Obstetric Protocols for
Labor Ward Management
Obstetric Protocols for Labor Ward Management

SECOND EDITION

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Foreword
Sir Sabaratnam Arulkumaran

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Disclaimer

It is to declare with professional intent that these management protocols are not the only course of correct action; and depending on individual circumstances, there may be many other ways to manage the problems. On the other hand, these protocols do not override the individual responsibility of obstetricians to make decisions appropriate to the individual patient in consultation with woman and/or guardian or carer.
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It is a great pleasure to write a foreword for this excellent compendium of *Obstetric Protocols for Labor Ward Management*. The editors Asmita Muthal Rathore, Swaraj Batra, Poonam Sachdeva and Sudha Prasad should be congratulated for bringing out this much-needed book which would be of great assistance to clinicians and midwives practising in the busy labor wards who face normal and complicated labor and delivery on a 24 hours, seven-day basis. The chapters are neatly arranged in seven sections which makes it easy for the reader to navigate into sections dealing with different problems. Section one deals with normal and abnormal labor; trial of labor; prolonged and obstructed labor; fetal distress, meconium stained liquor and shoulder dystocia. Section two deals with malpresentations and multiple pregnancy. Sections three and four tackle with pregnancy complications and pregnancy with medical disorders. This is followed by sections on postpartum complications and obstetric interventions followed by neonatal care. Clinical practise without audit does not allow for continued improvement. One of the hazards of obstetric practice is medical litigation. This is covered in two of the four chapters in the appendices. The other two chapters in this section cover the ‘must know’ aspects of local neonatal survival statistics and intrapartum surveillance by CTG interpretation.

All the chapters are well written. The text is delivered as bullet points with appropriate figures, tables, flowcharts and suitable references. The layout of the text in such a manner provides for easy reading in a short time which is essential in a busy labor ward setting.
The steps to manage the cases are evidence based and are in line with the latest guidelines issued by NICE (National Institute of Health and Clinical Excellence) and that of the green top guidelines of the RCOG (Royal College of Obstetricians and Gynaecologists) and recent publications in the literature. I would recommend the book to be a personal companion for any health carer who deals with pregnancy, labor and delivery and for copies to be kept in labor wards and libraries for quick reference when encountered with a problem. This book would be an asset for postgraduates and would make useful reading for the undergraduates. Care based on the protocols in this book for labor management will improve the clinical outcome of the mother and the newborn.

Sir Sabaratnam Arulkumaran
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Past President
PREFACE TO THE SECOND EDITION

The first edition of labor ward protocols, though prepared primarily for Department of Obstetrics and Gynecology of Maulana Azad Medical College, New Delhi, was extensively used by many hospitals of Government of NCT of Delhi and other practising clinicians and received great response from readers. The fast changing knowledge and technology in the medical field has to be translated into changing evidence-based clinical practices and hence need for this revision.

The new edition has 30 chapters including 7 new additions. All the authors have put in their best efforts to update their chapters in view of latest evidence and resource availability in public institutions. A few new additions were considered necessary. The section on labor management has new chapter on shoulder dystocia, the problem which is becoming visible now even in developing countries due to increasing average birth weight of babies, increasing incidence of maternal obesity and type 2 diabetes mellitus. Rising incidence of morbidly adherent placenta is the fall out of rising cesarean rates and high maternal morbidity associated with it has warranted the modification of chapter on antepartum hemorrhage to cover this area. Wider availability of assisted reproductive technologies and increasing number of post-ART pregnancies necessitated the addition of this chapter. Some medical disorders in pregnancy, such as HIV and hepatic dysfunction, which could not be covered in previous editions, are added. The section on interventions has three new additions—cesarean section which covers the important aspects of this most common obstetric intervention, thromboprophylaxis which remains ignored area in limited resource settings and postpartum contraception which after special emphasis by Ministry of Health, Government of India on promoting PPIUCD has given entry to contraception in labor ward which previously was confined to Family Welfare Outpatient Departments. The new appendix has introduced the concept of risk management which is yet to make inroads into busy public hospitals and aims to sensitize the clinicians to increasing importance of patient safety and quality of care issues. The new edition has also changed its appearance to pocket book for convenience of residents and students.
The same methodology of peer review as used in the first edition was followed. These protocols are developed after careful consideration of current evidence and limitations in application of this evidence in view of limited resources in public hospitals and sociocultural realities. Though we have taken local data into considerations in addition to current evidence, we acknowledge that in some areas, they are expert opinions of peer review group and it is expected that all clinicians using this will apply their knowledge and clinical judgment while using them in their clinical practice.

