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Current Trends in Labor Management



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CHAPTER 3

Initial Assessment, Management, and Triage of Patients in Labor

Seema Prakash, Srishti Prakash

INTRODUCTION

The initial assessment, screening, and management of patients in labor is crucial in improving overall maternal and fetal outcome. Whenever a patient in labor comes to healthcare facility it becomes very important to provide evidence-based quality care in an environment of minimal risk.

RECEIVING AND INITIAL ASSESSMENT

In emergency receiving area, doctors, and paramedical staff should quickly assess the general condition of patient in a designated room in complete privacy including general physical examination, assessment of vitals—Pulse, BP, RR, SpO_2, temperature, and obstetric examination. A provisional diagnosis should be made as soon as possible so that treatment may be prioritized and complications are identified quickly and managed promptly. Most hospitals and health facilities have formulated guidelines for management of patients in labor.

Fetal status must be assessed on every patient who is evaluated or admitted in a labor triage unit in consultation with pediatrician or neonatologist. Classify the case as high-risk or low-risk category according to condition of patient, associated complications, and expected outcome.

The clinician's initial evaluation and documentation in labor and delivery shall include:

- Documentation of personal details of patient
- Reviewing the patient's prior pregnancy(s)
- Reviewing and summarizing the antenatal course

HISTORY

Detailed history is important to identify patients in low-risk or high-risk group and also to ascertain that patient is in labor or not. History in an obstetric patient should be quick and conclusive. It should include sociodemographic profile of patient, chief presenting complaints, and confirmation of period of gestation. Important events of present pregnancy and previous obstetric history, medical and surgical history should be elicited. Certain factors, which are known to increase risk of maternal and fetal morbidity and mortality, should be taken into consideration.

PHYSICAL EXAMINATION

- Taking appropriate precautions for COVID assess general condition, evaluate status of labor (description of uterine activity, cervical dilation and effacement, and fetal station and presentation) and confirm stage of labor-latent or active phase.
- Abdominal or obstetric examination to assess fundal height, lie, and presentation should be done. The level of presenting part in pelvis and frequency and duration of uterine contractions must be noted.
- *Per speculum examination:* If there is history of bleeding or leaking per vaginally to look for color of liquor or meconium.
- Vaginal examination should be performed under aseptic conditions to note consistency, effacement, dilatation of cervix, position, and station of presenting part, check for caput or molding, assess bony pelvis.
- Assessment of progress of labor is done by observing contractions and decent of presenting part and cervical changes.

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Fetal Surveillance

Evaluation of fetal status, including interpretation of auscultation or electronic fetal monitoring (Intermittent or continuous fetal heart monitoring). On admission nonstress test or contraction stress test should be performed. Auscultation of fetal heart sounds should be done for minimum 1 minute postcontraction.

The Plan for Delivery

Take consent, counsel the attendants, explain present situation and further plan of action. For patients in labor or those with complications mode of delivery should be planned.

INVESTIGATIONS

Basic antenatal investigation to be checked and if not available all requisite investigations should be sent.

Any special investigations should be done identifying high-risk maternal or fetal situation.

Evaluation During First Stage Labor

The patient should be evaluated by the obstetrician during labor at appropriate intervals. Each evaluation should include:

- Assessment of maternal status
- Description of uterine activity
- Assessment of fetal status
- Description of findings on vaginal examination, including cervical dilation and effacement, fetal station, change in status of membranes, and progress since last examination
- Summary of maternal and fetal status
- Plan, including plans for or performance of clinical interventions and pain management

Each evaluation should be recorded in the medical record.

Evaluation During Second Stage Labor

The monitoring clinician should document in the medical record at the time of identification of second stage, after 2 hours of second stage, and hourly thereafter. This documentation, which should be dated and timed, should include:

- Assessment of maternal status
- Assessment of fetal status
- Description of uterine activity
- Fetal station and, if known, position
- Assessment of progression and a plan for delivery. For a patient without complications, fetal heart rate (FHR) monitoring is done intermittently by fetal handheld Doppler every 5–15 minutes FHR should be evaluated and recorded at least every 5–15 minutes and 30 seconds postcontraction depending on the risk status of the patient. Continuous FHR monitoring should be done for patients with any of these indicators:
  - History of an abnormal antepartum FHR or rhythm
  - Abnormal presentation,
  - History of prior cesarean delivery
  - Multiple gestation
  - Nonreassuring fetal assessment
  - Significant maternal illness
  - Abnormality of active or second stage labor
  - Thick meconium
  - Heavy vaginal bleeding

  Electronic fetal monitoring is also preferred when auscultation is not feasible as in case of COVID infection.

