



# Effective Health Care

## Oxytocin to Prevent and Treat Postpartum Hemorrhage

### Nomination Summary Document

#### Results of Topic Selection Process & Next Steps

- The topic, *Use of Oxytocin to Prevent and Treat Postpartum Hemorrhage*, was found to be addressed by an evidence-based guideline from the World Health Organization (WHO), a Cochrane systematic review, and an AHRQ comparative effectiveness review. Given that these existing products cover this nomination, no further activity will be undertaken on this topic.
  - World Health Organization (WHO). WHO recommendations for the prevention and treatment of postpartum haemorrhage. Geneva (Switzerland): World Health Organization (WHO); 2012. 41 p.
  - Westhoff G, Cotter AM, Tolosa JE. Prophylactic oxytocin for the third stage of labour to prevent postpartum haemorrhage. Cochrane Database of Systematic Reviews 2013, Issue 10. Art. No.: CD001808. DOI: 10.1002/14651858.CD001808.pub2.
  - Likis FE, Sathe NA, Morgans AK, Hartmann KE, Young JL, Carlson-Bremer D, Schorn M, Surawicz T, Andrews J. Management of Postpartum Hemorrhage. Comparative Effectiveness Review No. 151. (Prepared by the Vanderbilt Evidence-based Practice Center under Contract No. 290-2012-00009-I.) AHRQ Publication No. 15-EHC013-EF. Rockville, MD: Agency for Healthcare Research and Quality; April 2015. [www.effectivehealthcare.ahrq.gov/reports/final.cfm](http://www.effectivehealthcare.ahrq.gov/reports/final.cfm)

#### Topic Description

**Nominator(s):** Health care professional association  
**Nomination Summary:** The nominator is interested in determining the effectiveness of oxytocin in preventing and treating postpartum hemorrhage (PPH). The nominator is also interested in identifying the optimal dose and method of administration of oxytocin.

#### Staff-Generated PICO

##### Prevention

**Population(s):** Women considered to be high risk for PPH, all women in third or fourth stage of labor

**Intervention(s):** Oxytocin (including different dosages and methods of administration)

**Comparators(s):** Usual care (i.e., no oxytocin unless used only to induce labor) and other pharmacologic treatments (e.g., misoprostol and carbetocin)

**Outcome(s):** hemorrhage, blood loss, mortality, morbidity, excess pain

##### Treatment

**Population(s):** Women with PPH

**Intervention(s):** Oxytocin (including different dosages and methods of administration)

**Comparators(s):** Other pharmacologic treatments (e.g., misoprostol and carbetocin),

other procedures to control bleeding

**Outcome(s):** Blood loss, mortality, morbidity, excess pain

**Key Questions  
from Nominator:**

The nomination included several key questions. Based on the provided key questions; the SRC combined aspects of the questions together and formed the following key questions:

1. What is the effectiveness of oxytocin in the prevention and treatment of postpartum hemorrhage (PPH)?
  - a. For all pregnant women
  - b. For pregnant women considered to be high risk for PPH
2. What is the comparative effectiveness of different doses and methods of oxytocin administration (e.g., type, duration and route)?

## Considerations

- Postpartum hemorrhage (PPH) is one of the leading causes of maternal mortality and morbidity worldwide and accounts for nearly one-quarter of all maternal deaths.
- Active management of the third stage of labor has been recommended as an effective strategy for preventing PPH. Active management involves administering a uterotonic drug with or soon after the delivery of the anterior shoulder, controlled cord traction, and, usually, early cord clamping and cutting. Oxytocin is considered the uterotonic drug of choice for preventing PPH because it is at least as effective as ergot alkaloids or prostaglandins and has fewer side effects.
- This topic has two main areas of focus: (1) Prevention of PPH with oxytocin and (2) Treatment/management of PPH with oxytocin.

### Prevention

- In terms of prevention, the topic was found to be addressed by *WHO recommendations for the prevention and treatment of postpartum haemorrhage*. The guideline recommends that all women giving birth either vaginally or by caesarean section should use uterotonics during the third stage of labor and specifically recommends the use of oxytocin (10 IU) either intravenously or intramuscularly for prevention of PPH. The recommendations are based on moderate quality evidence.
- Prevention of PPH with oxytocin was also addressed by a Cochrane systematic review titled *Prophylactic oxytocin for the third stage of labour to prevent postpartum haemorrhage*. The review examined the use of prophylactic oxytocin to prevent PPH compared with ergot alkaloids and placebo. The results showed that prophylactic oxytocin at varying doses decreases both PPH greater than 500 mL and the need for therapeutic uterotonics compared to placebo alone. However, there is limited high-quality evidence supporting a benefit of prophylactic oxytocin over ergot alkaloids.

### Treatment/Management

- In terms of treatment/management of PPH with oxytocin, the topic was found to be addressed by a 2015 AHRQ comparative effectiveness review titled *Management of Postpartum Hemorrhage. Comparative Effectiveness Review No. 151*. Key questions from the report include:

- KQ1. What is the evidence for the comparative effectiveness of interventions for management of postpartum hemorrhage?
  - a. What is the effectiveness of interventions intended to treat postpartum hemorrhage likely due to atony?
  - b. What is the effectiveness of interventions intended to treat postpartum hemorrhage likely due to retained placenta?
  - c. What is the effectiveness of interventions intended to treat postpartum hemorrhage likely due to genital tract trauma?
  - d. What is the effectiveness of interventions intended to treat postpartum hemorrhage likely due to uncommon causes (e.g., coagulopathies, uterine inversion, subinvolution, abnormal placentation)?
- KQ2. What is the evidence for choosing one intervention over another and when to proceed to subsequent interventions for management of postpartum hemorrhage?
- KQ3. What are the harms, including adverse events, associated with interventions for management of postpartum hemorrhage?
- KQ4. What is the effectiveness of interventions to treat acute blood loss anemia after stabilization of postpartum hemorrhage?
- KQ5. What systems-level interventions are effective in improving management of postpartum hemorrhage?