2026-2027 PROTOCOL & POLICY UPDATES

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Updated 5/1/2026

ADULT PROTOCOLS WITH UPDATES

- S-100 Patient Management Standards
- S-101 Glossary of Terms
- S-103 BLS/ALS Ambulance Inventory
- S-104 Skills List
- P-115 Medication List
- S-121 Airway Obstruction
- S-122 Allergic Reaction / Anaphylaxis
- S-123 Altered Neurologic Function (Non-Traumatic)
- S-126 Discomfort / Pain of Suspected Cardiac Origin
- S-127 CPR / Arrhythmias
- S-133 Obstetrical Emergencies / Newborn Deliveries
- S-135 Existing Devices and Medications
- S-139 Trauma
- S-141 Pain Management
- T-460A Trauma Decision Algorithm
- S-804 First Responder Inventory

PEDIATRIC PROTOCOLS WITH UPDATES

- S-160 Airway Obstruction
- S-161 Altered Neurologic Function (Non-Traumatic)
- S-162 Allergic Reaction / Anaphylaxis
- S-166 Obstetrical Emergencies / Newborn Deliveries
- S-169 Trauma
- S-178 Existing Devices and Medications ***(NEW)***

INVENTORY & SKILLS

INVENTORY UPDATES (S-103, S-804)

- King Airway removed; ***only i-gel is approved for use***
- BLS ambulances
  - Required to carry oxygen saturation monitoring device with at least (1) adult probe and (1) pediatric probe
- ALS first responder apparatus and ALS ambulances
  - required to carry at least (1) vial ***or*** prefilled syringe of magnesium sulfate (5 gm/10 mL)

CPAP & PEEP (S-104)

- Coach patients to improve CPAP tolerance
- If intolerant → consider low-dose midazolam
  - Dose selection based on weight and severity of agitation
- ***Continuously monitor ability to maintain airway***
- EMTs can do the following ***when directed by an on-scene paramedic***:
  - Perform the CPAP skill
  - Adjust PEEP valve settings

OBSTETRICAL MANEUVERS (S-104, S-133, S-166)

Shoulder Dystocia

SHOULDER DYSTOCIA

WATCH VIDEO

OBSTETRICAL MANEUVERS (S-104, S-133, S-166)

Nuchal Cord

NUCHAL CORD

NUCHAL CORD

OBSTETRICAL MANEUVERS (S-104, S-133, S-166)

Delayed Cord Clamping

- ***Wait at least 60 seconds after delivery*** → clamp and cut cord
- Waiting ≥60 seconds → improves newborn outcomes

OBSTETRICAL MANEUVERS (S-104, S-133, S-166)

Pulse Oximetry

- Apply ***right hand or wrist (preductal)***; titrate O_2 to target table

OBSTETRICAL MANEUVERS (S-104, S-133, S-166)

Pulse Oximetry

- If HR ≥100 and SpO_2 < Target Oxygen Saturation Table
  - Blow-by oxygen
- If HR <100 and SpO_2 < Target Oxygen Saturation Table despite BVM
  - Add high-flow oxygen to BVM

TREATMENT PROTOCOLS

BLS/ALS TRANSPORT CRITERIA (S-100.2)

- Added new criteria of "Obstetrical emergencies (e.g., active labor or suspected preeclampsia/eclampsia)" to the Miscellaneous category of S-100.2
- Single therapeutic dose → BLS transport okay
  - Naloxone, ondansetron, glucagon, dextrose, or acetaminophen
- Two doses or two medications → ALS transport required

2025 AHA GUIDELINES: FBAO (S-121, S-160)

- Adult
  - 5 back blows (slaps), followed by 5 abdominal thrusts
  - For obese or pregnant patients, 5 back blows (slaps), followed by 5 chest thrusts
  - Repeat until object is expelled or patient becomes unconscious
- Pediatric
  - 5 back blows (slaps), followed by 5 abdominal thrusts
  - For infants <1 year, perform 5 back blows (slaps), followed by 5 chest thrusts
  - Repeat until object is expelled or patient becomes unconscious

ALLERGIC REACTIONS (S-122, S-162)

- EMTs can assist with patient's epinephrine auto-injector ***and/or*** albuterol MDI

- Epinephrine auto-injector 0.3 mg IM x1
  OR
  Assist patient to self-medicate own prescribed epinephrine auto-injector and/or albuterol MDI **once only**. BH contact required for additional dose(s)

SEIZURES (S-123, S-161)

