Bastrop County ESD #3

PCG Study Scenarios

Fifteen Field Scenarios for Practice and Study

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How to Use This Packet

Each scenario is written to be worked in a crew setting or on your own. The scenarios are built directly from Version 58 of the Bastrop County ESD #3 Patient Care Guidelines and are meant to send you back into the document rather than replace it. Work each scenario with the PCGs open.

Suggested Process

1. Read the dispatch, scene, presentation, vitals, and history. Identify the chief problem and the guideline you expect to work under before reading further.
2. Work through the Progression one step at a time. At each step, state what your credential level allows you to do, what a higher credential level would add, and what you would need to confirm in the PCGs before acting.
3. Calculate every weight-based dose in the scenario. Confirm the maximum dose, the concentration, and the rounding rule against the Formulary.
4. Answer the Discussion Questions from the PCG text, and note the section number where you found the answer.
5. Compare your list of guidelines against the Relevant PCGs table at the end of the scenario. The table is a starting point and is not exhaustive; if you used a section that is not listed, that is worth discussing.

Notes

- Patient weights, ages, and times are given so that dose calculations can be performed. Show your math.
- Credential levels referenced in the scenarios follow Section 0.3 of the PCGs: First Responder, EMT, EMT-A, P-1 Attendant Paramedic, P-2 In-Charge Paramedic, and P-3 Supervisor Paramedic.
- Destinations referenced in the scenarios should be checked against Section 1.10 (Approved Transport Destinations) rather than assumed.
- Where a scenario includes a refusal, work the Consent and Refusal guideline (1.8) in full, including the Decision-Making Capacity Tool and the high-risk refusal consult requirement.
- Answers are intentionally not included. The PCGs are the answer key.

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SCENARIO 1

Witnessed Cardiac Arrest with ROSC

Cardiovascular

Dispatch	58-year-old male, unresponsive, CPR in progress	**Time**	1420 hrs, Saturday
Location	Hardware store, Elgin	**Resources**	MICU; Bastrop/Travis County ESD 1 engine (First Responder) on scene; second MICU available 8 minutes out; Elgin PD on scene

Scene

Store employees report the patient was walking down an aisle, complained that his chest felt tight, and collapsed. A bystander started compressions within a minute. The store AED delivered one shock before your arrival. The patient is supine on a concrete floor with bystander CPR in progress. He is 58 years old and weighs approximately 95 kg. The Bastrop/Travis County ESD 1 engine crew arrives 90 seconds behind you.

Patient Presentation

Pulseless and apneic. Bystander compressions look shallow and slow. Skin is cyanotic at the lips and nail beds. No obvious trauma. Pads from the store AED are still in place in an anterior/lateral position.

Initial Vital Signs

HR	None; monitor shows coarse VF	**BP**	None
RR	0	**SpO2**	Unable to obtain
EtCO2	12 mmHg after BVM ventilations begin	**BGL**	Not obtained during initial cycles
GCS	3		

History

Wife arrives during the second cycle and reports hypertension, high cholesterol, and a 30 pack-year smoking history. He takes lisinopril and atorvastatin. No known allergies. Last meal was lunch at 1300. He had complained of indigestion off and on for two days.

Progression

1. Cycle 1: You take over compressions from the bystander and confirm VF. Your partner switches the pads to an anterior/posterior position and delivers 200 J. The Bastrop/Travis County ESD 1 engine crew arrives and takes over airway with NRB at 15 lpm and an OPA until three responders are on scene, then transitions to BVM.
2. Cycle 2: Persistent VF. Second defibrillation at 200 J. IO is established in the proximal humerus. Epinephrine 1 mg IV/IO is given after this second shock.

