Medical Emergencies: Neuro, Endocrine, Blood and Infection

Paramedic recognition, drugs and destination for diabetic and thyroid crises, sickle cell and hemophilia, paralysis, stroke and seizure look-alikes, and infections that cannot wait

Medic Basics
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EVERY CALL

Glucose in anyone altered, seizing or stroke-like; 60 mg/dL or less: D10 in increments (adult max 25 g; child 5-10 mL/kg) or glucagon 1 mg. Seizure on arrival or over 5 min: midazolam 0.2 mg/kg IM/IN (max 10 mg). Basics: emt-by-complaint; sepsis: prehospital-sepsis.

DIABETES: METERS, PUMPS, LOOK-ALIKES

CONDITION	CUE CLUSTER	PARAMEDIC ACTION AND DRUG	DESTINATION
HHS	Older, type 2; days of lethargy; glucose 600+, no ketosis	NS 20 mL/kg at 1 L/h; 12-lead; no rapid correction	ED
DKA breathing	Deep fast breaths, clear lungs, low ETCO2	Glucose first, not CPAP or albuterol; NS bolus	ED
Pump failure	Pump (no long-acting insulin) kinked for hours	No waiting for a set change: NS bolus, go	ED
DKA in pregnancy	Vomiting, less insulin, Kussmaul; glucose may be under 200	Treat as DKA: fluid, 12-lead	Obstetric-capable
Beta blocker	Confused, on metoprolol, no tachycardia or tremor	Check glucose anyway: warning signs are masked	ED
CGM false low	Slept on the sensor; well; fingerstick normal	Trust the fingerstick; no glucose; recheck	Release rules
Icodextrin	Icodextrin dialysis in last 2 weeks; sweaty, confused; meter normal	Treat as low: titrated D10; tell the ED	ED
Late dumping	Bypass; sweaty, confused 1-3 h after sugar	Glucose; low: oral glucose if awake, D10 if not	ED

THYROID, SICKLE CELL, HEMOPHILIA

CONDITION	CUE CLUSTER	PARAMEDIC ACTION AND DRUG	DESTINATION
Thyroid storm	Off antithyroid drug, infection; 38 °C+, HR 130+ or fast AF, delirium	Cool, fluid, acetaminophen, no aspirin; ask medical direction before rate control	ED, early notice
Myxedema coma	Off levothyroxine; hypothermia, slow pulse, stupor	Ventilate; passive rewarming, not rapid; glucose	ED
Pain crisis	Pain like past crises	Opioid early; NS 10 mL/kg; warm; O2 only if hypoxic	ED
Acute chest	Chest pain, fever, cough, hypoxia	O2 to above 95%; analgesia; no bolus unless hypotensive	Hospital now
Sickle fever	38.5 °C+, even if well	No watching at home	ED tonight
Hemophilia joint	Tense swollen joint after a twist	Splint, IV/IN analgesia; no NSAIDs or IM	ED for factor
Hemophilia head	Any head blow; mild headache, GCS 15	Transport now; factor before CT	ED, prealert

WEAKNESS, PARALYSIS, BACK PAIN

CONDITION	CUE CLUSTER	PARAMEDIC ACTION AND DRUG	DESTINATION
Guillain-Barre	Infection weeks before; ascending weakness, no reflexes	Watch breathing (1 in 5 ventilated): ETCO2, BVM ready	ED, ICU
Myasthenia	Ptosis, poor swallow, shallow breaths after infection	Support ventilation early; no magnesium	ED, ICU
Botulism	Home-canned food 18-36 h before; diplopia, ptosis, descending; alert	ETCO2 and breathing pattern, not SpO2; assist ventilation	ED; antitoxin via health department
Tetanus	Unvaccinated, wound 3-21 days before; lockjaw, spasms, awake	Benzodiazepine; quiet; airway ready	ED, ICU
Cauda equina	Saddle numbness, retention, weak legs	Analgesia; onset times	Emergency MRI, spine surgery
Epidural abscess	Injects drugs; fever, back pain, then weakness, retention	Sepsis alert	MRI, neurosurgery

STROKE CAUSES AND LOOK-ALIKES

CONDITION	CUE CLUSTER	PARAMEDIC ACTION AND DRUG	DESTINATION
Child stroke	Sudden deficit, often sickle cell	Glucose, last known well; adult scales not validated; call ahead	Hospital able to treat a child
Carotid dissection	One-sided neck pain after a jolt; Horner that side	Stroke care; report the neck injury	Stroke center
Sinus thrombosis	Estrogen or postpartum; days of headache, seizure, weakness	Stroke scale, glucose, midazolam ready	Stroke center
Pontine bleed	Sudden headache, coma, pinpoint pupils; naloxone fails	BVM; do not treat BP	Stroke center
Spinal headache	Recent epidural; worse upright, eased flat	Recheck BP and neuro (preeclampsia, venous thrombosis)	ED
Global amnesia	Age 50-70; repeats questions; normal exam	Glucose, full stroke exam	ED for imaging
Encephalitis	Fever, odd behavior, smell aura, seizure	Midazolam, glucose, airway	ED, not psychiatry
Angle closure	Painful red eye, halos, fixed mid-dilated pupil, vomiting	Antiemetic, analgesia; avoid anticholinergics and pupil-dilating drugs	ED, ophthalmology

SEIZURE LOOK-ALIKES AND DEVICES

CONDITION	CUE CLUSTER	PARAMEDIC ACTION AND DRUG	DESTINATION
Long QT	Jerking collapse on a loud alarm, exertion or in sleep; family sudden death	Monitor, pads, 12-lead	ED, cardiology
Breath-holding	Upset toddler stops breathing, blue, limp; normal in a minute	No anticonvulsant; explain; transport if atypical	Pediatrician if typical, per protocol
VNS	Generator under the left collarbone	Swipe magnet once, under 3 s; midazolam at 5 min	Usual

INFECTION: WHO CANNOT WAIT

CONDITION	CUE CLUSTER	PARAMEDIC ACTION AND DRUG	DESTINATION
Influenza	Fever, myalgia, cough	Antivirals best within 48 h; mask	If high risk
Necrotizing fasciitis	Pain out of proportion, swelling past the red edge	Sepsis alert	Emergency surgery
Infant 8-60 days	Rectal 38.0 °C+, even if well	No NSAIDs under 6 months	ED now
Septic arthritis	Fever; will not move one joint	Splint as found, analgesia	ED
Hemorrhagic fever	Fever within 21 days of an outbreak area	One screener; VHF PPE; few procedures	Notified facility
Cerebral malaria	Fever 6-30 days after travel; coma; low glucose	IV dextrose; seizure care	ED, name the travel
Cough petechiae	Well; dots only above the nipples after coughing	Recheck skin; spread or purpura over 2 mm: sepsis	ED

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