- Any type of seizure → ***10 mg midazolam IM, MR in 5 min***
- ***IM is the first line route of administration***
- If IV access present → ***5 mg midazolam IV/IO, MR in 5 min***
- Status epilepticus → seizing ≥5 min or ≥2 seizures without lucid interval

Adult

Status epilepticus (actively seizing ≥5 min or ≥2 seizures without lucid interval)[1]

- IM midazolam is the first line route of administration if an IV not already established
- Midazolam 10 mg IM/IN, MR x1 in 5 min

If vascular access present

- Midazolam 5 mg slow IV/IO, MR x1 in 5 min

Pediatric

Status epilepticus (actively seizing ≥5 min or ≥2 seizures without lucid interval)[1]

- IM midazolam is the first line route of administration if an IV not already established
- Midazolam IM/IN per drug chart, MR x1 in 5 min

If vascular access present

- Midazolam slow IV/IO per drug chart, MR x1 in 5 min

CARDIOGENIC SHOCK (S-126)

Discomfort/pain of suspected cardiac origin with associated shock

- 250 mL fluid bolus IV/IO with no rales, MR to maintain SBP ≥90 mmHg Ⓐ

If BP refractory to second fluid bolus or rales present

- Push-dose epinephrine 1:100,000 (0.01 mg/mL) 1 mL IV/IO, MR q3 min, titrate to SBP ≥90 mmHg

BRADYCARDIA & CARDIAC ARREST (S-127)

- ***Removed SBP ≥100 requirement*** for pain management of pacing
  - If capture occurs and pain from pacing → treat per S-141
- Added "For traumatic arrests, treat per Adult Traumatic Cardiac Arrest algorithm in S-139 Trauma" to the footnote under the Asystole / Termination of Resuscitation category

EXISTING DEVICES & MEDS (S-135, S-178)

- Congenital Adrenal Hyperplasia → ***adrenal insufficiency***
- Added S-178 as a pediatric protocol

TRANEXAMIC ACID (TXA) (S-133, S-139, S-166)

Should be used for:

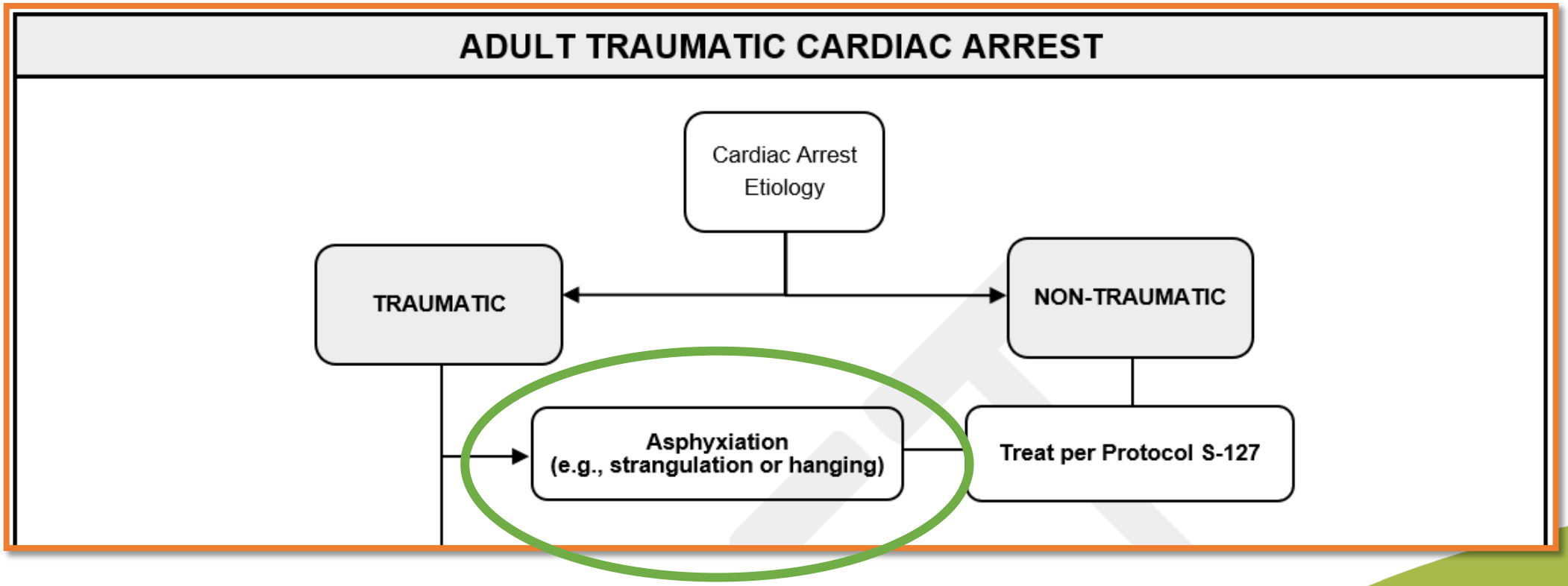
- Trauma-associated hemorrhage
- Traumatic arrest with hemorrhage
- Hypotension or SI ≥1.0 despite controlled external bleeding
- Postpartum hemorrhage

