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Paramedic OB/GYN & Pediatrics Study Guide

2025-2026 Edition - NREMT / AHA PALS / NRP Aligned
Complicated Deliveries - Neonatal Resuscitation - Pediatric ALS - OB Emergencies

OB/GYN & Pediatrics = ~10-15% of NREMT Paramedic exam
Paramedics manage complicated deliveries, NRP-level resuscitation, PALS, and time-sensitive OB emergencies

Core Paramedic OB/Peds Principle (2025-2026):
Pregnant patients and children are **two patients in one body** (mother + fetus / child). In both, prioritize airway/breathing/oxygenation, treat shock early and aggressively, and transport rapidly to the right specialty center.

Always consider the second patient (fetus/child) in every intervention.

Section 1: Obstetrics - Normal Delivery & Complications

Normal Vaginal Delivery (Paramedic Role)

1. BSI/PPE, prepare OB kit, left lateral positioning if supine hypotension
2. **Support perineum**, control head delivery
3. **Check nuchal cord** (reduce if loose; clamp/cut if tight)
4. Deliver shoulders (gentle traction)
5. **Clamp/cut cord** (delayed clamping ≥30-60 sec if vigorous baby)
6. Dry/stimulate, assess APGAR at 1/5 min
7. Deliver placenta, **fundal massage**
8. IV access, fluids if bleeding, transport

OB Emergency	Signs/Symptoms	Paramedic Interventions	Transport/Destination
Postpartum Hemorrhage	>500 mL blood loss, boggy uterus, ongoing bleeding	Fundal massage, IV fluids (1-2 L NS/LR), oxytocin 10-40 units IM/IV, TXA 1 g IV if trauma-related, bimanual compression	High-risk OB/perinatal center
Prolapsed Cord	Cord out first, fetal bradycardia	Knee-chest/Trendelenburg, manual elevation of presenting part, cover cord moist sterile, rapid transport	Emergent OB surgical center
Shoulder Dystocia	Head delivered, shoulders stuck, turtle sign	McRoberts maneuver (knees to chest), suprapubic pressure, Woods screw/Rubin if trained	OB-capable - do NOT delay transport
Eclampsia	Seizures in pregnancy, HTN, headache, vision changes	Protect airway, left lateral, magnesium sulfate 4-6 g IV over 15-20 min, BP control (labetalol/hydralazine)	High-risk perinatal center
Abruptio Placentae	Painful bleeding, uterine tenderness, fetal distress	IV fluids, high-flow O_2, left lateral, monitor fetal HR, rapid transport	OB surgical center - possible DIC risk

⚠ Supine Hypotension

Left lateral positioning mandatory after ~20 weeks. IV fluids + high-flow O_2 if hypotensive.

Section 2: Neonatal Resuscitation (NRP 2025)

Initial Steps (NRP 2025)

1. **Warm, dry, stimulate**, assess tone/breathing/HR
2. If vigorous → skin-to-skin, **delayed cord clamping ≥60 sec**
3. If not breathing/HR <100 → **PPV 40-60/min** (T-piece or BVM), target visible chest rise
4. If HR <60 after 30 sec effective PPV → **compressions (3:1 ratio, two-thumb encircling)**
5. Epinephrine 0.01-0.03 mg/kg IV/IO (1:10,000) if HR <60 after compressions + ventilation
6. Volume expansion 10 mL/kg NS if blood loss suspected

Neonatal Medications (Paramedic Level)

Medication	Dose	Indication
Epinephrine	0.01-0.03 mg/kg IV/IO (1:10,000 = 0.1-0.3 mL/kg)	HR <60 despite effective PPV + compressions
Normal Saline	10 mL/kg IV/IO bolus	Suspected hypovolemia (pale, weak pulses, no response to resuscitation)
Dextrose 10%	2 mL/kg IV	Documented hypoglycemia
Naloxone	0.1 mg/kg IV/IM	Respiratory depression from maternal opioids (after PPV established)

Effective PPV Checklist (MR SOPA)

- **M**ask adjustment (ensure seal)
- **R**eposition airway (sniffing position)
- **S**uction mouth then nose
- **O**pen mouth slightly
- **P**ressure increase
- **A**irway alternative (ETT or LMA)

Key Paramedic Neonatal Reminders

- Use **length-based tape (Broselow)** for dosing/equipment
- **PPV rate faster than adult** (40-60/min)
- Confirm placement with **waveform capnography** if advanced airway
- **Transport all resuscitated neonates** - even if recovery occurs quickly
- **APGAR** (Appearance, Pulse, Grimace, Activity, Respiration) - for documentation only, NOT to guide resuscitation

Section 3: Pediatric Advanced Life Support (PALS)

Pediatric Cardiac Arrest Algorithm

Most pediatric arrests are respiratory in origin - oxygenation is critical!

