidelines on Vaginal Birth After Caesarean Section, Post-term Pregnancy, Fetal Health Surveillance, and The Cerebral Palsy and Asphyxia Task Force Report. Separate guidelines will address the subject of induction of labour. These obstetrical guidelines being developed by the Society of Obstetricians and Gynaecologists of Canada will be part of a Risk Management Programme for labour and delivery. Advanced Labour and Risk Management courses will be organized on national and regional bases to disseminate and implement guidelines for care during labour, delivery and post-partum.

B. DEFINITIONS

1. The Latent Phase of Labour

Varying definitions have been used for the latent phase of labour, but the majority of experts support a concept of the latent phase as that phase of uterine activity associated with progressive cervical effacement immediately preceding the active phase. By the time the cervix has become fully effaced in a primigravida, it will usually have reached three cms dilatation. In a multipara, greater degrees of dilatation may be achieved prior to complete cervical effacement. As the start of the latent phase, or even its existence, is often hard to determine, it is not surprising that studies of the duration of the latent phase reach such varying conclusions. Some studies report that a prolonged latent phase is not associated with increased perinatal morbidity while others have shown higher rates of operative delivery and a higher likelihood of the birth of a depressed newborn in women in whom the latent phase was prolonged. What is not clear is whether the adverse effects reported were due to the underlying "condition" or to varying "treatments" initiated as a result of a diagnosis of "prolonged latent phase."

Undoubtedly, the latent phase of labour, particularly if it is lengthy, is a time of increased stress for the pregnant woman. It is in an effort to relieve this stress that clinicians are moved to intervene and there is evidence that many Caesarean sections are performed prior to the establishment of the active phase. The results of trials assessing the benefits or intervention in early labour have not shown such intervention to be beneficial when compared with conservative management.^{3,4,5} A diagnosis of dystocia should not be made prior to the active phase of labour. Physicians should, therefore, avoid resorting to Caesarean section in the latent phase of labour. Indeed, there is an urgent need for more information about the management of perceived problems in this phase of labour.

2. The Active Phase of Labour

In 1986, the Canadian Consensus Conference on Aspects of Caesarean Birth stated, "Established labour is diagnosed in the presence of painful regular contractions plus cervical effacement with at least three cms dilation."⁶ Failure to progress or dystocia without the presence of absolute cephalopelvic disproportion should not be diagnosed until the cervix in a primigravid woman has reached three to four cms and is 80 to 90 percent effaced; and three to four cms and 70 to 80 percent effaced in multiparous woman. The SOGC is defining active phase of labour as the presence of strong regular contractions which result in progressive and rapid cervical dilatation. It extends from the end of the latent phase until full dilatation. The

cervix has reached approximately three to four cms and 80 to 90 percent effaced in a primiparous woman and three to five cm and 70 to 90 percent effaced in a multiparous woman.

3. **Dystocia**

The common abnormal labour patterns have been well described.

a) **Primary Dysfunctional Labour**

There is considerable variation in the normal rate of the progress of cervical dilation in the active phase of labour.⁶ Slow progress is not necessarily a problem in itself, but is the best indicator of those women likely to develop arrested progress. Intra- and inter-observer variations are such that a reasonable lapse of time should be permitted before a diagnosis of dystocia is made in the active phase of labour on the basis of arrested cervical dilatation. The Canadian Consensus Conference on Aspects of Caesarean Birth⁷ recommends that this diagnosis be entertained if there is lack of progressive cervical dilatation (< 0.5 cms/hour) assessed over a four-hour period. Other authors have suggested a shorter time period. Even with slow rates of dilatation, women may achieve full dilatation eventually, but the incidences of maternal and neonatal morbidity are increased. A dysfunctional first stage of labour is likely to be followed by slow progress in the second stage.

b) **Secondary Arrest**

Secondary arrest is defined as the arrest of progress in the active phase, either in the first or second stage, following an active phase of labour that initially progresses normally. Arrest in the second stage is also determined by a failure in descent of the presenting part. The causes of dystocia are many and complex. Uterine activity may be inefficient for unknown reasons in association with maternal fatigue, fear, pain, or infection, amongst other causes. Such inefficient uterine action may hinder complete fetal head flexion, resulting in an increased presenting head diameter and leading to relative disproportion. Resistance to descent of the presenting part may lead to further uterine inefficiency. Uterine inefficiency with or without adequate fetal head flexion may affect the rotation of the fetal head as it descends through the pelvis and may cause prolongation of or arrest in the second stage. Failure of dilatation or descent may result, simply, from the presence of a large baby. In the second stage of labour, the use of regional analgesia may be associated with an increased incidence of failure in fetal head rotation and prolongation of the second stage.