Triage for Stage of Labor

Triaging of patients in labor is described in **Table 1**.

ACTION ON ALERT SIGNS

Prompt action is required in case there are any of the alert signs in patient.

During First Stage of Labor

Action on alert sign during first stage of labor is shown in **Table 2**.

During Second Stage of Labor

Action on alert sign during second stage of labor is shown in **Table 3**.

OUTLINE OF MANAGEMENT DURING LABOR

Management during labor is described in **Flowchart 1.**

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TABLE 1: Triaging of patients in labor.

Latent phase <5 cm		*Active phase >5 cm*	
• Admit in ward • Supportive care • Ambulation • Pain relief • Hydration • Nutrition • Reassurance • Reassessment		• Admit in labor room • Supportive care • Vital monitoring • Fetal heart rate monitoring • Progress of labor chart • Contractions • Descent of presenting part	
Contractions subside ↓ False labor	Contractions increase ↓ Reassess for active phase	Protracted active phase ↓ Augmentation of labor	Arrest of active phase ↓ Cesarean section

TABLE 2: Action on alert sign during first stage of labor.

Maternal	*Cervical dilatation*	*Progress of labor*
Pulse <60/min or >120/min SBP < 80/>140 mm Hg Urine ketones 2+ *Fetal* Baseline FHR < 110/min or >160/min Late deceleration	5 cm > 6 hours 6 cm > 5 hours 7 cm > 3 hours 8 cm > 2.5 hours 9 cm > 2 hours	• Contractions ≤2 or >5 contractions duration/second <20 or >60 • Fetal position—posterior or transverse • Caput +++ • Molding +++ • Liquor-meconium stained

TABLE 3: Action on alert sign during second stage of labor.

Maternal	*Fetal*	*Progress of labor*
Pulse <60 or >120 min SBP <80 or >140 mm Hg Urine ketones 2+	Baseline FHR <110 or >160/min Late decelerations	• Contractions <2 >5 <20 >60 seconds duration • Fetal position • Posterior or transverse • Caput+ • Molding+ • Liquor-meconium stained

TRIAGE IN LABOR

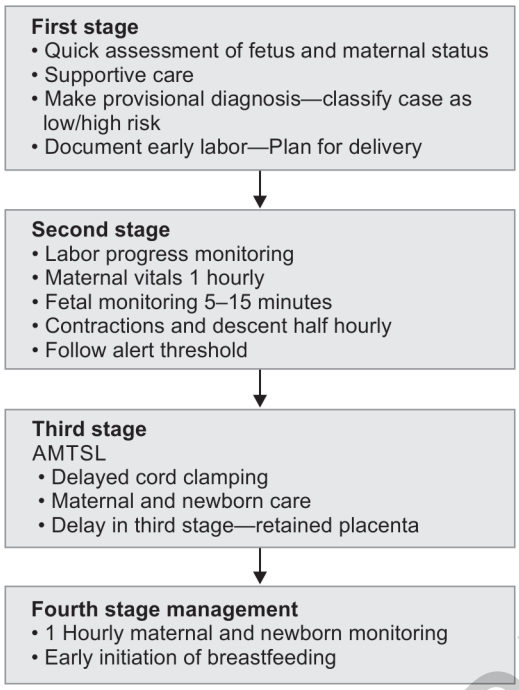
In centers where there is a heavy load of patients in emergency department, it becomes mandatory to screen patients in receiving area. The healthcare professionals should have clear understanding of triage of patients on the basis of severity, complications and urgency of treatment.

Patients Requiring Immediate Care

- Patients presenting with abnormal vital signs
- Maternal HR <40 or >130, apneic, SpO_2 <93%, SBP ≥160 or DBP ≥110 or <60/palpable,
- No FHR detected by Doppler or FHR <110 bpm for >60 seconds
- In most of such cases immediate lifesaving intervention required.

