NREMT Vitals & Medication Study Sheet — EMT and Paramedic

EMT: vitals by age · oxygen · medications · GCS & APGAR · CPR — Paramedic: arrest drugs · energies · airway & access

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HOW THIS SHEET IS ORGANIZED

Emergency Medical Technician first, then the **Paramedic** additions. Both NREMT cognitive exams are computer-adaptive — EMT 70–120 items in 2 hours, Paramedic 110–150 items in 3.5 hours — and passing is a competency determination (no percentage is published).

EMERGENCY MEDICAL TECHNICIAN — VITAL SIGNS, OXYGEN & VENTILATION

Item	Reference
Adult resting values	heart rate 60–100/min (tachycardia above 100, bradycardia below 60) · respirations 12–20/min · blood pressure near 120/80 mmHg
Toddler (2-year) / preschool (4-year)	infant (6-month): heart rate 100–160, respirations 30–60, systolic 80–110 · toddler: heart rate 90–150, respirations 24–40, systolic 80–110 · preschool: respirations 20–30, systolic 90–110 · school-age (8-year): heart rate 70–120, respirations 18–30, systolic 90–120
Hypotension & perfusion	pulse oximetry normal is roughly 94% or higher (87% on room air = significant hypoxemia) · adult hypotension: systolic of about 90 mmHg · child lowest expected systolic = 70 + (2 × age) — a 5-year-old: about 80 · capillary refill over 2 seconds = inadequate perfusion in START triage; the Cushing triad (hypertension, widening pulse pressure, bradycardia, irregular respirations) signals raised intracranial pressure

Device / item	Reference
Nonrebreather mask	10–15 L/min; fill the reservoir bag first; keep it partly inflated (a simple mask needs at least 6 L/min to flush exhaled CO2); a nasal cannula is the low-flow option, 1–6 L/min
Bag-valve mask, apneic adult with a pulse	one breath every 6 seconds (10 breaths/min); maximum concentration requires the oxygen reservoir attached

EMERGENCY MEDICAL TECHNICIAN — MEDICATIONS, SCALES & CPR

Medication	Reference
Aspirin (suspected heart attack)	162–324 mg, chewed before swallowing; requires no aspirin allergy and no recent bleeding concern
Nitroglycerin (assist, chest pain)	withhold if the patient took an erectile-dysfunction drug in the last 24–48 hours or has low blood pressure; reassess pressure and pain 5 minutes after a dose
Epinephrine auto-injector (anaphylaxis)	pressed firmly against the mid-outer (lateral) thigh and held for the device's full count; effect fades in roughly 10–15 minutes and symptoms can return — repeat per protocol; naloxone is titrated to restore adequate breathing, not full alertness
Oral glucose	by mouth only, to a conscious patient with low blood sugar who can swallow and protect the airway; recheck at about 15 minutes; charcoal is withheld for caustic ingestion and when the airway is unprotected; an assisted albuterol inhaler is shaken well before use

Item	Reference
Glasgow Coma Scale — eye & verbal	eye: spontaneous 4 · to voice 3 · to pain 2 · none 1 · verbal: oriented 5 · confused conversation 4 · inappropriate words 3 · incomprehensible sounds 2 · none 1
Glasgow Coma Scale — motor	obeys commands 6 · localizes pain 5 · withdraws 4 · abnormal flexion 3 · abnormal extension 2 · none 1; a total of 8 or less = severe brain injury, airway unprotected
APGAR	appearance, pulse, grimace, activity, respiration — each 0–2, at 1 and 5 minutes; resuscitation is not delayed for scoring; pulse: above 100 = 2, below 100 = 1, absent = 0

Rule of nines, adult	front of the torso 18%; whole torso 36%
Newborn resuscitation thresholds	positive-pressure ventilation when the heart rate is below 100 with poor breathing; compressions when it remains below 60 after about 30 seconds of effective ventilation
Adult CPR	compressions 100–120/min; depth about 2 inches (not over 2.4); full recoil
Child CPR depth & AED	depth about 2 inches, roughly one third of the chest depth; with no pediatric AED pads, use adult pads placed so they do not touch (front-and-back if needed)

PARAMEDIC — ARREST DRUGS & ELECTRICAL THERAPY

Item	Reference
Epinephrine, cardiac arrest (adult)	1 mg IV/IO every 3–5 minutes; in a non-shockable rhythm, as soon as possible; pediatric epinephrine: arrest 0.01 mg/kg IV/IO, anaphylaxis 0.01 mg/kg IM (1 mg/mL) into the lateral thigh
Amiodarone, shock-refractory VF / pulseless VT	300 mg IV/IO first dose, 150 mg second; pediatric 5 mg/kg; lidocaine (alternative) 1–1.5 mg/kg, then 0.5–0.75
Adenosine	adult: 6 mg rapid IV push with immediate flush, then 12 mg · pediatric: 0.1 mg/kg rapid push (max 6 mg), then 0.2 mg/kg (max 12 mg)
Defibrillation energy	adult: biphasic 200 J when the manufacturer recommendation is unknown; monophasic 360 J · pediatric: 2 J/kg first; subsequent 4 J/kg, up to 10 J/kg or the adult maximum
Synchronized cardioversion (biphasic)	narrow regular tachycardia 50–100 J · atrial fibrillation 120–200 J · pediatric 0.5–1 J/kg, then 1–2 J/kg
Transcutaneous pacing	for unstable bradycardia unresponsive to atropine; mechanical capture = pulse and pressure matching the paced rate (spikes + QRS = electrical capture only)

PARAMEDIC — AIRWAY, ACCESS & ALS MEDICATIONS

Item	Reference
Intraosseous access	adult proximal tibia: flat medial surface about two fingerbreadths below the tibial tuberosity; contraindications: fracture of that bone, recent prior IO attempt in it; infusion pain: slow IO 2% lidocaine
End-tidal CO2 (EtCO2)	ventilated-adult target about 35–45 mmHg; below 10 during CPR = inadequate compressions; an abrupt sustained rise = ROSC
Endotracheal tube	continuous waveform capnography is the most reliable confirmation of tracheal placement; pediatric lip depth ≈ 3 × tube size (4.5 mm: about 13.5 cm)
Hypoglycemia at ALS level	IV dextrose with patent IV access (D10: 10 g per 100 mL); glucagon IM when IV access is absent
Magnesium sulfate	severe asthma or torsades: 2 g IV over about 20 minutes · eclampsia load: 4–6 g IV over 15–30 min
Nitroglycerin, inferior-wall STEMI	withhold when right-ventricular involvement is suspected (JVD, clear lungs, hypotension); IV fluid bolus per protocol

WHAT THIS SHEET DOESN'T COVER

- Scenario judgment: assessment, treatment, and transport decisions at each level.
- Blueprint-weighted application across both exams' domains.
- Timed, full-length exam simulation (adaptive-format practice).
- An explanation for every answer — why the right answers are right and the wrong ones are wrong.
- A fresh set of questions on every attempt, so practice never repeats itself.

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Facts are from the PassProfessor NREMT question banks' verified explanations.