4. **Dystocia - Failure to Progress - Cephalopelvic Disproportion**

The terms have been used interchangeably in Canada and it is recommended that the term "failure to progress," that best describes the actual situation, should be used. Failure to progress would lead to dystocia. There are very few cases of absolute cephalopelvic disproportion and the use of this term should be restricted to the rare situation where real cephalopelvic disproportion exists as a result of abnormal pelvic bone structure.

C. LITERATURE REVIEW

1) Approaches to Care Which Show Clear Benefits in the Prevention or Treatment of Dystocia

a) Continuous Support for Labouring Women

Augmented psychological support in labour has a wide range of benefits to labouring women, including promoting the progress of labour and, possibly reducing the rate of Caesarean section.' The continuous availability of a caregiver to provide psychological support and comfort should be a key component of all intrapartum care programmes which should be designed for the effective prevention and treatment of dystocia (Table 1).⁷

b) Upright Posture in the First Stage

Encouraging women to assume an upright posture and to walk about promotes the progress of the first stage, relieves maternal discomfort, and reduces the use of analgesia (Table 2).⁸

c) Cervical Ripening

Dystocia is more frequent among women undergoing induction of labour than amongst those in spontaneous labour. Elective induction should be avoided.⁹ When induction is indicated and the cervix is unripe, cervical ripening is recommended. Prostaglandin E₂ gel is superior to oxytocin as a ripening agent. The use of prostaglandin is associated with a reduction in failed inductions, a reduction in labour duration, and a reduction in the risk of operative vaginal delivery."

d) Low-Dose Epidural

Epidural anaesthesia has been reported to be associated with an increase in occiput posterior position," an increase in the mean duration of the second stage," an increase in operative delivery rates, and possibly, a greater risk of second stage Caesarean section.¹³ Epidural protocols which minimize motor block while maintaining an effective sensory block reduce the risk of operative intervention associated with the procedure. A recent trial showed that low-dose (0.125%) bupivacaine, when used in combination with epidural narcotics, was associated with a significant reduction in the operative delivery rates compared to the use of bupivacaine alone.¹⁴ Obstetricians should communicate with anaesthetists to ensure that epidural protocols take this information into account. When administering epidural blockade, the goal should be to achieve effective pain relief while minimizing motor block.

e) Time Limits for the Second Stage of Labour

Traditionally, two hours has been considered to be the upper limit of normal for the duration of the second stage of labour in nullipara. Recent information indicates that the mean duration of the second stage is prolonged in association with epidural analgesia use.^{12,13} In the presence of an epidural block, there does not appear to be an association between the duration of the second stage and the risk of adverse neonatal outcome.¹⁵⁻¹⁷ Clinicians should avoid placing limits on the duration of the second stage when epidural blockade is present. As long as there is continuous progress, measured by descent of the fetal head, and fetal and maternal status remain satisfactory, expectant management of the second stage is the preferred approach to care.

2) Approaches Which are Promising but Which Require Further Evaluation
a) Amniotomy to Correct Dystocia

Active management of **labour** has been advocated as a means of preventing dystocia and reducing Caesarean section rates. This approach to care involves several components including selective admission to the **labour** ward, support from caregivers, early amniotomy, and early oxytocin administration. Randomized controlled trials of early amniotomy and early administration of oxytocin have shown a modest reduction in the duration of **labour**. However, they did not show improvements in maternal or fetal morbidities.^{18,19}

Few studies have assessed the effectiveness of amniotomy as a treatment for established dystocia. However, trials of prophylactic or early amniotomy suggest that the procedure will shorten **labour**.⁴ It would seem likely that therapeutic amniotomy will ultimately prove to be an effective means of correcting dysfunctional **labour**. However, further studies are required to confirm this effect. Routine early amniotomy in nulliparous women, while shortening the duration of **labour**, does not appear to reduce the risk of Caesarean section (Table 3).^{4,20}

b) Oxytocin to Correct Dystocia

While oxytocin has been a mainstay in the medical treatment of dystocia, there are few controlled trials demonstrating its benefit. There is no evidence that the early use of oxytocin for minor delays in **labour** progress confers advantages over a selective approach to oxytocin use.^{3,5} Neither is there evidence that high-dose oxytocin protocols are better than low-dose protocols." Further studies are required. However, given the frequency of uterine dysfunction in association with delayed progress in **labour**,²¹ augmentation with oxytocin should be implemented prior to any consideration of surgical intervention solely for the treatment of dystocia.