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Flowchart 1: Management of during labor.



Maternal

- Cardiac compromise
- Severe respiratory distress
- Seizures
- Hemorrhage
- Acute mental status change
- Signs of placental abruption
- Signs of uterine rupture
- Prolapsed cord

Imminent Birth

- Fetal parts visible on the perineum
- Active maternal bearing-down efforts

Women in Labor who Require Prompt Attention

- Signs of active labor ≥34 weeks
- Early labor signs and/or SROM/leaking 34–36.6 weeks
- ≥34 weeks with regular contractions and HSV lesion
- ≥34 weeks planned, elective, repeat cesarean with regular contractions
- ≥ 34 weeks multiple gestation pregnancy with irregular contractions

Patients who do not Require Urgent Attention

- ≥37 weeks early labor signs and/or c/o SROM/leaking
- Non-urgent symptoms may include common discomforts of pregnancy, vaginal discharge, constipation, ligament pain, nausea, anxiety
- Prescription refill
- Outpatient service that was missed
- Scheduled procedure when the patient has no complaint

Triage of Patients in Labor According to Fetomaternal Condition

According to fetomaternal condition, triage of patients in labor has been described in **Table 4**.

PRIORITY OF PATIENTS IN EMERGENCY

Priority of patients in emergency has been shown in **Flowchart 2**.

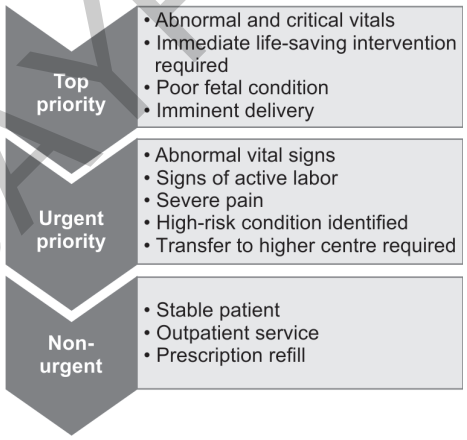
Emergency obstetrics departments of tertiary care hospitals have structured guidelines that aid in determining which patients must be evaluated promptly and which may wait safely and aid in determining anticipated course of care. Color coding of triage units is a good concept in which critically sick patients are kept in red zone requiring immediate care, less sick patients requiring emergency care are kept in yellow zone and managed, and those who are stable are kept in green zone are mostly managed as outpatient.

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TABLE 4: Triage of patients in labor according to fetomaternal condition.

Zone	*Action*	*Conditions*	*Management area*
Red	Immediate/ Life saving	**Maternal** HR <40 or >130, Apneic, SpO_2 <93%, SBP ≥160 or DBP ≥110 or <60/palpable, No FHR detected by Doppler Urine ketones 2+ **Fetal** • Baseline FHR <110/min or >160/min • Late deceleration • Immediate lifesaving intervention required, such as: *Maternal:* – Cardiac compromise – Severe respiratory distress – Seizures – Hemorrhage – Acute mental status change – Signs of placental abruption – Signs of uterine rupture – Prolapsed cord *Imminent birth:* – Fetal parts visible on the perineum – Active maternal bearing-down efforts	ICU/HDU/OT
Yellow	Prompt	• Signs of active labor ≥34 weeks • Early labor signs and/or SROM/leaking 34–36.6 weeks • ≥34 weeks with regular contractions and HSV lesion • ≥34 weeks planned, elective, repeat cesarean with regular contractions • ≥34 weeks multiple gestation pregnancy with irregular contractions • ≥37 weeks early labor signs and/or c/o SROM/leaking	LR/OT
Green	Non-urgent	Common discomforts of pregnancy, vaginal discharge, constipation, ligament pain, nausea, anxiety. • Prescription refill • Outpatient service Scheduled procedure	Ward/OPD

Flowchart 2: Priority of patient in emergency.



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Current Trends in Labor Management

Salient Features

- This book is a practical manual of labor room care
- It has the latest updates in this field
- It is written by renowned obstetricians and teachers of obstetrics
- Evidence-based knowledge along with clear interpretation of current scientific guidelines is provided in the book to improve care for the women in labor
- This manual can serve as a ready reckoner for students as well as practitioners in the labor room.


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