

The Active Management of the Third Stage of Labor



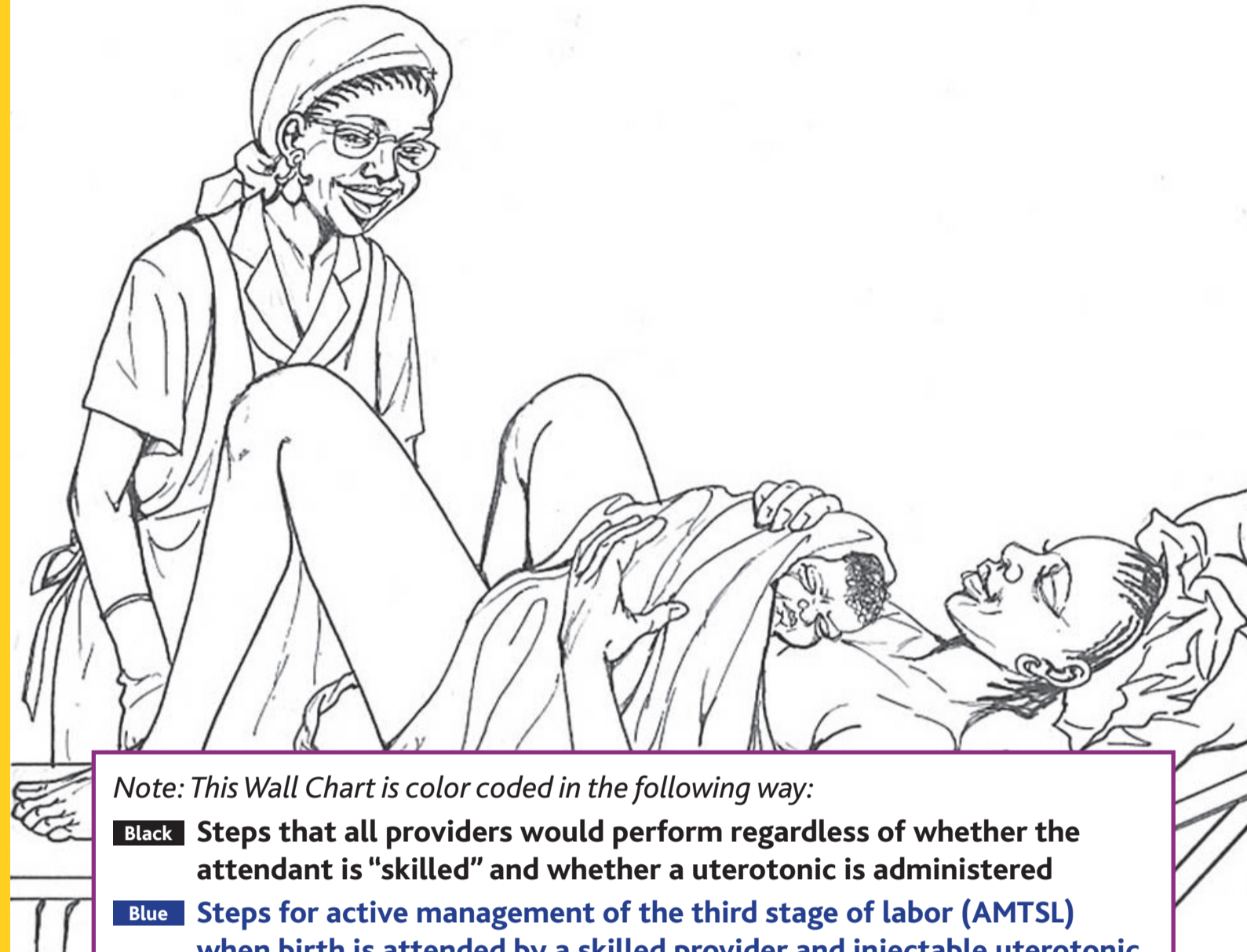
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STEP 1

For more detailed information, see text on the reverse side of this leaflet →

Assessment

Place the baby in skin-to-skin contact on the abdomen of the mother, dry the baby, assess the baby's breathing and perform resuscitation if needed. Cover the baby's head with a cloth or, preferably a hat/bonnet. Cover the woman and baby.



