Pediatric Seizures

1. Follow **General Pre-Hospital Care – Treatment Protocol**
2. For focal seizures, contact Medical Control
3. **IF PATIENT IS ACTIVELY SEIZING (GENERALIZED TONIC-CLONIC):**
   - A. Protect patient from injury
   - B. Maintain airway and provide supplemental oxygen
   - C. Administer **midazolam** according to the **MI-MEDIC** Cards
     - i. If **MI-MEDIC** is unavailable, administer **midazolam** 0.1 mg/kg IM, maximum single dose 10 mg
     - ii. If IV established prior to seizure activity, administer midazolam 0.05 mg/kg IV/IO, maximum single dose of 5 mg
     - iii. Monitor Spo2, EKG, and waveform capnography (**per End Tidal Carbon Dioxide Monitoring – Procedure Protocol**) after midazolam administration
   - D. Consider trauma; If evidence or suspicion of trauma, treat according to applicable protocol in addition to treating seizures
   - E. Check blood glucose (may be MFR skill, see **Blood Glucose Testing – Procedure Protocol**)
     - i. Start IV/IO if needed
     - ii. Administer **dextrose** according to **MI-MEDIC** when blood glucose is <60 mg/dL
       1. If **MI-MEDIC** is unavailable, utilize the table below

Color	Age	Weight	Dose	Concentration	Volume		Concentration	Volume
Grey	0-2 months	3-5 kg (6-11 lbs.)	2.5g	Dextrose 12.5%	20 mL	**OR**	Dextrose 10%	25 mL
Pink	3-6 months	6-7 kg (13-16 lbs.)	3.25g	Dextrose 25%	13 mL	**OR**	Dextrose 10%	33 mL
Red	7-10 months	8-9 kg (17-20 lbs.)	4.25g	Dextrose 25%	17 mL	**OR**	Dextrose 10%	43 mL
Purple	11-18 months	10-11 kg (21-25 lbs.)	5g	Dextrose 25%	20 mL	**OR**	Dextrose 10%	50 mL
Yellow	19-35 months	12-14 kg (26-31 lbs.)	6.25g	Dextrose 25%	25 mL	**OR**	Dextrose 10%	63 mL
White	3-4 years	15-18 kg (32-40 lbs.)	8g	Dextrose 25%	32 mL	**OR**	Dextrose 10%	80 mL
Blue	5-6 years	19-23 kg (41-50 lbs.)	10g	Dextrose 25%	40 mL	**OR**	Dextrose 10%	100 mL
Orange	7-9 years	24-29 kg (52-64 lbs.)	12.5g	Dextrose 50%	25 mL	**OR**	Dextrose 10%	125 mL
Green	10-14 Years	30-36 kg (65-79 lbs.)	15g	Dextrose 50%	40 mL	**OR**	Dextrose 10%	150 mL

iii. If unable to start IV, administer **glucagon** IM/IN (if available per MCA selection), (may be EMT skill per MCA selection)

1. If **MI-MEDIC** is unavailable, utilize the table below

Glucagon administration per MCA Selection

☑ Not included

	Glucagon IM *Injectable formulation ONLY* A. Patients < 5 years of age administer **glucagon** 0.5 mg IM B. Patients ≥ 5 years of age administer **glucagon** 1 mg IM	**Glucagon** IN *Intranasal formulation ONLY* **A.** Patients < 5 years of age **Do NOT Administer** B. Patients ≥ 5 years of age administer **glucagon** 3 mg IN
EMT	☐	☐
Specialist	☐	☐
Paramedic	☐	☐

*INTRANASAL GLUCAGON ADMINISTRATION: Only glucagon that is FDA-approved for nasal administration (e.g., Baqsimi(R)) may be given by IN route. Injectable glucagon is not to be administered via IN route. EMS clinicians may assist family/patient care givers in administering glucagon that is FDA-approved for IN use, if prescribed for the patient (regardless of age).

F. If seizure persists 10 minutes after initial dose of **midazolam** and correction of low blood glucose, repeat **midazolam** one time (per MCA selection)

○ Pre-radio **midazolam** administration (without Medical Control contact)

◉ Post-radio **midazolam** administration (contact Medical Control prior to administration)

i. 0.1 mg/kg IM, maximum single dose of 10 mg
OR
ii. If IV available, 0.05 mg/kg IV/IO, maximum single dose of 5 mg

G. If seizures persist after second dose, consider underlying causes and contact Medical Control for further instructions

4. **IF PATIENT IS NOT ACTIVELY SEIZING**, monitor and treat known underlying causes, if possible

A. Check blood glucose (may be MFR skill, see **Blood Glucose Testing – Procedure Protocol**) and treat as outlined above (3. E.)

i. If blood glucose <60 mg/dL:

1. Altered, able to swallow, AND 3 months old or older – Administer oral glucose
2. Not Alert – administer dextrose according to **MI-MEDIC** or table above

B. Check temperature and refer to **Pediatric Fever – Treatment Protocol**, if applicable
C. Monitor oxygenation and mental status, administer oxygen to maintain 94% SpO2, including ventilatory support as needed according to the **Airway Management – Procedure Protocol**
    i. For patients with respiratory depression and high suspicion o opioid involvement, administer **naloxone** per **Opioid Overdose Treatment and Prevention – Treatment Protocol**
D. Consider trauma; if evidence or suspicion of trauma, treat according to applicable protocol
E. Keep environment safe for the patient, padding around the patient if possible

NOTES:

1. Instructions for diluting **dextrose**:
    A. To obtain **dextrose** 10%, discard 40 ml out of one p of D50, then draw up 40 ml of NS into the D50 ampule
    B. To obtain **dextrose** 12.5%, discard 37.5 ml out of one amp of D50, then draw 37.5 ml of NS into the D50 ampule
    C. To obtain **dextrose** 25%, discard 25 ml out of one amp of D50, then draw 25 ml of NS into the D50 ampule
    D. May utilize 10% for all ages 5 ml/kg (0.5 gm/kg) up to 250 ml, according to **Dextrose-Medication Protocol**
2. To avoid extravasation, a patent IV must be available for IV administration of **dextrose**. **Dextrose** should always be pushed slowly (e.g., over 1-2 minutes)

Medication Protocols
Dextrose
Glucagon
Midazolam
Naloxone