c) Use of the Partogram

Although there have been no well-designed controlled trials to assess whether use of the partogram improves the quality of obstetrical care, it is important that normal progress or an absence of progress in **labour** is readily apparent. The use of the partogram permits the progress of **labour** to be seen at a glance. Use of a well-designed partogram means that the writing of lengthy descriptions can be avoided, freeing care providers to give support and attention to the labouring woman. Used in this way, partograms can be a useful guideline for clinical decision making. They can also facilitate the peer review process.

d) Delayed Pushing for Women with Epidural Analgesia

Recent studies suggest that women with epidural anaesthesia should avoid pushing for a period of up to two hours or until the fetal head is visible on the perineum. This approach may reduce the requirement for rotational forceps without increasing the risk to the newborn.^{22,23} However, as these studies have significant methodological limitations, confirmation of the benefits of delayed pushing is required from further carefully-designed trials (Table 4).¹⁰

e) Routine Oxytocin Augmentation in the Second Stage for Women with Epidural Analgesia

Epidural analgesia may reduce uterine activity in the second stage of **labour**.^{24,25} This may result in an increase in operative intervention. It has been proposed that the routine augmentation of **labour** in the second stage with oxytocin may be beneficial in the presence of epidural analgesia. The single study which evaluated this approach showed that, while routine oxytocin administration increased the rate of spontaneous delivery, the rate of rotational forceps procedures was also increased (Table 5).^{26,27} Further studies evaluating this approach are required.

3) Approaches Which Cannot be Advocated in the Light of Current Evidence

a) Labour Induction for Fetal Macrosomia

In some centres, it is common practice to induce labour for suspected fetal macrosomia based on an ultrasound estimate of fetal weight. The positive predictive value of ultrasound estimates of fetal macrosomia is low. At present, there is no evidence that the benefits of intervening for this indication outweigh the increased risk of dystocia and other complications which may be associated with labour induction.

b) Routine Intra-Uterine Pressure Monitoring with Oxytocin Augmentation

Current evidence does not support the routine use of intra-uterine pressure monitoring when labour is augmented with oxytocin.²⁹ This technology may be beneficial for women where the evaluation of contractions is difficult due to such factors as obesity. Women who have failed to respond clinically to oxytocin augmentation given at conventional doses may benefit from intrauterine pressure monitoring if higher doses of oxytocin are to be considered.

c) Termination of the Epidural at the End of the First Stage of Labour

Some authors have suggested that terminating epidural administration at the end of the first stage may reduce the rate of second stage operative delivery associated with epidural analgesia. Studies evaluating this approach have produced conflicting results with one showing a reduction²⁹ and the other an increase in operative delivery rates.³⁰ For women who have requested pain relief with epidural anaesthesia, the goal should be to provide effective pain relief in the second stage while minimizing motor block.³¹

D. GUIDELINES

1. Continuous Professional Support

The continuous presence of a support person throughout labour is an essential component of high-quality obstetrical care.

2. Maternal Position in Labour

In both the first and second stages of labour, women should be encouraged to assume the position in which they are most comfortable. Women who wish to walk about should be encouraged to do so. Obstetrical services should adopt flexible policies with respect to maternal position in labour and should ensure that physicians and professional caregivers should be knowledgeable about the different positions for labour and delivery. Positions during labour and delivery should minimize compression of the maternal inferior vena cava by the gravid uterus. Separate guidelines by the SOGC will discuss labour positions.

3. Elective induction should be assessed carefully and should be avoided prior to term unless fetal or maternal benefits outweigh the risks.⁹

4. Care of the Amniotic Membranes

There do not appear to be any benefits to a policy of routine early amniotomy other than that of a shortened labour. If, after discussing the procedure with the woman, early amniotomy is chosen, it is necessary to ensure that the fetal head is applied to the cervix and is not ballotable. This will minimize the risk of cord prolapse. If these conditions have been met, there is no reason for the woman to remain recumbent after amniotomy. Amniotomy should be considered once a diagnosis of dystocia has been made in the active phase prior to proceeding to oxytocin augmentation.

The role of electronic fetal monitoring has been described in an earlier Policy Statement. If it is being used, variable fetal heart rate decelerations may be more common after amniotomy. Variable decelerations are usually well tolerated by a normally-grown fetus at term. Should they become more severe, the initial approach should be conservative with repositioning and oxygen administration. A scalp blood sample for pH analysis may provide useful information if decelerations persist.