Note: This Wall Chart is color coded in the following way:

- Black** Steps that all providers would perform regardless of whether the attendant is "skilled" and whether a uterotonic is administered
- Blue** Steps for active management of the third stage of labor (AMTSL) when birth is attended by a skilled provider and injectable uterotonic drugs are available
- Green** Steps for AMTSL when (1) oxytocin is not available and (2) the birth attendant's skills are limited
- Purple** Steps for AMTSL when (1) injectable uterotonic drugs are not available and (2) the birth attendant is skilled and trained in AMTSL

STEP 2

For more detailed information, see text on the reverse side of this leaflet →

Uterotonic

Administer a uterotonic (oxytocin or misoprostol) within 1 minute after the baby's birth and after ruling out the presence of another baby (the uterotonic of choice is oxytocin 10 IU IM).

Give 600 µg of misoprostol by mouth within 1 minute after the baby's birth and after ruling out the presence of another baby.

Give 600 µg of misoprostol by mouth within 1 minute after the baby's birth and after ruling out the presence of another baby.

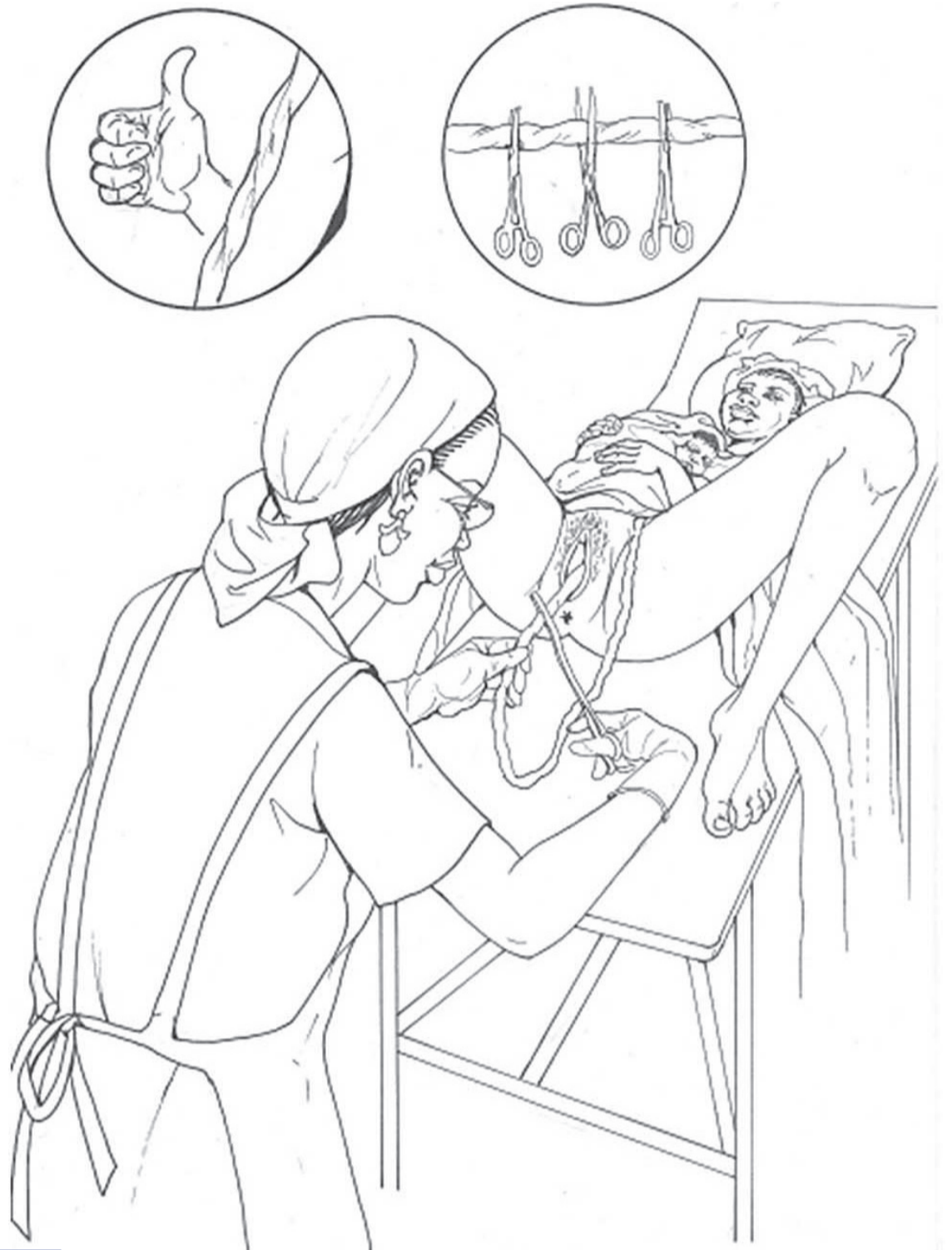


STEP 3

For more detailed information, see text on the reverse side of this leaflet →

Cord Cutting

Clamp and cut the cord after cord pulsations have ceased or approximately 2–3 minutes after birth of the baby, whichever comes first. Cover the cord with a piece of gauze when cutting the cord to avoid splashing blood.