3. Cycle 3: Persistent VF. Third defibrillation. Amiodarone 300 mg is given. The second MICU is still 4 minutes out, so you change vectors and hold that change until a second monitor arrives.
4. Cycle 4: The second MICU arrives with a second monitor. The patient remains in VF. Dual sequential defibrillation is performed. An iGel is placed and EtCO2 jumps to 38 mmHg. At the pulse check the monitor shows a narrow complex rhythm at 92 with a palpable carotid pulse.
5. Post-ROSC: The patient is not moved for 10 minutes. Bilateral large bore IV access is obtained. An OG tube is placed and the patient is transitioned to the Z-Vent. MAP is 62 mmHg. Norepinephrine is started at 0.1 mcg/kg/min and titrated every 5 minutes. A 12-lead at 10 minutes post-ROSC shows ST elevation in II, III, and aVF with reciprocal changes; V4R is obtained. Amiodarone maintenance infusion is started at 1 mg/min in D5W. Repeat 12-leads are obtained every 5 to 10 minutes en route to a STEMI/ROSC capable facility.

Discussion Questions

1. The store AED pads were anterior/lateral. What is the primary pad placement under the PCGs, and when should the crew make the change?
2. Epinephrine timing differs between shockable and non-shockable rhythms. State the dose, the timing, and the maximum for each pathway in an adult.
3. Your crew is at the third shock with one monitor on scene. What is required after the third defibrillation, and what triggers dual sequential defibrillation once the second monitor arrives?
4. Walk through the Post-ROSC Checklist in order. What are the hemodynamic goals, and what is the first-line vasopressor for an adult?
5. The 10-minute post-ROSC 12-lead shows an inferior STEMI. What additional lead is required, and where does this patient go?
6. If the patient had remained in VF after amiodarone, what antiarrhythmic comes next and at what dose? What P-2 medication follows that?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
3.1	Cardiac Arrest (Non-Traumatic)	**3.2**	Return of Spontaneous Circulation
1.3	General Management of Cardiovascular Emergencies	**3.7**	Acute Coronary Syndrome
1.10	Approved Transport Destinations	**7.21**	Vasopressors
7.22	Zoll Z-Vent: Setup	**8.5**	Automated External Defibrillation
8.22	Manual Defibrillation	**8.11**	Dual Sequential Defibrillation
8.37	Supraglottic Airway Insertion - iGel	**8.17**	Gastric Tube Insertion
8.19	Intraosseous Insertion	**8.20**	Intravenous Cannulation
8.21	IV Pump Initiation and Maintenance	**8.1**	12-Lead ECG Interpretation

Section	Guideline	Section	Guideline
9.16	Epinephrine 1:10,000	**9.5**	Amiodarone (Cordarone)
9.29	Lidocaine 2% (Cardiac Lidocaine)	**9.31**	Magnesium Sulfate
9.35	Norepinephrine (Levophed)		

SCENARIO 2

Inferior STEMI with Right Ventricular Involvement

Cardiovascular

Dispatch	67-year-old female, chest pain and nausea	**Time**	0745 hrs, weekday
Location	Private residence, Smithville	**Resources**	MICU; Smithville VFD First Responders on scene; Smithville PD on scene

Scene

The patient is seated at her kitchen table. First Responders have her on 2 lpm by nasal cannula and report an SpO2 of 97% on room air prior to oxygen. She is pale and diaphoretic and holding a wastebasket. Her husband states the symptoms started about two hours ago while she was making coffee.

Patient Presentation

Alert and oriented. She describes epigastric pressure that she rates a 6 out of 10 with nausea and one episode of vomiting. She denies shortness of breath. Lung sounds are clear. Skin is cool and moist. Jugular venous distension is noted with the patient seated upright.

Initial Vital Signs

HR	54, regular	**BP**	96/60 (MAP 72)
RR	18	**SpO2**	97% on room air
EtCO2	36 mmHg	**BGL**	118 mg/dL
GCS	15	**Pain**	6/10

History

Type 2 diabetes, hypertension, hyperlipidemia. Takes metformin, amlodipine, and rosuvastatin. Allergic to sulfa. She chewed two 81 mg aspirin about 30 minutes ago because she thought it was heartburn. Last ate at 2100 the prior evening.

