

Annual Competency L&D Pharmacology

ERICA MEIER

02/2024

1

6 RIGHTS TO MEDICATION ADMINISTRATION

- ▶ Right Medication
- ▶ Right Dose
- ▶ Right Time
- ▶ Right Route
- ▶ Right Patient
- ▶ Right Documentation



2

OB PHARMACOLOGY

It is the nurse's responsibility to know the action, indications, dosage, route, adverse effects and nursing considerations for all medications administered to ensure **PATIENT SAFETY!**

3

COMMONLY USED DRUGS ON LABOR AND DELIVERY

- ▶ Cervidil
- ▶ Misoprostol
- ▶ Oxycodone
- ▶ Fentanyl
- ▶ Narcan
- ▶ Cefazolin (Ancef)
- ▶ Ephedrine
- ▶ Neosynephrine
- ▶ Ofirmev (IV Tylenol)
- ▶ Ibuprofen
- ▶ Vitamin K
- ▶ Erythromycin
- ▶ Hepatitis B Vaccine
- ▶ MMR Vaccine
- ▶ TDap Vaccine

4

MISOPROSTOL (CYTOTEC)

ACTION:	<ul style="list-style-type: none"> •Cytotec is a prostaglandin that ripens the cervix, making the connective tissue softer and causing it to begin to dilate and efface; stimulates uterine contractions.
INDICATIONS:	<ul style="list-style-type: none"> •Used for pre-induction cervical ripening (ripen cervix before oxytocin induction of labor when Bishop score <4), labor induction, or abortion; also used for postpartum hemorrhage.
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> •Available in 100 or 200 mcg tablets. Pharmacy prepares tablets to correct dose. •Recommended initial dose is 25 mcg. •Dose is inserted vaginally into the posterior vaginal fornix using pill applicator or the tips of index and middle finger •Repeat q 4 hrs up to 6 doses in a 24-hour period or until an effective contraction pattern is established., the cervix ripens, or significant adverse effects occur. •Can be used up to 1000mcg rectally for postpartum hemorrhage.
ADVERSE EFFECTS:	<ul style="list-style-type: none"> •Higher doses are more likely to result in adverse effects such as nausea and vomiting, diarrhea, fever, uterine tachysystole with or without an abnormal FHR and pattern, or fetal passage of meconium. •The risk for adverse reactions is reduced with lower dosages and longer intervals between doses.
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> •Explain procedure to the woman and her family. •Assess maternal-fetal unit, before each insertion and during treatment following protocol. •Use caution in women with history of asthma, glaucoma, or renal, hepatic or cardiovascular disorders. •Have woman void prior to insertion. •Assist woman to a supine position with a lateral tilt or a side-lying position for 30-40 minutes after insertion. •Documentation- follow protocols. •MAY NOT BE USED IN PATIENTS WITH A PRIOR UTERINE INCISION

5

OXYCODONE (Oxycontin)

ACTION:	<p>Class III Controlled substance</p> <p>Opiate receptor agonist produces a disinhibition effect</p>
INDICATIONS:	<ul style="list-style-type: none"> •Given postpartum for moderate to severe pain not controlled by ibuprofen and acetaminophen
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> •5mg or 10mg PO
ADVERSE EFFECTS:	<ul style="list-style-type: none"> •Constipation, dizziness, vertigo
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> •Use appropriate doses for patient's pain level •Pull, document and waste under appropriate patient

6

FENTANYL

ACTION:	Opioid (narcotic) agonist analgesic that stimulates both mu and kappa opioid receptors to decrease the transmission of pain impulses, rapid action with short duration (0.5 to 1 hour IVP).
INDICATIONS:	<ul style="list-style-type: none"> Used to relieve moderate to severe labor pain. Fentanyl is commonly used in combination with another anesthetic agent (Ropivacaine) for epidural pain relief
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> 50-100 mcg IVP 200 mcg with 0.1% Ropivacaine 10mL Programed Intermittent Epidural Bolus (WH) 4mcg/mL with 1/8% Bupivacaine 12mL/hr (MJE) 2mcg/mL with 0.2% Ropivacaine (FH)
ADVERSE EFFECTS:	<ul style="list-style-type: none"> Dizziness, drowsiness, allergic reactions, rash, pruritus, itching, maternal and fetal or neonatal respiratory depression, nausea and vomiting, urinary retention Decreased FHR variability Decreased reactivity
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> Less fetal effects if given during a contraction and flushed in Assess for respiratory depression Naloxone (Narcan) should be available as an antidote

7

NARCAN (NALOXONE)

ACTION:	Opiate-Receptor Antagonist
INDICATION:	Opioid Overdose <ul style="list-style-type: none"> Respiratory depression (<10 breaths per min) Extreme drowsiness
DOSE AND ROUTE	0.4mg IV push every 5 minutes PRN until desired result <ul style="list-style-type: none"> Respiration >10 SpO2 >90% (not Pregnant) ≥ 95% (pregnant) ETCO3 35-45 Alert
ADVERSE EFFECTS:	<ul style="list-style-type: none"> Flushed Dizziness Irritability Nausea, stomach pain, diarrhea
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> Must be flushed with 10mL (saline flush) Reverse pain medication. Patient may complain of increased pain think about getting another medication for pain. May need multiple dose.