STEP 4

For more detailed information, see text on the reverse side of this leaflet →

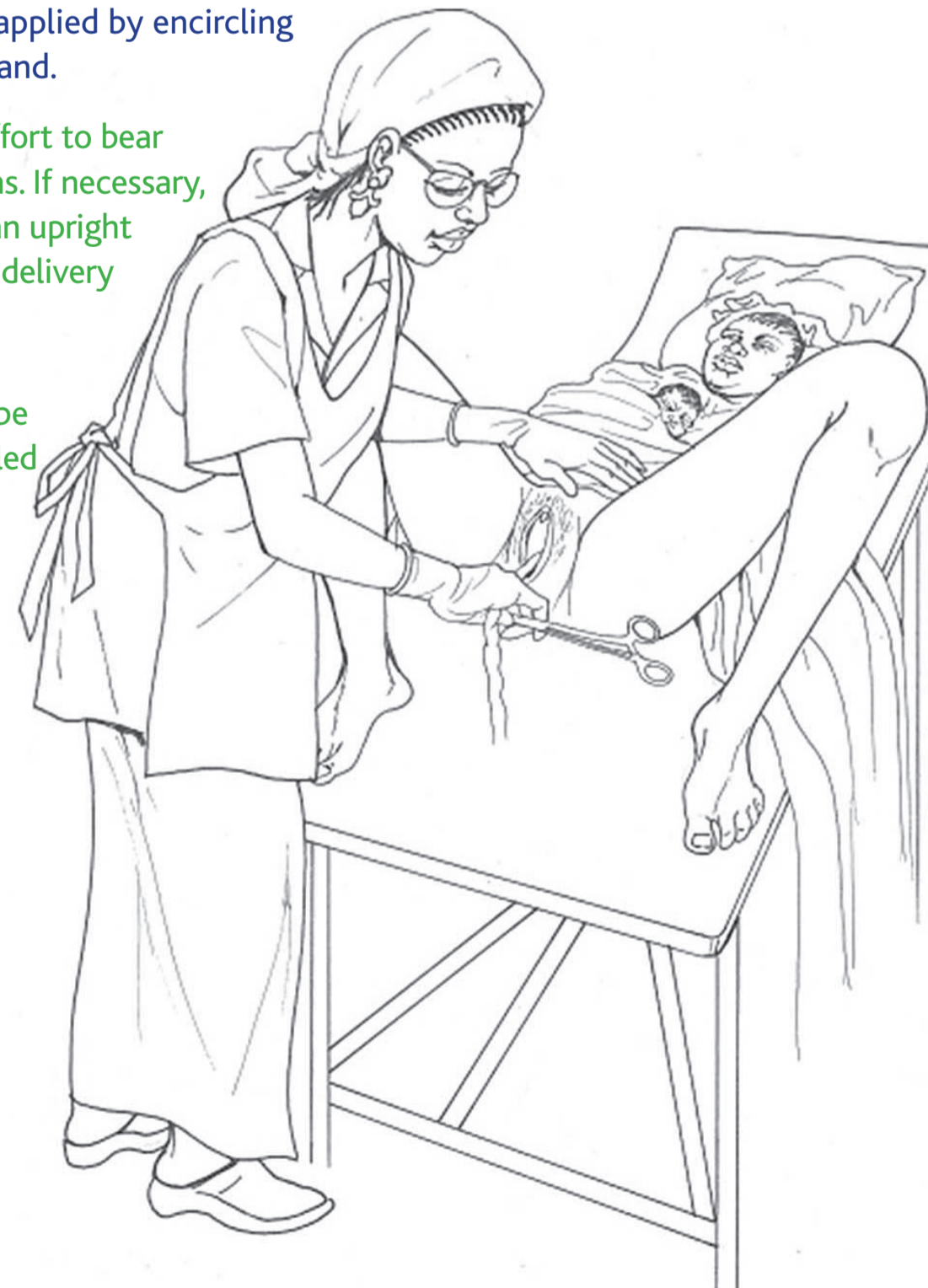
Controlled Cord Traction (I)

Perform controlled cord traction (CCT): (i) Place the clamp near the woman's perineum to make CCT easier. Hold the cord close to the perineum using a clamp. Place the palm of the other hand on the lower abdomen just above the woman's pubic bone to assess for uterine contractions. If a clamp is not available, CCT can be applied by encircling the cord around the hand.