Progression

1. A 12-lead is obtained within 5 minutes of patient contact. It shows 2 mm ST elevation in II, III, and aVF with reciprocal ST depression in I and aVL. No LBBB, LVH, or paced rhythm.
2. V4R is obtained and shows 1 mm ST elevation, consistent with right ventricular involvement.
3. The remaining aspirin is administered to bring the total to 324 mg. Defibrillation pads are placed given the ECG findings and the bradycardia.
4. IV access is established. Given the RV involvement, the MAP, and the heart rate, the crew reviews the nitroglycerin formulary contraindications before making a decision.

5. En route the patient becomes more diaphoretic and BP drops to 84/50. The crew addresses the drop under the Cardiogenic Shock guideline and administers fentanyl for pain at a reduced dose.
6. The receiving STEMI center is notified through the STEMI/CVA line with a transmitted 12-lead.

Discussion Questions

1. The patient took 162 mg of aspirin 30 minutes ago. What does the PCG direct for the remaining dose?
2. What are the STEMI ECG criteria in the PCGs, and what confusers must be absent before the crew calls a STEMI?
3. Why is V4R required in this patient, and how does the result change the crew's medication decisions?
4. List the nitroglycerin contraindications from the formulary that apply to this patient right now.
5. When her BP drops to 84/50 en route, which guideline governs the response, and what is the first agent while preparing an infusion?
6. Which facilities in the Approved Transport Destinations list are STEMI/ROSC capable? What role does a Bastrop FSED play in this call?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
3.7	Acute Coronary Syndrome	**1.3**	General Management of Cardiovascular Emergencies
8.1	12-Lead ECG Interpretation	**3.3**	Dysrhythmia (Symptomatic Bradycardia)
3.10.1	Circulatory Support / Compromise: Cardiogenic Shock	**5.7**	Pain Control
5.6	Nausea / Vomiting	**1.10**	Approved Transport Destinations
7.21	Vasopressors	**8.20**	Intravenous Cannulation
8.32	Oxygen Administration	**9.6**	Aspirin
9.34	Nitroglycerin	**9.19**	Fentanyl (Sublimaze)
9.38	Ondansetron (Zofran)	**9.18**	Epinephrine Push-Dose
9.35	Norepinephrine (Levophed)		

SCENARIO 3

Anaphylaxis Refractory to IM Epinephrine

Medical

Dispatch	34-year-old male, allergic reaction, difficulty breathing	**Time**	1915 hrs, Friday
Location	Restaurant patio, State Hwy 71, Bastrop	**Resources**	MICU; Bastrop Fire Department First Responders on scene; Bastrop PD on scene

Scene

Restaurant staff have moved the patient to a bench. He ate a shrimp appetizer about 10 minutes before symptoms began. Bastrop Fire Department first responders report he is having trouble speaking in full sentences. There is a used epinephrine auto-injector on the table that a bystander administered to his thigh 3 minutes ago.

Patient Presentation

Anxious, tripoding, speaking in three-word phrases. Diffuse urticaria across the chest and arms. Lip and tongue swelling with a hoarse voice. Audible wheezing with diminished bases. Skin is flushed and warm. He weighs approximately 80 kg.

Initial Vital Signs

HR	128	**BP**	82/50 (MAP 61)
RR	30, labored	**SpO2**	89% on room air
EtCO2	48 mmHg	**BGL**	104 mg/dL
GCS	15		

History

Known shellfish allergy with one prior ED visit. Carries an auto-injector. No other medical history. No daily medications. Last meal was the appetizer.

Progression

1. Exposure plus hypotension and multiple involved body systems meets the anaphylaxis definition. Epinephrine 1:1,000 0.5 mg IM is administered on arrival. Albuterol and ipratropium are started by nebulizer.
2. IV access is established and a 10 to 20 mL/kg fluid bolus is started. Diphenhydramine is given IV after dilution.
3. At 5 minutes there is no improvement. A second IM dose of epinephrine is given. Dexamethasone and magnesium sulfate are prepared for infusion over 10 minutes.