8

CEFAZOLIN (ANCEF)

ACTION:	<ul style="list-style-type: none"> • Cefazolin is a parenteral first generation cephalosporin with greater activity against gram-positive bacteria than most other cephalosporins. • Cefazolin is a beta-lactam antibiotic similar to penicillins, that inhibits the third and final stage of bacterial cell wall synthesis by preferentially binding to specific penicillin-binding proteins (PBPs) that are located inside the bacterial cell wall.
INDICATIONS:	Cefazolin is typically used in the obstetric setting for surgical infection prophylaxis.
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> • A single 2g IVP dose given preoperatively for cesarean section patients • Given for GBS if low risk penicillin allergy • Given with gentamicin for Chorioamnionitis treatment if low risk penicillin allergy
ADVERSE EFFECTS:	<ul style="list-style-type: none"> • Use with caution in patients with renal impairment, as this medication is excreted by the kidneys
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> • If an allergic reaction occurs, discontinue treatment with the drug • Serious acute hypersensitivity reactions may require epinephrine, and other emergency measures including O2, IV fluids, IV antihistamines, corticosteroids, pressor amines, and airway management as clinically indicated • Contraindicated in patients with cephalosporin and cephamycin hypersensitivities

9

EPHEDRINE

ACTION:	A sympathomimetic drug; releases norepinephrine and stimulates various alpha and beta-receptors yielding a variety of actions; increases systolic and diastolic blood pressure.
INDICATIONS:	<ul style="list-style-type: none"> • Used as an intervention to correct hypotension resulting from epidural anesthesia during labor.
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> • 5-25mg by slow IV injection; may be repeated in 5-10 min intervals if necessary.
ADVERSE EFFECTS:	<ul style="list-style-type: none"> • Nervousness, anxiety, fear, agitation, restlessness, weakness, irritability, talkativeness, and insomnia, racing heart rate • Headache, respiratory difficulty, fever, pallor, nose dryness, sweating, N/V • Serious but uncommon CNS reactions – stroke, transient ischemic attack and seizures
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> • Changes in fetal heart rate have been associated with ephedrine use although clinical significance is not known. • Nurse should monitor FHR during ephedrine administration.

10

NEOSYNEPHRINE (Phenylephrine)

ACTION:	a synthetic sympathomimetic agent, is a powerful postsynaptic alpha-receptor agonist with minimal effect on the beta-receptors of the heart. It exhibits a rapid and moderately extended vasoconstrictor and mydriatic action. Its action in the heart includes elevation of the heart rate and reduction of cardiac output.
INDICATIONS:	<ul style="list-style-type: none"> Used as an intervention to correct hypotension resulting from epidural anesthesia during labor.
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> Initial dose 40-80mcg via IV push, then q10 mins PRN Max total dose 200mcg
ADVERSE EFFECTS:	<p>Cardiovascular: Angina, Cardiac dysrhythmia, Decreased cardiac output, Heart failure, Exacerbation, Hypertension, Hypertensive crisis, Ischemia, Myocardial infarction, Peripheral ischemia, Reflex bradycardia</p> <p>Dermatologic: Necrosis</p> <p>Gastrointestinal: Abdominal angina</p> <p>Immunologic: Anaphylaxis, Hypersensitivity reaction</p> <p>Respiratory: Pulmonary edema</p>
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> Nurse should monitor FHR during Neosynephrine administration.

11

Ofirmev® (Acetaminophen IV)

ACTION:	<ul style="list-style-type: none"> Centrally acting analgesic and antipyretic with minimal anti-inflammatory properties Mechanism of action of reducing pain is unknown but may be due to inhibiting central prostaglandin synthesis Mechanism of action of reducing fever is by inhibiting the formulation and release of prostaglandins in the CNS and inhibiting endogenous pyrogens at the hypothalamus
INDICATION:	<ul style="list-style-type: none"> Fever in patients unable to take oral or use rectal medications Pain in patients unable to take oral or use rectal medications
DOSE AND ROUTE:	<ul style="list-style-type: none"> Normal IV dose is 1000mg administered over 15 minutes, for patients less than 50kg dose should be based on weight (15mg/kg). Maximum total dose can be given in 24 hrs is 4000mg IV solution comes premixed already in solution, and is dispensed in a glass bottle Always administer by a pump
ADVERSE EFFECTS:	<ul style="list-style-type: none"> Nausea (34%) Vomiting (15%) Pruritis (5%) Liver failure Pneumonitis
NURSING CONSIDERATION:	<ul style="list-style-type: none"> Need to use vented IV set for this medication (glass bottle) Need to monitor patient for pain response after giving this medication Monitor the end of infusion to prevent air embolism, especially when the acetaminophen is the primary infusion Pregnancy category C