Encourage maternal effort to bear down with contractions. If necessary, help the woman into an upright position to assist with delivery of the placenta.

NOTE: controlled cord traction should ONLY be performed when a skilled attendant is present at the birth.

Perform controlled cord traction while, at the same time, supporting the uterus by applying external pressure on the uterus in an upward direction towards the woman's head.



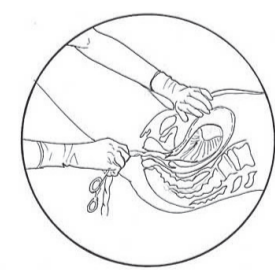
STEP 4

For more detailed information, see text on the reverse side of this leaflet →

Controlled Cord Traction (II)

When there is a contraction, apply external pressure on the uterus in an upward direction (toward the woman's head) with the hand just above the pubic bone. At the same time with your other hand, pull with firm, steady tension on the cord in a downward direction (follow the direction of the birth canal).

Avoid jerky or forceful pulling. Do not release support on the uterus until the placenta is visible at the vulva. Deliver the placenta slowly and support it with both hands.



Only release support of the uterus when the placenta is visible at the vulva.

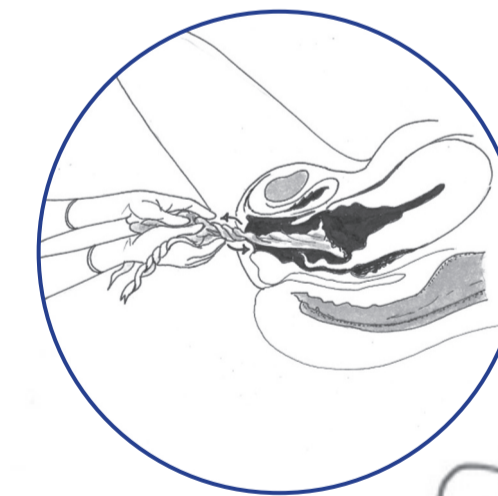


STEP 5

For more detailed information, see text on the reverse side of this leaflet →

Delivery of the Placenta

As the placenta is delivered, hold and gently turn it with both hands until the membranes are twisted. Slowly pull to complete the delivery. Gently move membranes up and down until delivered.



STEP 6

Massage

Massage the uterus immediately after delivery of the placenta and membranes until it is firm.

During recovery, assist the woman to breastfeed if this is her choice, monitor the newborn and woman closely, palpate the uterus through the abdomen every 15 minutes for 2 hours to make sure it is firm and monitor the amount of vaginal bleeding. Provide prevention of mother-to-child transmission care as needed.



This Leaflet and Wall Chart

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This publication is designed to be read as a Leaflet or displayed as a Wall Chart. This is the reverse side, which provides more detail about the general principles described on the front side, which is intended to be the display side.

Further copies of the Leaflet/Wall Chart can also be downloaded directly from *The Global Library of Women's Medicine* www.glowm.com where it can be viewed as a whole or printed out from any computer printer as a series of 16 individual pages that, when positioned correctly together, can make up both sides of the Wall Chart.

The Global Library of Women's Medicine provides an extensive range of resources – assembled by many distinguished specialists – relevant to the topics of Family Planning and Safer Motherhood, including skills training videos, midwives tutorials, educational films and basic health guidance. All these resources are available entirely **FREE** and can be accessed immediately simply by visiting www.glowm.com.

Wall Charts currently available, or planned for the near future, include the following topics: Postpartum Hemorrhage, Family Planning, Active Management Third Stage of Labor, HIV Transmission, Pre-eclampsia and Eclampsia, Normal Vaginal Birth, Malpresentations, Sepsis.

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4 Management cont.