5. Epidural Analgesia

Epidural analgesia, when it is associated with dense motor block, can delay progress in the second stage of labour and can increase operative intervention. Providers of obstetrical care should talk to anaesthetists to ensure that the epidural techniques that are used produce a minimal motor block in the second stage. Oxytocin augmentation for women with arrested progress in the second stage in association with epidural anaesthesia should be considered, provided there is no evidence of significant cephalopelvic disproportion. It is particularly important to exclude such disproportion before augmentation of labour in a multipara in the second stage.

6. Labour Augmentation

It is recognized that there are inadequate data on which to base recommendations for criteria for the diagnosis of dystocia. Such a diagnosis should be avoided prior to the active phase of labour; that is, before full cervical effacement. Women who are in the active phase - that is primigravida with a fully effaced cervix, three to four cms dilated; a multipara with a cervix that is partly effaced and four to five cms dilated - who experience arrest of dilatation evaluated over a two-hour period, or dilate at less than 0.5 cms per hour evaluated over a four-hour period, require special attention. Initial measures include attention to comfort and well being, hydration, and amniotomy. If such measures fail, in the absence of clinical evidence of gross cephalopelvic disproportion or fetal compromise, oxytocin infusion should be started. The initial rate of oxytocin infusion should be one to two mIU/min and the infusion rate should be increased by one to two mIU at 30-minute intervals until contractions are considered adequate¹⁹ and cervical dilatation is achieved. The majority of women will show a clinical response at dose levels of eight to ten mIU/min but higher doses may sometimes be required.

Once the decision has been made to intervene medically for dystocia, adequate time must be allowed to observe a response to treatment. Depending on the starting dose and rate of increase of oxytocin, two to three hours may be needed to achieve therapeutic concentrations in maternal serum¹⁹ and a further period of observation is required to observe a response. When oxytocin administration is commenced at cervical dilatations of less than five cms, the interval from the initiation of treatment to achieving a response, that is an increase in cervical dilatation, may be considerable.³²

7. Peer Review

Several studies have indicated that there are wide inter-physician variations in the rates of Caesarean section.^{33,34} The practice pattern of the attending obstetrician may, thus, be a significant determinant for the risk of Caesarean section. Obstetrical care may benefit by establishing a peer review process for the assessment of all Caesarean births. While no clinical trials have as yet been performed to assess the effectiveness of this process, studies using historical controls suggest that it has promise.^{35,36}

E. IMPLEMENTATION OF GUIDELINES

The guidelines should be reviewed by each obstetrical unit in Canada and consideration given to presentation at rounds and adoption by each hospital. Modifications should be approved and documented according to local hospital procedures prior to implementing changes to these guidelines. Peer review and chart review of all cases diagnosed with dystocia, cephalopelvic disproportion or failure to progress should be evaluated using the above criteria. Ongoing evaluation by the department and for each individual obstetrician/family physician/nurse/midwife is recommended.

Periodic evaluation of the Caesarean section rate for the diagnosis of dystocia will lead to a decrease in inter-physician variation and a lowered Caesarean section rate.

The Association of Professors and Obstetricians/Gynaecologists and Canadian Residency Programme Directors in obstetrics and gynaecology and Family Medicine Programmes, Provincial Medical Colleges and Provincial Midwifery Colleges should consider incorporating these guidelines in the training of medical students, residents, nurses and midwives. These guidelines should be available to caregivers on request. At yearly intervals the Society of Obstetricians and Gynaecologists of Canada will communicate with hospitals to review the implementation of these guidelines and receive their comments. Finally, these guidelines will be available on the Society's Network in computerized format for labour-delivery birthing units and individual physicians who have access to a computer.

F. EVALUATION

In two years, the protocol and national guidelines will be reevaluated and in four years rewritten. These guidelines will be available in the near future in all case rooms from the SOGC Network. The Society of Obstetricians and Gynaecologists of Canada will work with hospitals to evaluate the effectiveness of these guidelines.

TABLE 1

BASIC CARE DURING PREGNANCY

CONTINUITY OF CAREGIVERS DURING PREGNANCY AND CHILDBIRTH (1 TRIAL REVIEWED)