- **Shockable (VF/pVT):** Defibrillate 2 J/kg → 4 J/kg → 4-10 J/kg, epi 0.01 mg/kg q3-5min, amiodarone 5 mg/kg
- **Non-shockable (Asystole/PEA):** CPR + epi 0.01 mg/kg q3-5min, treat reversible causes
- **Compression rate:** 100-120/min, depth 1/3 AP diameter
- **Ventilation ratio:** 15:2 (two rescuers) or 30:2 (one rescuer); continuous if advanced airway

PALS Medication	Dose	Indication

Epinephrine	0.01 mg/kg IV/IO (max 1 mg) 0.1 mg/kg ET	All cardiac arrest rhythms, bradycardia unresponsive to O_2
Amiodarone	5 mg/kg IV/IO (max 300 mg)	Refractory VF/pVT
Adenosine	0.1 mg/kg (max 6 mg) → 0.2 mg/kg (max 12 mg)	Stable SVT
Atropine	0.02 mg/kg IV (min 0.1 mg, max 0.5 mg)	Bradycardia (vagal, organophosphate)
Dextrose	D10: 5 mL/kg IV D25: 2 mL/kg IV	Hypoglycemia
Midazolam	0.1-0.2 mg/kg IV/IM/IN (max 10 mg)	Seizures
Fentanyl	1-2 mcg/kg IV/IN	Pain, procedural sedation
Ketamine	1-2 mg/kg IV	Analgesia, procedural sedation
NS/LR Bolus	20 mL/kg, repeat ×2 if needed	Shock/dehydration

Key Paramedic Pediatric Differences

- **Airway:** Larger occiput → padding under shoulders. Higher larynx → straight blade preferred
- **Breathing:** Higher metabolic rate, smaller FRC → decompensate rapidly. CPAP/BiPAP for distress
- **Circulation:** Compensated shock lasts longer (tachycardia, delayed cap refill). Hypotension is late & ominous
- **Glucose:** Hypoglycemia common in AMS/seizures. D10W 2-5 mL/kg if BGL <60
- **Transport:** Pediatric trauma/PICU-capable center when possible

Section 4: Pediatric Assessment & Equipment

Broselow Tape / Length-Based Resuscitation

Use Broselow tape or length-based equipment for rapid weight estimation, drug dosing, and equipment sizing. **Measure crown to heel.**

Age	Weight (kg)	ETT Size (mm)	ETT Depth (cm)	Defib (J)
Newborn	3-4	3.0-3.5	9-10	6-8
6 months	7	3.5-4.0	10-11	14-28
1 year	10	4.0	11-12	20-40
3 years	15	4.5	13-14	30-60
6 years	20	5.0	15-16	40-80
10 years	30	6.0	17-18	60-120

Quick Formulas (Backup)

- **Weight (kg):** (Age × 2) + 8 [children 1-10 years]
- **ETT size (uncuffed):** (Age / 4) + 4
- **ETT depth:** ETT size × 3
- **Min SBP:** 70 + (Age × 2)

Section 5: High-Yield Judgment Questions

Q1: 34 weeks pregnant, prolapsed cord, fetal bradycardia on arrival.

A: Knee-chest position, manual elevation of presenting part, moist sterile cover, rapid transport to OB surgical center.

Q2: Newborn, not breathing after delivery, HR 70 bpm after stimulation.

A: PPV 40-60/min, ensure chest rise, reassess HR after 30 sec.

Q3: 6 y/o, respiratory distress, retractions, SpO_2 88% on RA, wheezing.

A: High-flow O_2, assist albuterol if prescribed, CPAP if protocol, rapid pediatric-capable transport.

Q4: 3-month-old, limp, pale, HR 180, cap refill 4 sec, mom says "just a virus."

A: Assume compensated shock → high-flow O_2, keep warm, rapid pediatric transport.

Quick OB/Peds Math Example

Question: 15 kg pediatric patient in shock. Protocol: 20 mL/kg NS bolus. How many mL?

Solution: 20 mL/kg × 15 kg = **300 mL**

Reasoning: Weight-based fluid resuscitation for shock.

Master Paramedic OB/GYN & Pediatrics

Two patients, one body (mother + fetus / child).

• **Kids hide shock** → treat tachycardia & poor perfusion aggressively
• **Pregnancy changes everything** → left lateral, rapid OB center

Practice pediatric equipment sizing (Broselow tape), delivery steps, and neonatal PPV on manikins. Reassess frequently—both populations change fast.

You're often the first person between a baby and a NICU, or a mom and an OR. Make every second count.

Stay calm. Stay gentle. Stay lifesaving.