- (c) Place the palm of the other hand on the lower abdomen just above the woman's pubic bone to assess for uterine contractions. If a clamp is not available, CCT can be applied by encircling the cord around the hand.
 - (d) Wait for a uterine contraction. Only perform CCT when there is a contraction.
 - (e) When there is a contraction, apply external pressure on the uterus in an upward direction (toward the woman's head) with the hand just above the pubic bone.
 - (f) At the same time with your other hand, pull with firm, steady tension on the cord in a downward direction (follow the direction of the birth canal). Avoid jerky or forceful pulling.
 - (g) Gently hold the cord and wait until the uterus is well contracted again. If necessary, use a sponge forceps to clamp the cord closer to the perineum as it lengthens.
 - (h) With the next contraction, repeat CCT with counter traction.
 - (i) Do not release support on the uterus until the placenta is visible at the vulva. Deliver the placenta slowly and support it with both hands.
 - (j) As the placenta is delivered, hold and gently turn it with both hands until the membranes are twisted.
 - (k) Slowly pull to complete the delivery. Gently move membranes up and down until delivered.
- Note:** If the membranes tear, gently examine the upper vagina and cervix wearing high-level disinfected or sterile gloves and use a sponge forceps to remove any pieces of remaining membrane.
- (5) Massage the uterus:
- (a) Massage the uterus immediately after delivery of the placenta and membranes until it is firm.
 - (b) After stopping massage, it is important that the uterus does not relax again.
 - (c) Palpate for a contracted uterus every 15 minutes and repeat uterine massage as needed during at least the first 2 hours after childbirth.
 - (d) Instruct the woman how to massage her own uterus, and ask her to call if her uterus becomes soft.
 - (e) Examine the placenta and membranes for completeness.
 - (f) Examine the genitalia and repair lacerations/episiotomy if necessary.
 - (g) Evaluate blood loss.
 - (h) Explain all examination findings to the woman and, if she desires, her family.

For further reading please visit www.glowm.com/safer_motherhood

1 Assessment

Third stage of labor defined

The third stage of labor has traditionally been defined as the time between the birth of the baby and the delivery of the placenta and membranes. It is the third stage that is the most perilous for the woman because of the risk of postpartum hemorrhage (PPH). The third stage of labor typically lasts between 10 and 30 minutes; if the placenta fails to separate within 30 minutes after childbirth, the third stage is considered to be prolonged. If the third stage of labor lasts longer than 18 minutes, it is associated with a significant risk of PPH; and there is a six-fold increase in PPH when the third stage of labor lasts longer than 30 minutes.

Management of the third stage of labor

The third stage of labor may be managed expectantly or actively. In expectant (physiological) management, uterotonic drugs are not given prophylactically, the cord may or may not be clamped early, and the placenta is delivered by maternal effort. In active management, uterotonic drugs are given before delivery of the placenta, the cord is usually cut 2–3 minutes after birth, and the placenta is delivered by controlled cord traction (CCT).

Two important trials have demonstrated that active management prevents up to 60% of PPH and provides several benefits for the woman compared to expectant management.

Their results indicate:

- (1) That for every 12 patients receiving active rather than physiological management, one case of PPH is prevented;
- (2) For every 67 patients so managed, one woman would avoid transfusion with blood products.

In addition, these studies also confirm that **AMTSL decreases:**

- Incidence of PPH
- Length of third stage of labor

- Percentage of third stage of labor lasting longer than 30 minutes
- Need for blood transfusion
- Need for uterotonic drugs to manage PPH.

Many researchers have since replicated these findings in a variety of settings in different regions of the world. These studies collectively provide a strong evidence base in support of the use of AMTSL as an evidence-based, cost-effective intervention that provides dramatic results to address the single most important cause of maternal mortality globally – PPH.

THE COMPONENTS OF ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR

AMTSL was defined by the Bristol and Hinchinbrooke trials as:

- (1) Uterotonic drug was administered with the birth of the anterior shoulder;
- (2) Immediate cord clamping;
- (3) CCT with the first contraction.

More recently, the steps of AMTSL have been integrated into routine care for the woman AND her newborn and have been refined to include the following:

- (1) Administration of a uterotonic drug within 1 minute after the baby's birth and after ruling out the presence of another baby;
- (2) Clamping and cutting the cord after cord pulsations have ceased or approximately 2–3 minutes after birth of the baby, whichever comes first;
- (3) CCT during a contraction with counter traction to support the uterus, including gently turning the placenta as it is delivered to prevent tearing of the membranes;
- (4) Massaging the uterus immediately after delivery of the placenta.