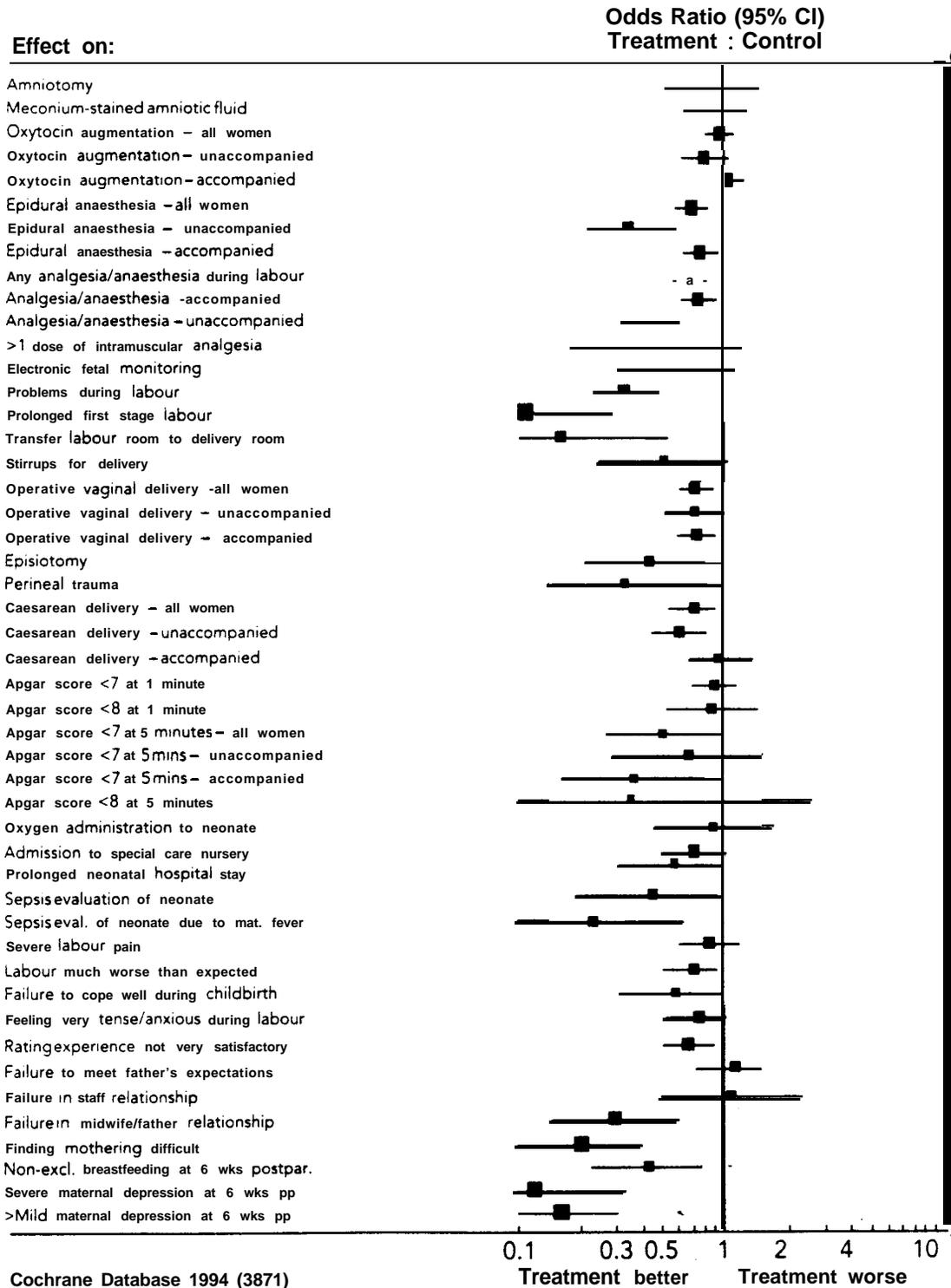


TABLE 1 cont.

BASIC CARE DURING PREGNANCY

CONTINUITY OF CAREGIVERS DURING PREGNANCY AND CHILDBIRTH (1 TRIAL REVIEWED)