Should not be used for:

- Vaginal bleeding in suspected miscarriage

TRAUMATIC CARDIAC ARREST (S-139, S-169)

- Added "Asphyxiation (e.g., strangulation or hanging)" to the Traumatic Cardiac Arrest algorithm ***in S-139 and S-169***



TRAUMATIC CARDIAC ARREST (S-139, S-169)

- Added to provide clarification on the use of epinephrine in hangings
- Traumatic mechanism, but arrest likely due to asphyxiation
- ***Hanging = treat as medical arrest → give epinephrine***
  - Still a trauma patient (meets Special Consideration criteria)
- ***Suspected hemorrhagic etiology → do not give epinephrine***

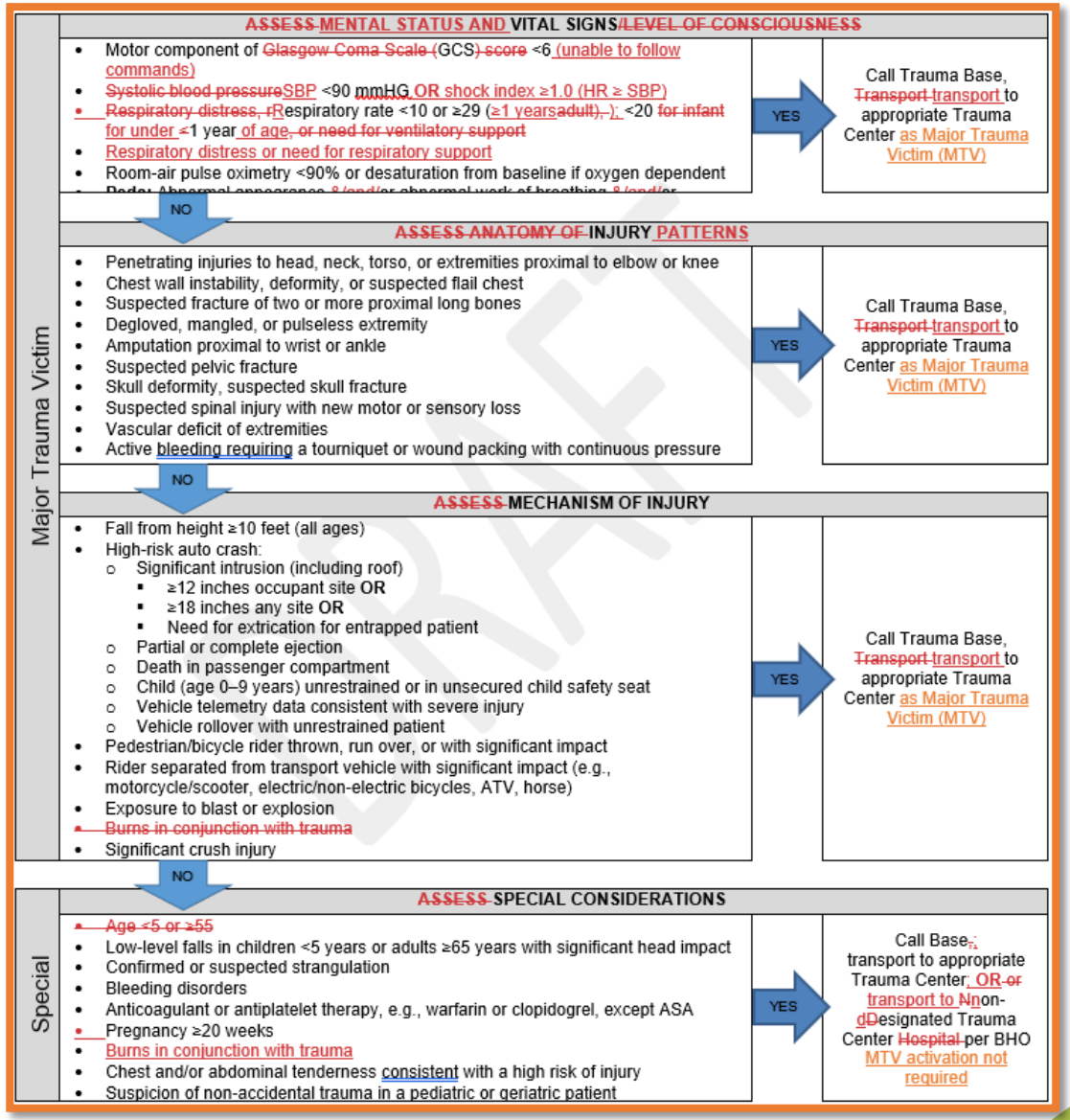
For traumatic cardiac arrest

- 1,000 mL fluid bolus IV/IO Ⓐ
- Do not administer epinephrine if suspected hemorrhagic etiology

TRAUMA DECISION ALGORITHM (T-460A)

- Added new criteria of "**OR** shock index ≥1.0 (HR ≥ SBP)"
- Updated respiratory rate criteria based on age
- Burns in conjunction with trauma → Special Considerations
- ***Removed "Age <5 or ≥55"***
- Special Considerations → ***BHO only required if not transporting to a trauma center***
- ***If concerned, transport to appropriate Trauma Center***

TRAUMA DECISION ALGORITHM (T-460A)



Major Trauma Victim

ASSESS MENTAL STATUS AND VITAL SIGNS/LEVEL OF CONSCIOUSNESS

- Motor component of Glasgow Coma Scale (GCS) score <6 (unable to follow commands)
- Systolic blood pressureSBP <90 mmHG OR shock index ≥1.0 (HR ≥ SBP)
- Respiratory distress, rRespiratory rate <10 or ≥29 (≥1 yearsadult),); <20 for infant for under <1 year of age, or need for ventilatory support
- Respiratory distress or need for respiratory support
- Room-air pulse oximetry <90% or desaturation from baseline if oxygen dependent

YES → Call Trauma Base, Transport transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS ANATOMY OF INJURY PATTERNS

- Penetrating injuries to head, neck, torso, or extremities proximal to elbow or knee
- Chest wall instability, deformity, or suspected flail chest