4. After two IM doses without improvement the P-1 moves to push-dose epinephrine at 1 mcg/kg and the crew prepares an epinephrine infusion at 0.5 mcg/kg/min.
5. En route the patient becomes unresponsive with agonal respirations and requires BVM support. The crew transitions to the AMAX4 algorithm.
6. Angioedema of the face and airway persists. The crew considers TXA for angioedema after epinephrine has been given and without delaying transport.

Discussion Questions

1. State the PCG definitions for Allergic Reaction and Anaphylaxis. Which criteria does this patient meet on arrival?
2. What are the adult and pediatric IM epinephrine doses, the repeat interval, and the trigger to escalate beyond IM dosing?
3. Calculate the push-dose epinephrine dose and the starting epinephrine infusion rate for this 80 kg patient. Describe how push-dose epinephrine is mixed.
4. Which of the adjuncts in this scenario are EMT level, EMT-A level, and P-1 level?
5. The patient becomes unresponsive and requires BVM support. What algorithm applies and what are its key steps?
6. What are the conditions on TXA administration for angioedema in the PCG?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.1	Allergic Reaction / Anaphylaxis	**7.1**	AMAX4 Algorithm
1.2	General Management of Airway and Breathing Emergencies	**1.5**	General Management of Medical Emergencies
2.1	Asthma / COPD	**8.24**	Medication Administration - Intramuscular
8.20	Intravenous Cannulation	**8.7**	BVM Ventilations
8.37	Supraglottic Airway Insertion - iGel	**9.15**	Epinephrine 1:1,000
9.18	Epinephrine Push-Dose	**9.17**	Epinephrine Infusion
9.13	Diphenhydramine (Benadryl)	**9.4**	Albuterol
9.23	Ipratropium Bromide (Atrovent)	**9.10**	Dexamethasone (Decadron)
9.31	Magnesium Sulfate	**9.47**	Tranexamic Acid (TXA)
9.36	Normal Saline		

SCENARIO 4

Pediatric Severe Asthma

Airway / Breathing

Dispatch	9-year-old female, difficulty breathing	**Time**	1035 hrs, weekday
Location	Elementary school nurse's office, Cedar Creek	**Resources**	MICU; Bastrop County ESD 2 First Responders en route, 5 minutes out

Scene

The school nurse reports the child began wheezing during recess and did not improve after two puffs of her rescue inhaler. Mother has been called and is en route, about 15 minutes away. The nurse has the child seated upright with a cool cloth on her neck. The child weighs 30 kg per the nurse's records.

Patient Presentation

Sitting upright, tripoding, unable to speak more than one word at a time. Nasal flaring and suprasternal retractions. Wheezing is faint with markedly diminished breath sounds in both bases. Skin is pale with circumoral cyanosis. She appears tired.

Initial Vital Signs

HR	142	**BP**	104/68
RR	38, shallow	**SpO2**	86% on room air
EtCO2	52 mmHg	**BGL**	96 mg/dL
GCS	15, though fatiguing	**Weight**	30 kg

History

Asthma diagnosed at age 4 with two prior hospital admissions, one requiring ICU. Takes daily fluticasone and uses albuterol as needed. No allergies. Recent upper respiratory infection for the past three days. Ate breakfast at 0700.

Progression

1. Using the severity table, the crew classifies the presentation as Severe. Epinephrine 1:1,000 0.15 mg IM is administered immediately along with albuterol and ipratropium by nebulizer.
2. IV access is established. Magnesium sulfate at 40 mg/kg is diluted in 100 mL D5W and infused over 10 minutes. Dexamethasone at 0.6 mg/kg is prepared, with attention to the maximum dose.
3. At 5 minutes there is no improvement. A second IM epinephrine dose is given. The crew evaluates whether the child is a candidate for NIPPV using the pediatric criteria.
4. The patient's respiratory rate slows to 16 and she becomes drowsy with a rising EtCO2. The crew recognizes impending respiratory failure and begins assisted ventilations, reviewing the AMAX4 algorithm and the criteria for push-dose epinephrine.

5. Mother arrives as the patient is being loaded and asks whether the child can just go home once she is breathing better.

