

## **Guideline: Management of the 3<sup>rd</sup> Stage of Labor**

The following guideline covers management of the 3<sup>rd</sup> stage of labor for term or near-term pregnancies delivering vaginally (spontaneous or assisted). These guidelines do not apply to preterm deliveries or other circumstances where alternative management is indicated.

### **General Principles**

The 3<sup>rd</sup> stage of labor may be managed expectantly or actively, and several protocols for these have been promoted. Recent evidence compiled by the WHO and Cochrane Library have included systematic reviews concluding that active management of the 3<sup>rd</sup> stage (AMTSL) provides specific benefits of reducing specific risks to mothers, but carries modest risks. When executed properly, there does not appear to be an increased risk of retained placenta, as purported by some.

Ultimately, choice of management of the 3<sup>rd</sup> stage should be discussed in detail with the mother, either antenatally or early in labor. Many will have a specific idea of how they would like the 3<sup>rd</sup> stage managed, including purely physiological management and significantly delayed cord clamping. The clinician's role is to provide a balanced appraisal of risks and benefits of different methods and comply with the patient's wishes whenever feasible.

If the NICU team is attending the delivery, the plan for 3<sup>rd</sup> stage management should be included in their briefing upon entry into the delivery room.

### **Benefits of AMTSL:**

1. Reduced mean blood loss<sup>1</sup>
2. Reduced incidence of EBL over 500 mL<sup>1</sup>
3. Reduced incidence of EBL over 1000 mL<sup>1</sup>
4. Decreased neonatal bilirubin levels
5. Decreased incidence of neonatal jaundice

### **Potential risks of AMTSL:**

1. Increased pain (after pains) for mother
2. Increased incidence of nausea / vomiting (maternal)
3. Increased diastolic BP (maternal)
4. Decreased infant iron stores\* (with immediate clamping protocol)
5. There is unknown impact on cord blood harvesting

## Components of AMTSL

- 1. Administer uterotonic upon delivery of anterior shoulder or infant**
  - a. 1<sup>st</sup> line uterotonic is oxytocin by IV infusion
  - b. 10 units of oxytocin intramuscularly is an alternative for those without IV access
  - c. Misoprositol via rectal (1000 mcg) or buccal (200 mcg) route are also alternate regimens
  - d. Additional utertonic agents should be immediately available, particularly for those at increased risk for hemorrhage
- 2. Clamping of cord may be performed immediately or up to 2 – 3 minutes following infant delivery.**<sup>3,4,5</sup>
  - a. Evidence suggests increased iron stores and hemoglobin in infant with delayed clamping, but no clear clinical effects shown.
    - i. As described in the evidence base, delayed clamping should be done with infant at level of placenta or perineum.
      1. 75% of blood available for placenta to fetus transfusion is transfused in 1<sup>st</sup> minute.
    - ii. Delayed clamping may increase neonatal bilirubin and incidence of jaundice.
    - iii. Effects may be more beneficial for preterm infants.
  - b. For infants in need of immediate resuscitation, immediate clamping should be done.
- 3. Controlled cord traction**
  - a. Gentle traction on umbilical cord<sup>2</sup>
  - b. Uterine countertraction (Brandt-Andrews maneuver - upward pressure applied at the lower segment, just above the pubis)
    - i. Do NOT massage or manipulate the uterus
    - ii. Do NOT apply traction to cord without simultaneous countertraction
- 4. 4<sup>th</sup> stage management**
  - a. Uterine massage should be performed ONLY following placental delivery
  - b. Insure placenta and membranes to ensure intact delivery
  - c. Uterine tone should be monitored every 15 minutes for the 1<sup>st</sup> hour following delivery.

## References:

1. Begley CM, Gyte GM, Devane D, et al. Active versus expectant management for women in the third stage of labour. Cochrane Database Syst Rev 2011; CD007412.
2. Gulmezoglu AM, Lumbiganon P, Landoulsi S, et al. Active management of the third stage of labour with and without controlled cord traction: a randomized, controlled, non-inferiority trial. Lancet 2012; 379:1721
3. Yao AC, Lind J. Effect of gravity on placental transfusion. Lancet 1969; 2:505
4. Hutton EK, Hasan ES. Late vs early clamping of the umbilical cord in full-term neonates: systematic review and meta-analysis of controlled trials. JAMA 2007; 297:1241.
5. McDonald SJ, Middleton P. Effect of timing of umbilical cord clamping of term infants on maternal and neonatal outcomes. Cochrane Database Syst Rev 2008; :CD004074.

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### Notification to Users

*These algorithms are designed to assist the primary care provider in the clinical management of a variety of problems that occur during pregnancy. They should not be interpreted as a standard of care, but instead represent guidelines for management. Variation in practices should take into account such factors as characteristics of the individual patient, health resources, and regional experience with diagnostic and therapeutic modalities. The algorithms remain the intellectual property of the University of North Carolina at Chapel Hill School of Medicine. They cannot be reproduced in whole or in part without the expressed written permission of the school.*

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