- Suspected fracture of two or more proximal long bones
- Degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Suspected pelvic fracture
- Skull deformity, suspected skull fracture
- Suspected spinal injury with new motor or sensory loss
- Vascular deficit of extremities
- Active bleeding requiring a tourniquet or wound packing with continuous pressure

YES → Call Trauma Base, Transport transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

ASSESS MECHANISM OF INJURY

- Fall from height ≥10 feet (all ages)
- High-risk auto crash:
  - Significant intrusion (including roof)
    - ≥12 inches occupant site **OR**
    - ≥18 inches any site **OR**
    - Need for extrication for entrapped patient
  - Partial or complete ejection
  - Death in passenger compartment
  - Child (age 0–9 years) unrestrained or in unsecured child safety seat
  - Vehicle telemetry data consistent with severe injury
  - Vehicle rollover with unrestrained patient
- Pedestrian/bicycle rider thrown, run over, or with significant impact
- Rider separated from transport vehicle with significant impact (e.g., motorcycle/scooter, electric/non-electric bicycles, ATV, horse)
- Exposure to blast or explosion
- Burns in conjunction with trauma
- Significant crush injury

YES → Call Trauma Base, Transport transport to appropriate Trauma Center as Major Trauma Victim (MTV)

NO

Special

ASSESS SPECIAL CONSIDERATIONS

- Age <5 or ≥55
- Low-level falls in children <5 years or adults ≥65 years with significant head impact
- Confirmed or suspected strangulation
- Bleeding disorders
- Anticoagulant or antiplatelet therapy, e.g., warfarin or clopidogrel, except ASA
- Pregnancy ≥20 weeks
- Burns in conjunction with trauma
- Chest and/or abdominal tenderness consistent with a high risk of injury
- Suspicion of non-accidental trauma in a pediatric or geriatric patient

YES → Call Base,; transport to appropriate Trauma Center; OR or transport to Nnon-dDesignated Trauma Center Hospital per BHO MTV activation not required