Discussion Questions

1. Using the Asthma/COPD severity table, which findings place this child in the Severe category?
2. Calculate the doses for this 30 kg patient: IM epinephrine, magnesium sulfate, dexamethasone, and push-dose epinephrine. Which of these hit a maximum before the weight-based number?
3. What is the pediatric SBP threshold for CPAP, and does this patient meet it? What contraindication becomes relevant as she fatigues?
4. Which pediatric vital signs in the 7.11 reference table would you compare against these findings?
5. Mother wants to refuse transport after the child improves. Why is this a high-risk refusal under the PCGs, and who must be consulted?
6. Who may provide consent for this minor before the mother arrives?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
2.1	Asthma / COPD	**1.2**	General Management of Airway and Breathing Emergencies
2.8	Non-Invasive Positive Pressure Ventilation (NIPPV - CPAP / BiPAP)	**7.1**	AMAX4 Algorithm
7.11	Pediatric Vital Signs	**0.5**	Adult and Pediatric Definitions
1.8	Consent and Refusal	**8.7**	BVM Ventilations
8.8	Capnography / Capnometry Monitoring	**8.24**	Medication Administration - Intramuscular
8.20	Intravenous Cannulation	**9.4**	Albuterol
9.23	Ipratropium Bromide (Atrovent)	**9.15**	Epinephrine 1:1,000
9.18	Epinephrine Push-Dose	**9.31**	Magnesium Sulfate
9.10	Dexamethasone (Decadron)		

SCENARIO 5

Acute Decompensated Heart Failure

Cardiovascular

Dispatch	72-year-old male, shortness of breath	**Time**	0310 hrs
Location	Private residence, Tahitian Village	**Resources**	MICU; Bastrop Fire Department First Responders on scene

Scene

The patient is sitting on the edge of his bed with his feet on the floor and both hands braced on the mattress. His wife says he has not been able to lie flat for two nights and has gained about eight pounds this week. Bastrop Fire Department first responders have him on a NRB. There is pink, frothy sputum on a towel next to him.

Patient Presentation

Alert and anxious, speaking in short phrases. Crackles are audible to the mid-lung fields bilaterally. Jugular venous distension is present. There is 3+ pitting edema to both lower legs. Skin is cool, pale, and diaphoretic.

Initial Vital Signs

HR	118, irregularly irregular	**BP**	212/114 (MAP 147)
RR	34, labored	**SpO2**	84% on NRB
EtCO2	31 mmHg	**BGL**	142 mg/dL
Temp	98.2°F	**GCS**	15

History

Congestive heart failure with an ejection fraction of 30%, atrial fibrillation, chronic kidney disease, and hypertension. Takes furosemide, carvedilol, apixaban, and lisinopril. He admits he ran out of furosemide four days ago. He also took tadalafil the previous evening. No allergies. Last ate at 1900.

Progression

1. The EMT initiates Direct Connect CPAP after confirming the patient meets the inclusion criteria, starting at a PEEP of 5 cmH2O and titrating upward.
2. A 12-lead is obtained before any nitrates are considered. It shows atrial fibrillation with a rapid ventricular response and no acute ST changes.
3. The P-2 evaluates the blood pressure category and reviews the nitroglycerin formulary. The patient's report of tadalafil use is discussed as the crew decides on a vasodilator strategy.
4. The crew considers enalaprilat as the available alternative within the guideline and evaluates the patient for new murmur, renal failure, ischemia, and arrhythmia as the guideline directs.
5. After 10 minutes on CPAP the SpO2 climbs to 93% and the patient is speaking in longer sentences. BP is 176/98. The receiving facility is notified that the patient is on CPAP.