Clinical guidelines for management of the third stage of labor will generally also include careful inspection of the placenta and genitalia to rule out retained placenta/placental fragments and genital lacerations, and careful monitoring of the woman and her newborn for at least the first 6 hours postpartum.

For further reading please visit www.glowm.com/safer_motherhood

5 Uterotonic

Administration of a uterotonic drug

Administering a uterotonic drug within 1 minute after the baby's birth promotes strong uterine contractions and leads to faster retraction and placental delivery. This decreases the amount of maternal blood loss. More effective uterine activity also leads to a reduction in the incidence of retained placenta. Based on results of efficacy studies, WHO recommends oxytocin (10 IU by IM injection) as the uterotonic drug of choice for prevention of PPH during the third stage of labor because it is effective 2–3 minutes after injection, has minimal side-effects and can be used in all women. However, if oxytocin is not available:

- Syntometrine® (fixed drug combination of 0.5 mg of ergometrine with 5 IU of oxytocin by IM injection) and ergometrine (0.2 mg by IM injection) should be the uterotonic drugs of choice when oxytocin is not available and there are no contraindications to their use
- Misoprostol (400–600 µg by mouth) should be used if the person administering the drug is not authorized or trained to give injections, or if the woman has contraindications to the use of ergometrine or the fixed drug combination of ergometrine and oxytocin.

When choosing a uterotonic drug, the following issues should also be considered:

- Ergometrine (and the fixed drug combination of oxytocin and ergometrine) is contraindicated in women with a history of hypertension, heart disease, pre-eclampsia or eclampsia. The provider must be able to ascertain that these conditions do not exist before administering ergometrine. Therefore, safely to use ergometrine or the fixed drug combination of oxytocin and ergometrine, the birth attendant must have a functional blood pressure (BP) apparatus and stethoscope, be able to measure BP competently, and be able to ascertain whether there are contraindications to ergometrine or the fixed drug combination of oxytocin and ergometrine use before administering either
- Both ergometrine (and the fixed drug combination of ergometrine and oxytocin) and misoprostol have side-effects. Oxytocin has no known side-effects if administered postpartum

- Major side-effects for ergometrine include nausea, vomiting, headache, elevated blood pressure (diastolic BP >100 mmHg) and tonic-clonic uterine contractions

- Side-effects for misoprostol include shivering and elevated temperature; in regimens using higher doses, nausea, vomiting and diarrhea occur more frequently

- If ergometrine or misoprostol is used, then counseling on the side-effects of these drugs should be given

- **Administration costs** of oxytocin in ampoules, ergometrine and the fixed drug combination of oxytocin and ergometrine are likely to be generally equivalent. Administration costs of misoprostol will be less because it does not require a syringe and needle or consumables and supplies to ensure safe injection and infection prevention practices

- **Storage costs** may be higher for **ergometrine** (and the fixed drug combination of oxytocin and ergometrine) because it requires temperature controlled transport and storage, and protection from light. Oxytocin is more stable and storage costs may be less than ergometrine. Costs for storage of misoprostol are minimal because it is the most stable of the three uterotonic drugs and can be stored at room temperature, provided that it is protected from humidity

- **Access to injectable** uterotonic drugs is limited to points of care where a skilled birth attendant is trained and authorized to administer injections. Misoprostol is administered orally and does not require refrigeration; therefore it has the potential to increase access at the community level and in births not attended by a skilled birth attendant. Several studies have demonstrated the safety and efficacy of introducing use of misoprostol by health workers, traditional birth attendants, or pregnant women themselves trained in its use.

A theoretical risk of a trapped twin exists if providers administer a uterotonic drug with an undiagnosed twin pregnancy. However, quality clinical assessment in labor and following delivery of the first baby can establish the diagnosis before giving a uterotonic drug.

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2 Management

Controlled cord traction

CCT assists with rapid delivery of the placenta. It is important that the placenta be removed quickly once it has separated from the uterine wall because the uterus cannot contract efficiently if the placenta remains inside. CCT includes supporting the uterus by applying pressure on the lower segment of the uterus in an upward direction towards the woman's head, while at the same time pulling with a firm, steady tension on the cord in a downward direction during contractions. Supporting or guarding the uterus ('counter pressure' or 'counter traction') helps prevent uterine inversion. CCT should only be performed during a contraction and if counter traction is being applied.

