

# Oxytocin

## Classification

 **HIGH ALERT MEDICATION**

Oxytocic agent

## Indications

- CCP: Promote uterine contractions following normal delivery
- CCP: Post-partum hemorrhage not responsive to fundal massage

## Contraindications

- Hypersensitivity
- Uterine inversion
- Placenta previa
- Abruptio placentae
- Predisposition to uterine rupture (e.g., grand multiparity, overdistention of the uterus, prior caesarian delivery, other uterine surgery)

## Adult dosages

- CCP: Promote uterine contractions following normal delivery
  - 10 U IM at the time of delivery of anterior shoulder
- CCP: Post-partum hemorrhage not responsive to fundal massage
  - 20 U into 1,000 mL normal saline
    - Infuse 500 mL as bolus, then maintain rate at up to 500 mL/hour, titrated to maintain uterine contraction and control atony

## Pediatric Considerations And Dosing

Not indicated in pediatrics

## Mechanism Of Action

Stimulates uterine contraction by activating G-protein receptors, and increases local prostaglandin production.

## Pharmacokinetics

- Onset of uterine contractions: 3-5 minutes (IM), 1 minute (IV)
- Duration: 2-3 hours (IM); 1 hour (IV)
- Half-life: 1-6 minutes

- Excretion: urine

## Adverse Effects

Cardiovascular: Cardiac arrhythmia, hypertensive crisis, hypotension, subarachnoid hemorrhage, tachycardia, ventricular premature contractions

Endocrine & metabolic: Water intoxication (severe water intoxication with seizure and coma is associated with a slow oxytocin infusion over 24 hours)

Gastrointestinal: Nausea, vomiting

Genitourinary: Postpartum hemorrhage, uterine rupture

Hematologic & oncologic: Pelvic hematoma

Hypersensitivity: Anaphylaxis

## Warning And Precautions

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WOMEN WORKING WITH OXYTOCIN, AND WHO ARE IN THE SECOND OR THIRD TRIMESTER OF PREGNANCY, MUST BE AWARE THAT OXYTOCIN MAY INDUCE UTERINE CONTRACTIONS AND LABOUR THROUGH CONTACT. USE PROPER PERSONAL PROTECTIVE EQUIPMENT WHEN HANDLING.

- In multiparous situations, do not administer until all babies have been delivered.
- May produce intrinsic antidiuretic effects.
- Use with extreme caution in hemodynamically unstable patients: arrhythmias, hypotension, myocardial ischemia, peripheral vasodilation, and tachycardia have been reported.