Discussion Questions

1. List the Direct Connect CPAP inclusion criteria and the absolute contraindications. Does this patient qualify?
2. What blood pressure category does this patient fall into under 3.9, and what treatment sequence does the guideline lay out for that category?
3. Why does the 12-lead have to come before any nitroglycerin in this guideline?
4. The patient took tadalafil last night. Find the nitroglycerin contraindication that applies and explain what that leaves the P-2 as an option.
5. If the patient had presented with an SBP of 88, which guideline would govern the call and what would the first vasoactive agent be?
6. What are the four things every acute pulmonary edema patient must be evaluated for?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
3.9	Pulmonary Edema and Acute Decompensated Heart Failure	**2.8**	Non-Invasive Positive Pressure Ventilation (NIPPV - CPAP / BiPAP)
8.10	CPAP (Direct Connect)	**1.2**	General Management of Airway and Breathing Emergencies
1.3	General Management of Cardiovascular Emergencies	**8.1**	12-Lead ECG Interpretation
3.10.1	Circulatory Support / Compromise: Cardiogenic Shock	**7.21**	Vasopressors
8.8	Capnography / Capnometry Monitoring	**8.21**	IV Pump Initiation and Maintenance
9.34	Nitroglycerin	**9.14**	Enalaprilat (Vasotec)
9.35	Norepinephrine (Levophed)		

SCENARIO 6

Acute Stroke with Large Vessel Occlusion Findings

Medical

Dispatch	61-year-old female, possible stroke	**Time**	1150 hrs, Sunday
Location	Church fellowship hall, Elgin	**Resources**	MICU; Bastrop/Travis County ESD 1 First Responders on scene; Elgin PD on scene

Scene

The patient was serving lunch when she dropped a tray and slumped against the counter. Bystanders sat her in a chair. A friend who was talking with her states she was completely normal at 1105. Bastrop/Travis County ESD 1 first responders report a facial droop and that the patient is not answering questions appropriately.

Patient Presentation

Awake with eyes open. Right facial droop. Right arm drifts and falls within 5 seconds. She attempts to speak and produces unintelligible words. She follows simple commands with her left side. Gaze appears deviated to the left. Airway is patent and she is handling her secretions.

Initial Vital Signs

HR	88, irregular	**BP**	228/124
RR	18	**SpO2**	96% on room air
EtCO2	38 mmHg	**BGL**	112 mg/dL
Temp	98.6°F	**GCS**	E4 V2 M6 = 12

History

Per her friend: hypertension and atrial fibrillation. She stopped taking her blood thinner several months ago due to cost. Takes amlodipine. No known allergies. Last known well at 1105. Ate breakfast at 0800.

Progression

1. BGL is obtained and is normal. The crew performs and documents the Cincinnati Prehospital Stroke Scale, which is abnormal in all three components, and then completes a VAN assessment.
2. A 20 gauge IV is placed in the left forearm at or above the wrist for imaging. A 12-lead shows atrial fibrillation.
3. Blood pressure is rechecked at 5 minute intervals. Three readings taken more than 5 minutes apart remain above the treatment threshold: 228/124, 232/126, and 226/122.
4. The P-2 administers labetalol per the guideline and repeats blood pressure measurements, watching the 25% reduction ceiling.
5. During transport the patient has a 45 second generalized seizure. IV access was established before the seizure began. The crew manages it under the Seizure guideline and then repeats the neurologic exam.

6. Early notification is made through the STEMI/CVA line to a facility with the appropriate stroke designation.

Discussion Questions

1. What is the last known well time, and how does it factor into destination selection?
2. When does the PCG require a VAN assessment, and what findings in this patient make it positive?
3. What are the blood pressure treatment thresholds for suspected stroke, and how many confirmatory readings are required before labetalol?
4. State the labetalol dose, administration time, repeat interval, maximum total, and the limit on how far the pressure may be reduced.
5. The patient seizes with IV access already in place. What is the midazolam dose and route for that situation?
6. Which destinations in 1.10 carry a stroke designation, and what is the difference between a Level III (Primary) and a Level II (Advanced) center for this patient?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.12	Stroke / CVA	**7.15**	Stroke Scales
1.5	General Management of Medical Emergencies	**5.2**	Blood Glucose Management
5.11	Seizure / Convulsions	**7.7**	Glasgow Coma Scale
1.10	Approved Transport Destinations	**8.18**	Glucometer
8.20	Intravenous Cannulation	**8.1**	12-Lead ECG Interpretation
9.26	Labetalol	**9.32**	Midazolam (Versed)