We are grateful to all authors and peer reviewers for their inputs and dedication. Professor Arulkumaran is an international authority in maternal health and has always been a source of inspiration. We are grateful to him for his foreword to this second edition.

This book would not have been possible without tireless efforts of Shri Jitendar P Vij (Group Chairman), Mr Ankit Vij (Group President), Mr Tarun Duneja (Director–Publishing) of M/s Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, India, and their publishing team who deserve special thanks.

We thank the readers for response to the first edition and their feedback with suggestions for further improvement are valuable to us.

We hope that this updated version will serve as an important tool for practising obstetricians as well as a quick reference guide to students and residents undergoing their training in busy hospitals and ultimately contribute to the better care of laboring women and their newborns.

Asmita Muthal Rathore  
Swaraj Batra  
Poonam Sachdeva  
Sudha Prasad
Evidence-based medicine forms the keyword in health care. One of the essential components of improving health care is the development of generally agreed protocols based on scientific evidence for management of various obstetric conditions, especially emergencies. Internationally, many such management guidelines are issued by professional bodies of developed countries like the USA and UK, but they cannot be extrapolated to developing countries due to many practical problems including resource limitations. Since no such guidelines are available in India, there is need for protocols applicable to Indian and other similar set-ups with limited resources. These peer-reviewed protocols are an effort to fulfill this need.

These protocols are primarily prepared for labor ward of Department of Obstetrics and Gynecology of Maulana Azad Medical College (MAMC) and Lok Nayak Hospital (LNH), New Delhi, by its faculty. Each faculty member was allotted one-two topics to prepare the protocol. The protocols prepared by individual faculty member was distributed to the peer group about one week prior to discussion. The protocols were extensively and critically discussed in faculty meeting held specially for this purpose and were finalized after incorporating the modifications suggested by other faculty members based on general consensus.

These protocols represent the views of faculty of this department. We acknowledge that this is not the only course of correct action, and depending on individual circumstances, there may be many other ways to manage the problems. The treating obstetricians are expected to take it fully into account when exercising their clinical judgment. Though these are developed after careful consideration of current scientific evidence, the resource limitation and peculiar medical and sociocultural realities of our country have significantly influenced the development of management recommendations. Although we have considered the departmental statistics and local data, especially when we considered it justified to deviate from scientific evidence, we acknowledge that some of these guidelines are based more on
the clinical experience and expert opinion of peer review group and do not currently have scientific evidence to support it.

The departmental protocols also form an important tool for training of residents and students in teaching institutions and are very helpful to them as quick reference guide. They can become a useful baseline for future research and audit.

Our most heartfelt thanks go to our peer reviewers who devoted the time not only in writing the protocols but for reviewing other protocols despite their busy schedules. We thank hospital authorities for giving us permission to publish these protocols in book form.

Our thanks to Shri Jitendar P Vij (Group Chairman), Mr Ankit Vij (Group President), Mr Tarun Duneja (Director–Publishing) of M/s Jaypee Brothers Medical Publishers (P) Ltd, New Delhi, India, and their publishing team for giving final shape to this book.

We hope this book will be helpful to all those involved in obstetric practice and we will be greatly rewarded if it can make even a small improvement in obstetric care in this country with very high maternal mortality.

Asmita Muthal Rathore
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DEFINITION

It is defined as manipulations done to change unfavorable fetal presentation into favorable one. Can be done abdominally (External Cephalic Version) or abdominovaginally (Internal Podalic Version).

EXTERNAL CEPHALIC VERSION

Definition
- Manipulation done externally to change breech or transverse lie to cephalic presentation
- Success rates: 30–80%
- External cephalic version (ECV) should be performed where facilities for monitoring and immediate delivery are available
- ECV should be attempted from 36 weeks in nulliparous and from 37 weeks in multiparous women. It can also be tried in early labor.

