



PRACTICE BRIEF

CLINICAL MANAGEMENT GUIDELINES FOR WOMEN'S HEALTH AND PERINATAL NURSES

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Oxytocin Administration for Management of Third Stage of Labor

Recommendation:

AWHONN recommends oxytocin administration for management of third stage of labor for all births.

Magnitude of the Problem

- Each year, approximately 125,000 women in the United States (or 2.9% of all births) experience postpartum hemorrhage (Callaghan, Kuklina, & Berg, 2010).
- Every year there are 14 million cases of postpartum hemorrhage worldwide (United States Agency for International Development [USAID], 2010).
- Postpartum hemorrhage occurs in more than 10% of all births and accounts for 25% of maternal deaths (World Health Organization [WHO], 2006).
- Oxytocin is routinely administered to prevent and treat postpartum hemorrhage (Butwick, Coleman, Cohen, Riley, & Carvalho, 2010; Dyer, Butwick, & Carvalho, 2011; King, Douglas, Unger, Wong, & King, 2010).

Oxytocin Doses and Administration

- Oxytocin should never be administered via IV push (Butwick et al., 2010; Devikarani & Harsoor, 2013; George, McKeen, Chaplin, & McLeod, 2010; King et al., 2010).
- Ideal dose and infusion rates have yet to be established in the literature (Dyer, Butwick, & Carvalho, 2011; Westoff, Cotter, & Tolosa, 2013).

Oxytocin Administration Guidelines

- Administration:
 - Oxytocin 20 units in 1 liter normal saline (NS) or lactated Ringer's (LR) solution
 - Initial bolus rate (500-1000 ml/hour) for 30 minutes followed by a maintenance rate of 125 ml/hour for the next 3.5 hours
- Provide a minimum infusion time of 4 hours after delivery.
- Give oxytocin 10 units intramuscularly (IM) in women without intravenous (IV) access.
- For woman who are at high risk for a postpartum hemorrhage or who have had cesarean births, continuation beyond 4 hours is recommended. Rate and duration should be titrated according to uterine tone and bleeding.

Active Management of the Third Stage of Labor (AMTSL)

- AMTSL consists of administration of uterotonic agents, controlled cord traction, and uterine massage after the delivery of the placenta (International Confederation of Midwives & International Federation of Gynaecologists and Obstetricians, 2003).
- AMTSL reduces the risk of postpartum hemorrhage (Soltani, Hutchon, & Poulouse, 2010).
- Researchers found no difference in amount of blood loss or incidence of retained placenta when oxytocin was given at the time of the delivery of the anterior shoulder compared to administration after the delivery of the placenta (Soltani et al., 2010).
- In a study on the effectiveness of the individual components of AMTSL, IV oxytocin reduced the risk of postpartum hemorrhage by 70% compared to IM administration, although the route of administration had no greater effect when combined with cord traction and uterine massage (Sheldon, Durocher, Winikoff, Blum, & Trussell, 2013).

This Practice Recommendation was developed by the AWHONN Postpartum Hemorrhage Project Quality Improvement Panel. The information is designed to aid nurses in providing evidenced-based care to women and newborns. These recommendations should not be construed as dictating an exclusive course of treatment or procedure. Variations in practice may be warranted based on the needs of the individual patient, resources, and limitations unique to the institution or type of practice.

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Suggested Equipment:

- IV infusion pump to for control over oxytocin administration
- Liters of NS or LR solution
- Vials of oxytocin and syringes
- Have other uterotonics on hand such as methylergonovine (Methergine), misoprostol (Cytotec), and carbopost (Hemabate).

Table 1. Specific Recommendations for Oxytocin Use

	Oxytocin Concentration	Fluid Volume	Rate
Research Studies			
George et al., 2010	15u	1000ml	1000ml/hr
Devikarani et al., 2010	20u	1000ml	600ml/hr for a few minutes
	20u	1000ml	60-120ml/hr
King et al., 2010	40u	500ml	Bolus
	20u	1000ml	125ml/hr
Books			
Cunningham et al., 2014	20u	1000ml	600-1200ml/hr for a few minutes
	20u	1000ml	60-120ml/hr
Ricci et al., 2013	20-40u	1000ml	
Simpson & Creehan, 2013	10-40u	500-1000ml	50mu/min
	20u	1000ml	150ml/hr
Trioano et al., 2012	10-40u	1000ml	20-50mu/min
	20u	1000ml	60-150ml/hr
Guidelines			
California Maternal Quality Care Collaborative, 2010	10-40u	1000ml	500ml/hr if bleeding, titrate to uterine tone
J.P.H. Pharmaceuticals, 2007	10-40u	1000ml	Adjust rate to sustain contractions

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