12

IBUPROFEN (Motrin)

ACTION:	<ul style="list-style-type: none"> • Nonsteroidal anti-inflammatory drug (NSAID) and anti-prostaglandin; decreases cramping • Effective for pain where inflammation has caused sensitivity of pain receptors
INDICATIONS:	<ul style="list-style-type: none"> • Used as a postpartum anti-inflammatory and subsequent pain reliever
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> • 800mg q 8hrs
ADVERSE EFFECTS:	<ul style="list-style-type: none"> • Can cause ulcers with prolonged use
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> • Offer with food or milk if GI upset occurs • Should not be initiated any sooner than 6 hours after last dose of Toradol • Contraindicated in patients with salicylate and NSAID hypersensitivities

13

VITAMIN K

ACTION:	Provides vitamin K because the newborn does not have the intestinal flora to produce this vitamin in the first week after birth. It also promotes formation of clotting factors (II, VII, IX, X) in the liver.
INDICATIONS:	<ul style="list-style-type: none"> • Prevention and treatment of hemorrhagic disease in the newborn
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> • 1.0mg/0.5ml IM injection
ADVERSE EFFECTS:	<ul style="list-style-type: none"> • Rare, however edema, erythema, and pain at injection site can occur • Hemolysis, jaundice, and hyperbilirubinemia have been reported, particularly in preterm infants
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> • Administer in the middle third of the vastus lateralis muscle • Administer within 2 hours of birth

14

ERYTHROMYCIN

ACTION:	Bacteriostatic and bactericidal antibiotic ointment that provides prophylaxis against ophthalmia neonatorum.
INDICATIONS:	Applied to all newborns to prevent ophthalmia neonatorum.
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> • Apply a 1-2cm ribbon of ointment to the lower conjunctival sac of each eye; inner canthus to outer canthus
ADVERSE EFFECTS:	<ul style="list-style-type: none"> • Can cause chemical conjunctivitis that lasts 24-48 hours; vision can be blurred temporarily
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> • Administer within 1-2 hours of birth • Observe eyes for irritation • Required by law in all states

15

HEPATITIS B

ACTION:	Induces protective anti-hepatitis B antibodies
INDICATIONS:	Immunization against infection caused by all known subtypes of hepatitis B virus (HBV)
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> • Recombivax HB, 5mg/0.5ml OR Engerix-B 10mg/0.5ml IM injection
ADVERSE EFFECTS:	<ul style="list-style-type: none"> • Rash fever, erythema, swelling and pain at injection site
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> • Parental consent must be obtained before administration • Administer in the middle third of the vastus lateralis muscle • If infant was born to HBsAg+ mother, hepatitis B immune globulin (HBIG) should be given within 12 hours of birth in addition to the Hepatitis B vaccine using separate sites • Information must be reported to the infection prevention/control so they can report to appropriate Health Department (See Newborn standard orders)

16

MEASLES/MUMPS/RUBELLA (MMR)

ACTION:	A live virus immunization
INDICATIONS:	<ul style="list-style-type: none"> Given to women postpartum who's screening resulted in non-reactive immunity or equivocal immunity
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> 0.5ml SQ injection in the outer aspect of the upper arm
ADVERSE EFFECTS:	<ul style="list-style-type: none"> Soreness at injection site Anaphylactic response is rare
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> Medication is refrigerated and must be mixed with diluent If administering concurrently with another vaccine, use different sites

17

TDAP VACCINE

ACTION:	An acellular vaccine containing a combination of tetanus and diphtheria toxoids and pertussis antigens which confer immunity by inducing the production of antibodies against these components.
INDICATIONS:	<ul style="list-style-type: none"> A booster for tetanus, pertussis and diphtheria recommended by the DCD for all adolescents and adults ages 11-64
DOSAGE AND ROUTE:	<ul style="list-style-type: none"> 0.5 ml IM in the deltoid muscle
ADVERSE EFFECTS:	<ul style="list-style-type: none"> erythema, swelling, redness at injection site, fever
NURSING CONSIDERATIONS:	<ul style="list-style-type: none"> If the postpartum patient is unsure when she received her last tetanus shot, review the vaccine information sheet for Tdap and the Tdap brochure with patient and administer the vaccine If administering concurrently with another vaccine, use different sites

18