Prerequisites
- Informed consent to be taken
- Facility for emergency lower segment cesarean section (LSCS) available
- Baby is average size
- Liquor adequate, membranes intact
- Uterus is relaxed
Pelvis adequate
No other contraindication for ECV.

Contraindications

Absolute
Where cesarean delivery is required, antepartum hemorrhage within the last 7 days, abnormal cardiotocography, major uterine anomaly, ruptured membranes, multiple pregnancy (except delivery of second twin).

Relative *(where ECV might be more complicated)*
Small for gestational age (SGA) fetus with abnormal Doppler parameters, proteinuric pre-eclampsia, oligohydramnios, major fetal anomalies, scarred uterus, unstable lie.

Tocolysis
Use of tocolysis may be offered to women undergoing ECV (especially in those undergoing repeat attempt) as it has been shown to increase the success rate. Nifedipine 20 mg one hour before procedure may be given.

Steps *(Fig. 25.1)*
Should be done under ultrasonography (USG) guidance
Woman in supine position with foot end elevated
Check that fetal heart rate is normal
Confirm the presentation, position of fetal head, back and hips
Grasp the lowest part of fetus above the pubic bone and gently lift it from pelvic inlet to mobilize the breech
Achieve forward rotation by bringing head and buttocks of the fetus closer. Rotate the fetus slowly by guiding the head in a forward roll as buttocks are lifted
Cardiotocography should be performed after the procedure. If it becomes abnormal, manage as for fetal distress, reassess every 15 minutes and if does not settle, do LSCS
If procedure is successful, the woman should remain lying down for 15 minutes. If procedure unsuccessful, manage as breech presentation if one more attempt after a week also fails. Anti-D immunoglobulin should be given to Rh negative women.

**Complications**
- Labor pains, rupture of membranes
- Antepartum hemorrhage (APH)
- Fetal distress
- Fetal death.

**INTERNAL PODALIC VERSION**

During internal podalic version, the fetus is turned by intrauterine manipulation so as to deliver the feet first which enables the
obstetrician to affect vaginal delivery by breech extraction (Fig. 25.2).

**Indications**
- Second baby of twins when lie is transverse or oblique.
- Can be considered in transverse lie with intrauterine death (IUD), baby with congenital anomaly incompatible with life or non-salvageable baby.

**Contraindications**
1. Obstructed labor
2. Previous cesarean section
3. Toniclly contracted uterus
4. Inexperienced obstetrician
5. Term live baby.

**Prerequisites**
- Cervix should be fully dilated but occasionally may be attempted with cervical dilatation of 7–8 cm also
- Liquor amnii must not be completely drained out
- Baby should be of average size
- Fetopelvic disproportion must be ruled out by clinical assessment
- Anesthesia: General anesthesia.

**Steps**

- Lithotomy position, aseptic precautions, empty bladder.
- A hand is introduced into uterus and membranes are ruptured and at least one foot should be identified and grasped and gently pulled down towards birth canal.
- With other hand applied on abdomen or with the help of an assistant head is simultaneously rotated gently.
- After lie is made longitudinal, breech extraction should be done to deliver the baby.
- Legs are drawn till buttocks are visible anteriorly beyond symphysis pubis.
- Breech towel applied and traction maintained till lower third of scapula is visible.
- Trunk is slowly rotated to deliver one shoulder and arm and then rotated in reverse direction to deliver other shoulder and arm.
- After coming head may be delivered by simultaneous supra-pubic external pressure to flex the head and gentle traction applied or by use of forceps.
- Rarely in cases of incomplete dilatation breech may be allowed to deliver after some time after hanging by its own weight when baby is dead.
- Placenta should be removed by manual removal of placenta (MRP).
- Uterus should be explored for retained placental bits and trauma.
- Anesthesia should be discontinued and oxytocin should be started.
- Cervix, vagina and perineum are inspected.
Complications

Maternal

- Tears and lacerations of cervix vagina, and perineum.
- Rupture of uterus.

Fetal

- Asphyxia.
- Intracranial hemorrhage.
- All hazards of breech vaginal delivery.

SUGGESTED READING