Advocates of CCT argue that when expectant management is used, the placenta may be detached but remain at the level of the internal os. If this occurs, blood trapped behind the placenta in this position can distend the uterus, preventing further retraction and increasing the likelihood of PPH. CCT, however, requires the presence of a birth attendant trained in its use, thus severely limiting access to the life-saving effects of AMTSL. This has led international researchers to study the effects of managing the third stage of labor with a uterotonic drug in the absence of CCT.

In 2006, WHO, the International Federation of Gynecology and Obstetrics (FIGO) and the International Confederation of Midwives (ICM) recommended that in the absence of AMTSL (that is active management without CCT), a uterotonic drug (oxytocin or misoprostol) be offered by a health worker trained in its use for prevention of PPH. This was based on two randomized trials that reported the use of oxytocin in the absence of active management and one trial with misoprostol. More recently (2011), WHO conducted a hospital-based, multicenter, individually randomized controlled trial to assess the 'non-inferiority' of a 'simplified package' for actively managing the third stage of labor (use of uterotonic *without* CCT) compared to the 'full package' for actively managing the third stage of labor (use of uterotonic and CCT). Based on findings of this study, the investigators made the following two inferences from the trial: '1. CCT is safe and in settings

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6 Cord Cutting

Cord clamping

Current recommendations for cord clamping are to wait to clamp and cut the cord until 2–3 minutes after the baby's birth, even if oxytocin is given within 1 minute after birth of the baby.

Immediate cord clamping can decrease the red blood cells an infant receives at birth by more than 50%. Studies show that delaying clamping and cutting of the umbilical cord is helpful to both full-term and preterm babies. In full-term babies, there were fewer cases of anemia at 2 months of age and increased duration of early breastfeeding when cord clamping and cutting was delayed. In high-risk situations (e.g. low birth weight or premature infant), delaying clamping by as

little as a few minutes is helpful. In situations where cord clamping and cutting was delayed for preterm babies, these infants had higher hematocrit and hemoglobin levels and a lesser need for transfusions in the first 4–6 weeks of life than preterm babies whose cords were clamped and cut immediately after birth.

Uterine massage

Once the placenta is delivered, the uterus may have a tendency to relax slightly which could result in heavy bleeding. Although the prophylactic use of a uterotonic drug helps ensure that the uterus continues to contract and retract, the provider must continue to palpate the abdomen to assess and monitor uterine tone and size, and massage the uterus as needed. Massaging the uterus stimulates uterine contractions and may help expel blood and clots that might prevent contraction. As uterine massage can be uncomfortable, it is important to explain the rationale to the patient. Teaching the woman how to assess and massage her own uterus will prevent finding the woman in a 'pool' of her own blood during routine monitoring.

ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR WITHOUT CONTROLLED CORD TRACTION

Uterotonics play a key role in PPH prevention and suggest that the omission of CCT results in little increased risk of severe PPH. In calculating the numbers needed to harm, for every 581 women who receive the simplified package, there would be only one additional woman who would have a severe PPH than if all received the full AMTSL package.

STEPS IN ACTIVE MANAGEMENT OF THE THIRD STAGE OF LABOR

The three main components or steps of AMTSL – administering a uterotonic drug, CCT and massaging the uterus – should be implemented along with the provision of immediate newborn care.

Active management of the third stage of labour consists of interventions designed to facilitate the delivery of the placenta by increasing uterine contractions and to prevent PPH by averting uterine atony. The usual components include:

- Administration of uterotonic agents
- Controlled cord traction
- Uterine massage after delivery of the placenta, as appropriate.

3 Management cont.

(1) Thoroughly dry the baby, assess its breathing and perform resuscitation if needed, and then place the baby in skin-to-skin contact with the mother:

- (a) After birth of the baby, immediately dry the infant and assess its breathing. If the baby requires resuscitation, you may need to cut the cord immediately to care for the baby.
- (b) Then place the reactive infant, prone, in skin-to-skin contact, on the mother. If the umbilical cord is long enough, place the baby directly on the mother's chest. If the umbilical cord is short, place the baby on the mother's abdomen until after cutting the cord. Be careful to leave some slack on the umbilical cord and do not unduly stretch the cord.

Note: If the baby has poor color or needs resuscitation, the cord may be cut immediately so that adequate resuscitation can be performed immediately.

- (c) Remove the cloth used to dry the baby.
- (d) Cover both the mother and infant with a dry, warm cloth or towel to prevent heat loss.
- (e) Cover the baby's head with a cap or cloth.