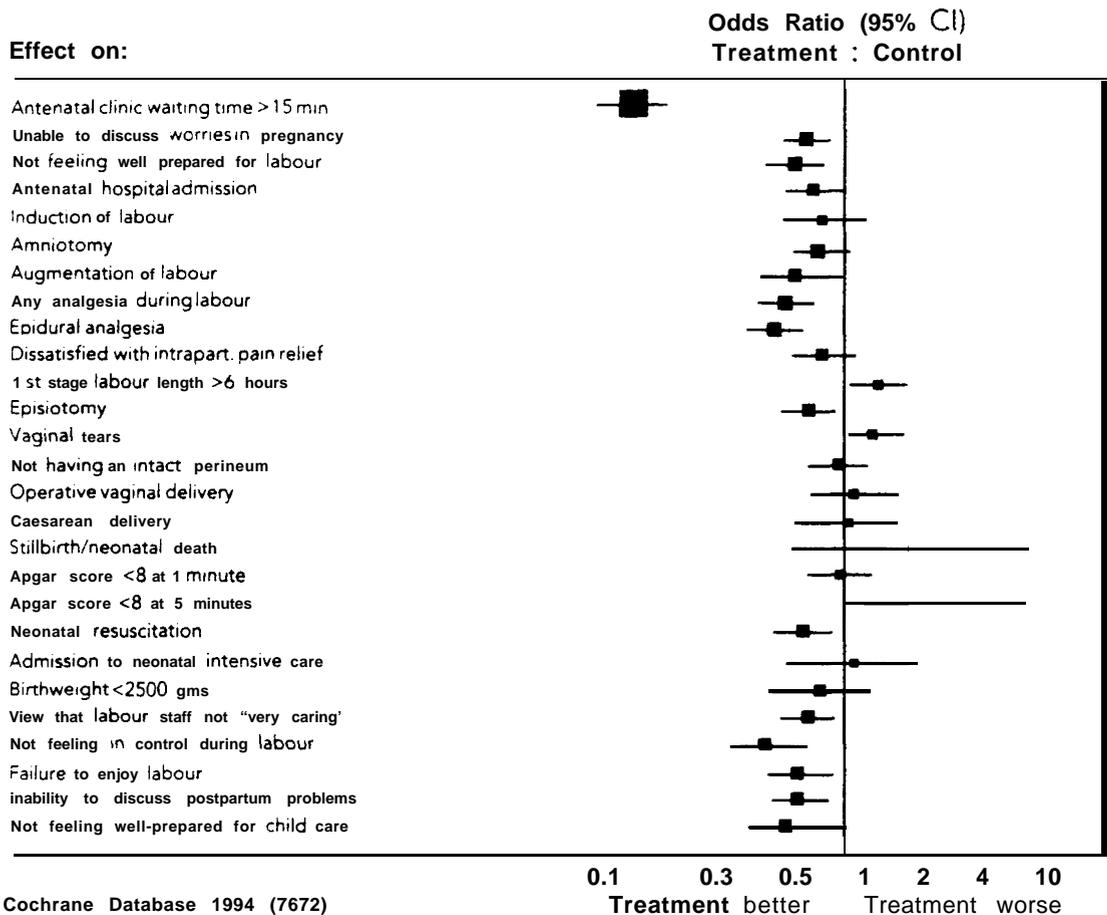


TABLE 2

FIRST STAGE OF LABOUR

UPRIGHT VS RECUMBENT POSITION DURING FIRST STAGE OF LABOUR (8 TRIALS REVIEWED)

