

Oxytocin (Pitocin)

Oxytocin is a synthetic analog of the hormone produced in the hypothalamus that is stored and released in the posterior pituitary gland. The main functions of this hormone are to stimulate uterine contractions and to initiate milk ejection from the nipple during breastfeeding. It is given to induce labor as well as to control hemorrhage after delivery. This medication should be given in the lowest possible dose due to the increased risk of side effects. This medication should never be administered alone or without confirming cervical ripening in a pregnant patient.



PLAY PICMONIC

Mechanism of Action

Increase Uterine Contractions

Up-arrow Uterus Flexing

This medication both begins and increases the strength of uterine contractions by stimulating receptors on the uterine muscle wall. In addition, it also stimulates milk ejection from nipple.

Indications

Labor Induction

Labor Induction-duck

This medication is given in conjunction with cervical ripening medications or after the cervix is ripened to increase and strengthen contractions.

Control Postpartum Hemorrhage

Post-baby with Hemorrhage-hammer

After separation of the placenta, this medication may be indicated to control uterine bleeding as it causes contraction of the uterine wall decreasing blood flow to tissues.

Side Effects

Uterine Rupture

Uterus Rupturing

Risk of rupturing the uterine wall is possible due to the strength of the muscle contractions this medication causes. Women with multiparity >5 (more than 5 pregnancies) or any previous uterine scarring are at higher risk due to weakened uterine walls.

Water Intoxication

Water with Toxic-barrels

This medication causes antidiuretic effects on the body and prevents the formation of urine. It is important to continuously monitor urine output while administering this medication.

Contraindications

Fetal Lung Immaturity

[Fetus Missing Lungs](#)

This medication should never be given to any patient whose fetus is immature. This would be before 20 weeks of gestation or the determination of fetal lung immaturity via lab tests.

Cervix Not Ripened

[Unripened Cervix fruit](#)

Giving this medication and inducing contractions before cervical ripening may cause fetal or maternal injuries.

Active Genital Herpes Infection

[Herpes-harp with Active Infection](#)

Patients with an active genital herpes infection should never be administered this medication. These patients require cesarean delivery due to the high risk of vertical transmission of this TORCH infection.

Considerations

Use Lowest Dose

[Using Smallest Needle](#)

Using the lowest dose of this medication prevents many of the side effects. As higher doses are used the strength of contractions are also increased which may cause placental insufficiency. It also increases the risk of water intoxication and uterine rupture.

IV Pump

[IV Pump](#)

This medication is destroyed by the gastrointestinal system and must be given IV or IM route. It has a relatively short half life that, when coupled with the potency, requires the use of an IV pump at all times when this medication is administered intravenously.