(2) Administer a uterotonic drug within 1 minute of the baby's birth:

- (a) Before performing AMTSL, gently palpate the woman's abdomen to rule out the presence of another baby. At this point, do not massage the uterus.
- (b) If another baby is not present, begin the procedure by giving the woman 10 IU of oxytocin by IM injection in the upper thigh. This should be done within 1 minute of childbirth. If available, a qualified assistant should give the injection.

- (c) In patients with intravenous access in place, 10–20 IU may be placed in 500–1000 ml of crystalloid and run quickly or 5 IU may be administered as an intravenous bolus, followed by a similar infusion.

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Every attendant at birth needs to have the knowledge, skills and critical judgment needed to carry out active management of the third stage of labour and access to needed supplies and equipment.

In this regard, national professional associations have an important and collaborative role to play in:

- Advocacy for skilled care at birth;
- Dissemination of this statement to all members of the organisation and facilitation of its implementation;
- Public education about the need for adequate prevention and treatment of post-partum haemorrhage;
- Publication of the statement in national midwifery, obstetric and medical journals, newsletters and websites;
- Address legislative and other barriers that impede the prevention and treatment of post-partum haemorrhage;
- Incorporation of active management of the third stage of labour in national standards and clinical guidelines, as appropriate;
- Incorporation of active management of the third stage into pre-service and in-service curricula for all skilled birth attendants;
- Working with national pharmaceutical regulatory agencies, policymakers and donors to assure that adequate supplies of uterotonics and injection equipment are available.

MANAGEMENT OF THE THIRD STAGE OF LABOUR TO PREVENT POST-PARTUM HAEMORRHAGE

HOW TO USE UTEROTONIC AGENTS

- Within one minute of the delivery of the baby, palpate the abdomen to rule out the presence of an additional baby(s) and give oxytocin 10 units IM. Oxytocin is preferred over other uterotonic drugs because it is effective 2-3 minutes after injection, has minimal side effects and can be used in all women.
- If oxytocin is not available, other uterotonics can be used such as: ergometrine 0.2 mg IM, syntometrine (1 ampoule) IM or misoprostol 400-600 mcg orally. Oral administration of misoprostol should be reserved for situations when safe administration and/or appropriate storage conditions for injectable oxytocin and ergol alkaloids are not possible.
- Uterotonics require proper storage:
 - Ergometrine: 2-8°C and protect from light and from freezing.
 - Misoprostol: room temperature, in a closed container.
 - Oxytocin: 15-30°C, protect from freezing.
- Counselling on the side effects of these drugs should be given.

Warning! Do not give ergometrine or syntometrine (because it contains ergometrine) to women with pre-eclampsia, eclampsia or high blood pressure.

HOW TO DO CONTROLLED CORD TRACTION

- Clamp the cord close to the perineum (once pulsation stops in a healthy newborn) and hold in one hand.
- Place the other hand just above the woman's pubic bone and stabilize the uterus by applying counter-pressure during controlled cord traction.
- Keep slight tension on the cord and await a strong uterine contraction (2-3 minutes).
- With the strong uterine contraction, encourage the mother to push and very gently pull downward on the cord to deliver the placenta. Continue to apply counter-pressure to the uterus.
- If the placenta does not descend during 30-40 seconds of controlled cord traction do not continue to pull on the cord:
 - Gently hold the cord and wait until the uterus is well contracted again;
 - With the next contraction, repeat controlled cord traction with counter-pressure.

Never apply cord traction (pull) without applying counter traction (push) above the pubic bone on a well-contracted uterus.

- As the placenta delivers, hold the placenta in two hands and gently turn it until the membranes are twisted. Slowly pull to complete the delivery.
- If the membranes tear, gently examine the upper vagina and cervix wearing sterile/disinfected gloves and use a sponge forceps to remove any pieces of membrane that are present.
- Look carefully at the placenta to be sure none of it is missing. If a portion of the maternal surface is missing or there are torn membranes with vessels, suspect retained placenta fragments and take appropriate action (ref Managing Complications in Pregnancy and Childbirth).

HOW TO DO UTERINE MASSAGE

- Immediately massage the fundus of the uterus until the uterus is contracted.
- Palpate for a contracted uterus every 15 minutes and repeat uterine massage as needed during the first 2 hours.
- Ensure that the uterus does not become relaxed (soft) after you stop uterine massage.

In all of the above actions, explain the procedures and actions to the woman and her family. Continue to provide support and reassurance throughout.

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