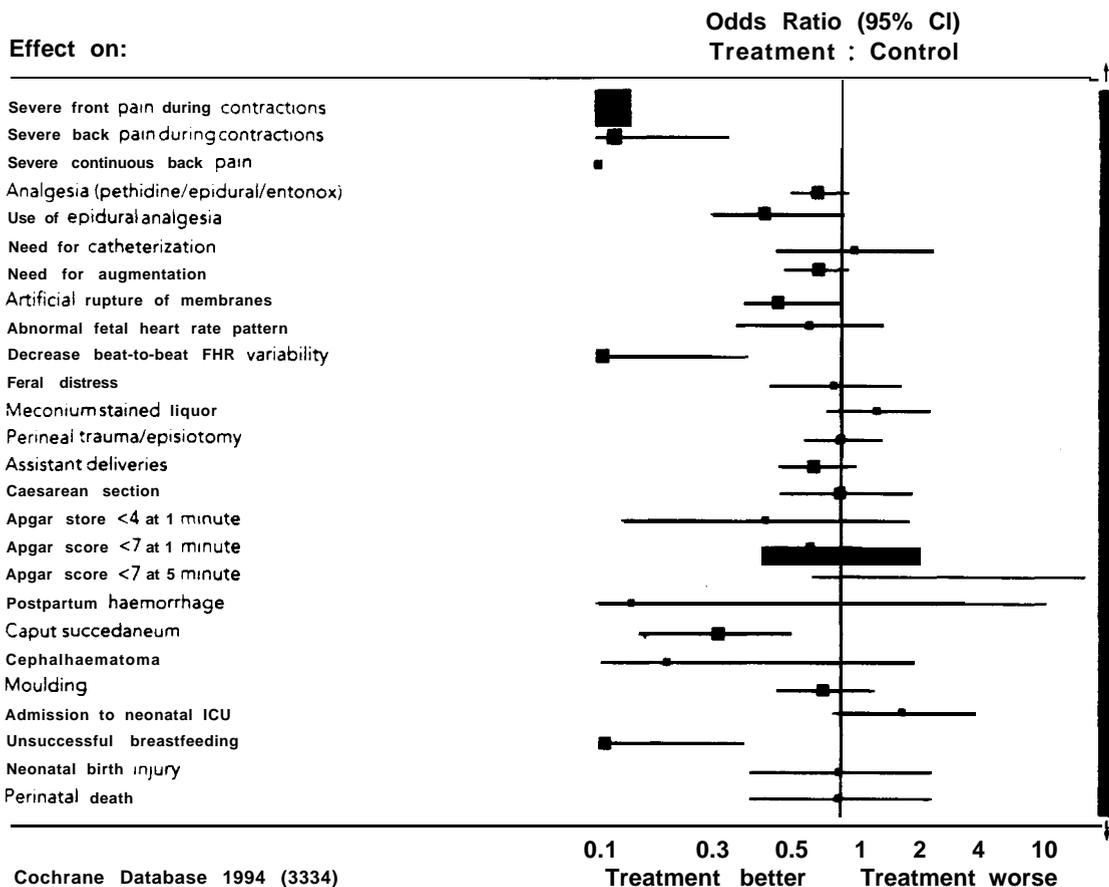


TABLE 3

DYSTOCIA

AMNIOTOMY TO SHORTEN SPONTANEOUS LABOUR(6 TRIALS REVIEWED)

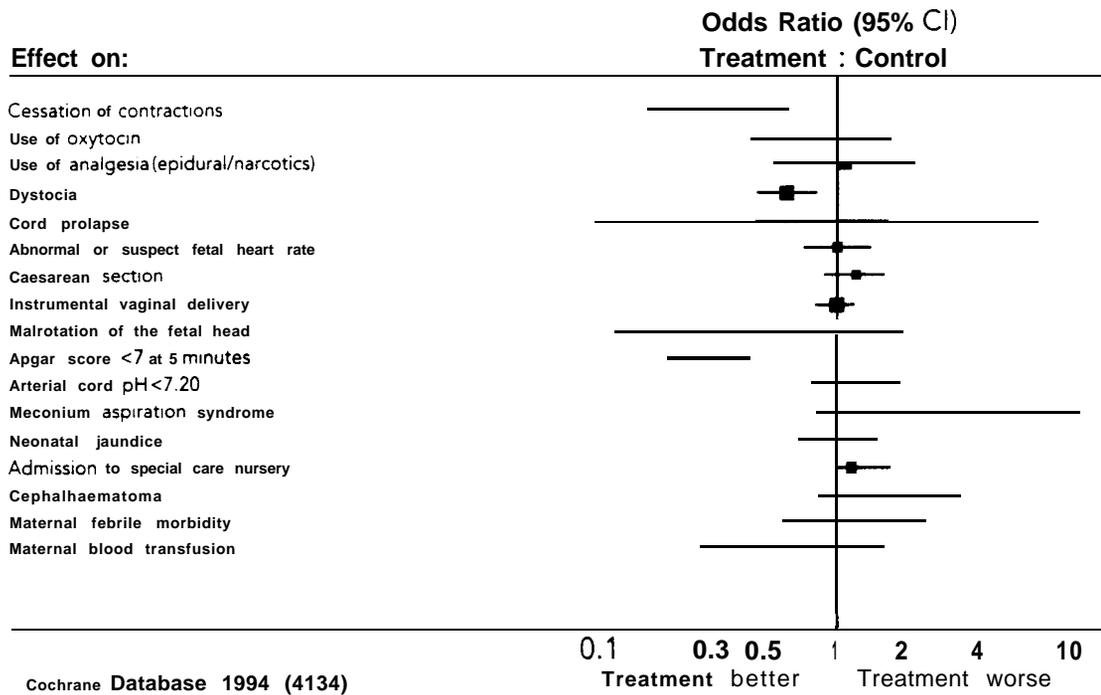


TABLE 4

SECOND STAGE OF LABOUR

EARLY VS LATE PUSHING WITH EPIDURAL ANAESTHESIA IN 2ND STAGE OF LABOUR(5 TRIALS REVIEWED)