FENTANYL & KETAMINE (S-141)

- Fentanyl IN formatting revised to be consistent with IV
  - Maximum total dose → ***150 mcg IN***
- Ketamine ***maximum total doses*** added
  - Maximum total dose → ***60 mg IV***
  - Maximum total dose → ***100 mg IN***

For moderate pain (score 4-6) or severe pain (score 7-10)

Fentanyl (IV dosing)

- Up to 100 mcg IV
- MR up to 50 mcg IV q5 min x2
- Maximum total dose 200 mcg IV

Fentanyl (IN dosing)

- Up to 50 mcg IN
- MR up to 50 mcg IN q15 min x2
- Maximum total dose 150 mcg IN ~~3rd dose fentanyl up to 50 mcg IN~~

STROKE REPORTING REQUIREMENTS (S-144)

Report the following:

- BE-FAST
- FAST-ED score
- Stroke witness information
- Last known well time

Why it matters:

- Mobilizes thrombectomy team
- Reduces imaging/needle time
- Ensures correct treatment window
- Improves outcomes

MAGNESIUM SULFATE

MAGNESIUM: WHAT IT IS

- Electrolyte
- Replaces magnesium deficiencies in the body
- Magnesium is essential for the movement of other electrolytes such as sodium, calcium, and potassium through channels of cell membranes
- Used for OB emergencies, Torsades de Pointes, and severe asthma

MAGNESIUM: WHAT IT DOES

- Relaxes bronchial smooth muscle tissues
- Prolongs cardiac conduction time
- Blocks calcium channels in cardiac myocytes
- Inhibits neuroexcitatory N-methyl-D-aspartate (NMDA) receptors

MAGNESIUM: WHEN TO USE

- Preeclampsia: ***BP ↑, 20 weeks → 6 weeks postpartum***

Preeclampsia (elevated blood pressure) at ≥20 weeks gestation or up to 6 weeks postpartum

If SBP ≥140 mmHg with any of the following:

1. Severe headache
2. Vision changes including blurred vision, spots/floaters, loss of vision[1]
3. Right upper quadrant or epigastric abdominal pain

- Magnesium sulfate 4 gm in 100 mL of NS over 20 min IV/IO

OR

For asymptomatic patients with SBP ≥160 mmHg on at least two consecutive readings over ≥15 min

- Magnesium sulfate 4 gm in 100 mL of NS over 20 min IV/IO BHPO

MAGNESIUM: WHEN TO USE

- Eclampsia: ***Seizures, 20 weeks → 6 weeks postpartum***

Eclampsia (seizure) at ≥20 weeks gestation or up to 6 weeks postpartum

- Magnesium sulfate 4 gm in 100 mL of NS over 20 min IV/IO

If seizure lasts ≥5 minutes[2]

- Treat per Altered Neurologic Function (Non-Traumatic) (S-123) for status epilepticus then administer magnesium sulfate, if not already initiated

MAGNESIUM: HOW TO USE

Seizures resolved on arrival	Seizing on arrival (status epilepticus)	Seizures start after arrival
Magnesium sulfate	Midazolam	Magnesium sulfate
Midazolam (if seize again)	Magnesium sulfate	Midazolam (if seizure lasts ≥5 minutes)

MAGNESIUM: HOW TO USE

- **Seizures resolved on arrival**
  - Give magnesium to prevent further seizures
  - Give midazolam if they seize again, especially without a lucid interval
- **Seizing on arrival (status epilepticus)**
  - Give midazolam IM, then give magnesium
  - Midazolam better at stopping status epilepticus and magnesium better at preventing the next seizure
- **Seizures start after arrival**
  - Give magnesium
  - Eclamptic seizures typically last about 1 minute (tonic-clonic in nature and generally self-limited in duration)
  - Give midazolam if seizure lasts ≥5 minutes (status epilepticus)

