



Evidence that Empowers!

By Rebecca Dekker, PhD, RN

Question: Why is Pitocin[®] sometimes given after the birth of the baby?

Answer: Pitocin[®], a synthetic form of the hormone oxytocin, is given with active management of the third stage to help the uterus contract after birth and prevent excess bleeding (called *postpartum hemorrhage*, or PPH). Pitocin[®] and other medications that cause the uterus to contract are called *uterotonics*.

When the placenta detaches from the uterine wall after birth, this leaves a placenta-sized wound on the inside of the uterus. Without effective contractions, the uterine blood vessels are left wide open and enormous amounts of blood can be lost very quickly. But when the birthing person's own natural oxytocin or Pitocin[®] continues to cause contractions, this causes the uterus to clamp down with pressure on the bleeding blood vessels where the placenta was attached—helping to prevent PPH.

Question: What is the definition of postpartum hemorrhage?

Answer: Primary postpartum hemorrhage is now being redefined based on research showing that healthy birthing people are usually unharmed by blood loss up to 1,000 mLs. The U.S. reVITALize definition for early PPH is currently **(1) blood loss of $\geq 1,000$ mL or (2) any amount of blood loss that is accompanied by signs/symptoms of hypovolemia (decreased blood volume) within 24 hours following a vaginal or Cesarean birth.** Signs/symptoms of hypovolemia may include fast heartbeat, low blood pressure, fast breathing, low urine output, unhealthy paleness, dizziness, or altered mental state.

Question: What different management options do parents have for birthing the placenta?

- **Expectant management** involves supporting the birthing person's natural release of oxytocin, waiting to clamp the umbilical cord until it has stopped pulsating (or has gone "white"), and using gravity or the birthing person's own pushing efforts to birth the placenta. Providers skilled at expectant management use many techniques to support the birthing person's own natural release of oxytocin.
- **Traditional active management** is the routine use of Pitocin[®] or another uterotonic medication, early cord clamping, controlled cord traction (pulling on the cord) to birth the placenta, and sometimes uterine massage.

- Randomized trials comparing active management with and without early cord clamping, controlled cord traction, and uterine massage have shown that the uterotonic medication is the most important part of the active management package.
- **Mixed management** combines methods from the expectant and active management approaches; for example, someone may choose delayed cord clamping and a uterotonic drug with no cord traction.

Question: What are the potential benefits and harms to active management and expectant management?

Answer: A meta-analysis of randomized trials (many trials combined into one large study) found that compared to expectant management, active management reduced the risk of blood loss greater than 1,000 mL (0.9% versus 2.4%). However, the authors called this finding "uncertain" because the evidence was considered *very low quality*. At this time, there is no evidence that active management reduces the risk of blood loss $\geq 1,000$ mL when focusing only on people considered to be at low risk of postpartum hemorrhage.

There was higher quality evidence that active management reduced the risk of blood loss greater than 500 mL (5% versus 15%), the risk of blood transfusion (1% versus 3%); and the risk of anemia after birth (4% versus 7%). As a downside, active management was also linked to an increased need for pain medication because of afterpains (5% versus 2%) and an increased risk of returning to the hospital for excess bleeding (3% versus 1%).

Question: Can delayed cord clamping occur with active management?

Answer: Yes. Early cord clamping (when the cord is clamped in the first 60 seconds after birth) has traditionally been part of the active management package, but professional organizations around the world discourage early cord clamping and no longer consider it part of an effective active management approach. Early cord clamping has been shown by randomized trials to cause harm to infants by lowering their iron stores and increasing the risk of iron-deficiency anemia. Parents can ask their care provider to leave the cord unclamped until it has stopped pulsating, regardless of whether or not they use Pitocin[®] in the third stage of labor. Waiting to give Pitocin[®] until after delayed cord clamping does not increase the risk of PPH. During delayed cord clamping, the baby should be skin-to-skin on the birthing person's abdomen or chest.





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Question: What's the bottom line?

Answer: Randomized trials show that there are both potential benefits and potential harms to active management and expectant management. The risks and benefits of each approach should be discussed with birthing families so that they can make an informed choice about their care for the third stage. Informed consent discussions should include how individual risk factors, if present, could increase risk of PPH, how unplanned birth interventions and complications could increase risk of PPH, and the birthing person's values and preferences. People with risk factors for PPH are especially likely to benefit from using Pitocin[®] in the third stage of labor. Discussions can also include what the birth setting's ability is to provide each type of third stage care.

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Table 1. Factors Linked to Increased Risk of Blood Loss $\geq 1,000$ mL

	Can be identified before labor	Identified during labor, or with the baby's birth
Stronger Risk Factors	<ul style="list-style-type: none"> Placenta that covers all or part of the opening of the cervix (placenta previa) Abnormal uterine anatomy from fibroids (non-cancerous growths in the uterus) 	<ul style="list-style-type: none"> Cervical or high vaginal tear Uterine rupture Retained placenta (part or all of the placenta remains in the uterus after a defined period of time following the birth)
Moderate Risk Factors	<ul style="list-style-type: none"> High blood pressure disorders during and/or before pregnancy Having had ≥ 5 births Pregnant with multiples First-degree relative with a history of PPH (i.e. a sister, mother). 	<ul style="list-style-type: none"> Placenta that separates from the uterine wall before birth Uterine infection Giving birth with forceps/vacuum Third or fourth degree perineal tear Giving birth by Cesarean (with or without labor) Having a baby who weighs >9 pounds, 15 ounces (4,500 grams)
Weaker Risk Factors	<ul style="list-style-type: none"> Previous Cesarean or uterine surgery High amniotic fluid levels Age <20 or ≥ 35 First-time giving birth, especially older first-time mothers Baby in a position other than head-down Giving birth at ≥ 42 weeks or <37 weeks 	<ul style="list-style-type: none"> Use of general anesthesia Use of opiates or epidural Medical induction of labor (drugs to start labor) Medical augmentation of labor (drugs to speed up labor) A surgical cut to the vagina during birth (episiotomy) Having a baby who weighs >8 pounds, 13 ounces (4,000 grams)

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The data come from population studies in the U.S., the Netherlands, Canada, Norway, Israel, and Sweden (Association of Ontario Midwives, 2016, Table 2, Page 9; Sheiner et al. 2005; Kramer et al. 2013; van Stralen et al. 2016; Oberg et al. 2014).

“Using Pitocin[®] reduces the risk of blood loss greater than 500 mL; however, it is uncertain if it reduces blood loss greater than 1,000 mL.”

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