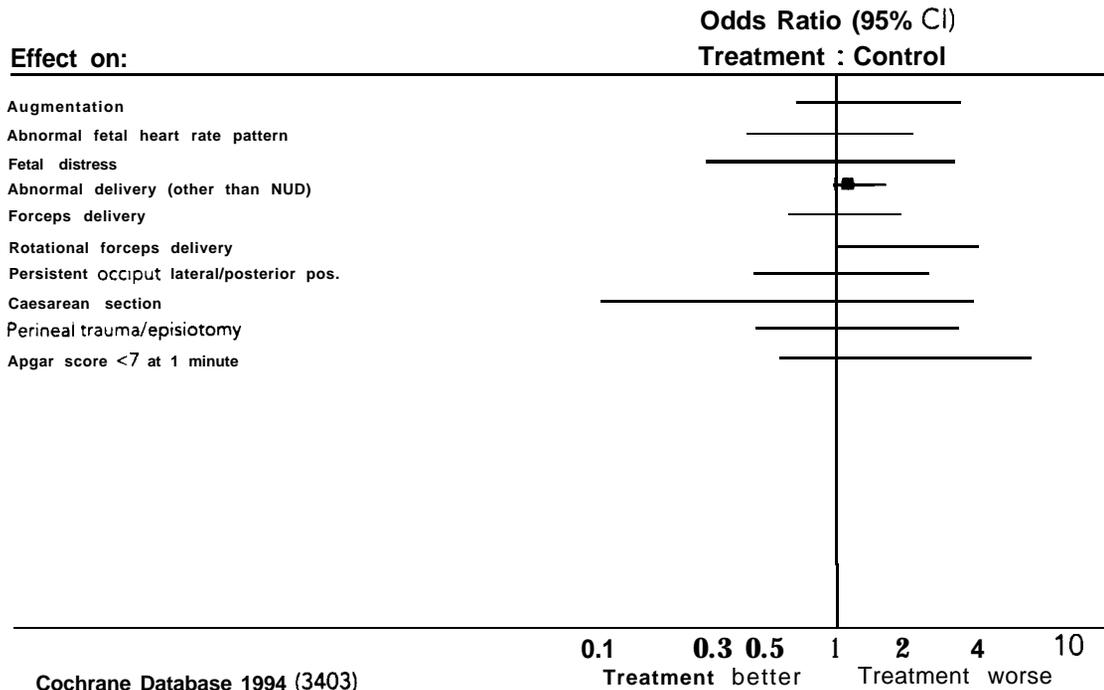
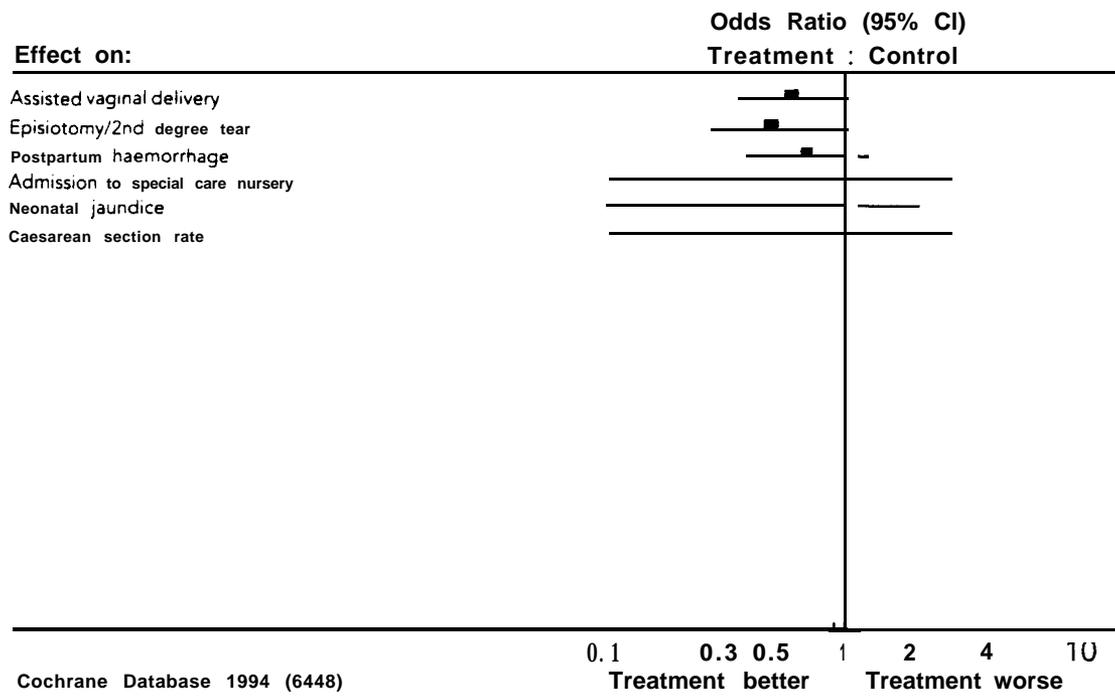


TABLE 5**DYSTOCIA**

OXYTOCIN DURING 2ND STAGE WITH EPIDURAL (1 TRIAL REVIEWED)



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