MAGNESIUM: TIPS

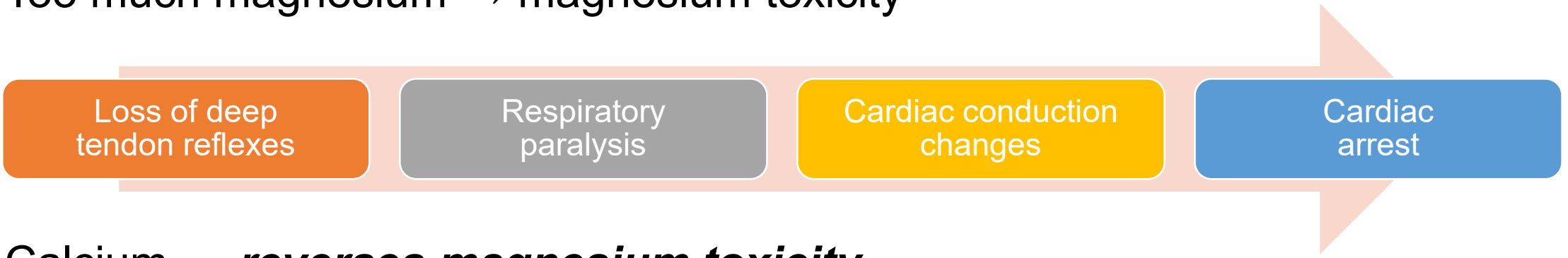
- Can be administered ***IV or IO***
- Run infusion ***over 20 minutes***
- 10mL NS flush ***before and after running magnesium***

MAGNESIUM: ADVERSE EFFECTS

- Major adverse effects → respiratory depression and dysrhythmias
  - ***Monitor the patient's respiratory status closely with $EtCO_2$***
  - Place patient on cardiac monitor
- If respiratory depression occurs, ***immediately stop magnesium infusion***

MAGNESIUM: ANTIDOTE

- Too much magnesium → magnesium toxicity



- Calcium → ***reverses magnesium toxicity***
  - ***Requires an EPE***
  - Suggested doses:
    - 500 mg to 1 gm over 5-10 minutes
    - If cardiac arrest, 1 gm over 2-5 minutes

MAGNESIUM: OTHER USES

Potential Future Protocol Expansions (Evidence-Based)

- ***Severe exacerbation*** of asthma or COPD ***after nebulized treatment***
  - 2 gm over 20 minutes
- Torsades de Pointes ***with a pulse and stable***
  - 1-2 gm over 15 minutes
- Torsades de Pointes ***without a pulse***
  - 2 gm over 1-2 minutes

MAGNESIUM: P-115 MEDICATION LIST

MAGNESIUM SULFATE

EMT	AEMT	PARAMEDIC

Classification
- Antidysrhythmic, electrolyte

Mechanism of Action
- Depresses CNS, blocks peripheral neuromuscular transmission, produces anticonvulsant effects; decreases amount of acetylcholine released at end-plate by motor nerve impulse. Slows rate of sinoatrial (SA) node impulse formation in myocardium and prolongs conduction time.

Indications
- Management of preeclampsia and eclampsia
- Protocols: S-133, S-166

Contraindications
- Myasthenia gravis
- Hypermagnesemia
- Renal failure

Adult Dose
- Magnesium sulfate 4 gm in 100 mL of NS over 20 min IV/IO

Pediatric Dose
- Not indicated for use in pediatrics

Adverse Effects
- Flushing and sweating
- Bradycardia
- Hypotension
- Respiratory and CNS depression

Notes
- Magnesium sulfate is the antiseizure medication of choice in the setting of preeclampsia/eclampsia. The primary reason for administering magnesium sulfate is to prevent recurrent seizures (i.e., prophylaxis) rather than for control of the initial seizure, which is usually short in duration.
- Preeclampsia is rare before 20 weeks gestation or after 48 hours post-delivery; however, may occur up to 6 weeks postpartum.
- Headache or shortness of breath is frequently the presenting symptom of postpartum preeclampsia. Elevated blood pressure is an inconsistent finding.
- Rarely, eclamptic seizures can present as focal or multifocal seizures.
- Seizing patients at ≥20 weeks gestation or up to 6 weeks postpartum should be assumed to have eclampsia and treated accordingly.
- Seizures consistent with other etiologies (e.g., hypoglycemia, alcohol withdrawal, known seizure history) should be treated in addition to eclampsia.
- If the patient receives too much magnesium, this may result in magnesium toxicity. Symptoms of magnesium toxicity typically appear in this order: loss of deep tendon reflexes, respiratory paralysis, cardiac conduction changes (prolongation of PR, QRS, and QT intervals), then cardiac arrest. Calcium is the antidote and reverses magnesium toxicity.
- Apply pacing pads to patients with second- or third-degree heart block requiring magnesium.

POLICY UPDATES

Policies with Revisions Effective July 1, 2026

- P-401 Paramedic Scope of Practice ***(added magnesium sulfate)***

Policies Sunsetting on July 1, 2026

- None