SCENARIO 7

Opioid Overdose and Post-Naloxone Refusal

Medical

Dispatch	28-year-old male, unresponsive in a gas station restroom	**Time**	2240 hrs
Location	Convenience store, State Hwy 95, Bastrop	**Resources**	MICU; Bastrop County Sheriff deputy on scene; Bastrop PD en route

Scene

A Bastrop County Sheriff deputy forced the restroom door after a clerk reported the patient had been inside for 30 minutes. The patient is slumped against the wall next to the toilet. A syringe and a spoon are on the sink. The deputy has already given one 4 mg intranasal naloxone dose from his kit about one minute before your arrival.

Patient Presentation

Unresponsive to verbal and painful stimuli. Respirations are slow and shallow at 4 per minute with snoring sounds. Pupils are pinpoint. Skin is cyanotic and cool. There is a fresh puncture mark in the left antecubital fossa with several older track marks.

Initial Vital Signs

HR	56	**BP**	98/60
RR	4, shallow	**SpO2**	76% on room air
EtCO2	68 mmHg	**BGL**	88 mg/dL
Temp	97.1°F	**GCS**	3

History

Unknown on arrival. After treatment the patient states he injected heroin about 40 minutes ago and denies taking any pills. He has no medical history and takes no medications. He reports two prior overdoses, neither of which involved cardiac arrest.

Progression

1. The crew inserts an NPA and begins BVM ventilation with high-flow oxygen, prioritizing an SpO2 above 93% before any further naloxone.
2. Once oxygenation improves the EMT-A gives naloxone 0.4 mg IM. Within 3 minutes the patient's respiratory rate rises to 14 and he opens his eyes.
3. At 5 minutes he is fully alert and oriented, ambulatory, and insists that he is fine and does not want to go to the hospital. He becomes irritable when the crew explains the risks.
4. The crew works through the Isolated Opioid Overdose criteria in the Consent and Refusal guideline and assesses decision-making capacity.

5. The patient meets the inclusion criteria and is offered alternate destination referral. He declines that as well. The crew offers the additional naloxone dose that the guideline directs and documents the encounter.

Discussion Questions

1. What must be prioritized before naloxone is administered, and why?
2. State the naloxone doses and routes for the EMT and EMT-A levels in an adult, and the repeat interval.
3. List every inclusion criterion for an Isolated Opioid Overdose to be considered medically clear for alternate destination referral. Does this patient meet all of them?
4. The patient refuses both alternate destination and transport. What must the crew still offer him?
5. Which findings in the Determination of Decision-Making Capacity section would have prompted an OLMC contact had they been present?
6. If this patient had lost pulses after naloxone, which section requires Medical Director notification?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.13.1	Overdose/Toxins: Opioid	**1.8**	Consent and Refusal
1.2	General Management of Airway and Breathing Emergencies	**1.5**	General Management of Medical Emergencies
0.11	Automatic Medical Director Notification	**0.8**	Crime Scene
8.3	Airway Adjunct (NPA) Insertion	**8.7**	BVM Ventilations
8.8	Capnography / Capnometry Monitoring	**8.25**	Medication Administration - Intranasal
8.24	Medication Administration - Intramuscular	**9.33**	Naloxone (Narcan)

SCENARIO 8

Status Epilepticus

Medical

Dispatch	45-year-old male, active seizure	**Time**	1620 hrs
Location	Roadside rest area, State Hwy 21 near Camp Swift	**Resources**	MICU; Texas DPS trooper on scene

Scene

A Texas DPS trooper stopped to check on a vehicle pulled onto the shoulder and found the driver seizing in the driver's seat. The trooper moved him to the grass. The seizure has been continuous for approximately 8 minutes on your arrival. A prescription bottle of levetiracetam in the center console is nearly full and was filled six weeks ago.

Patient Presentation

Generalized tonic-clonic activity with clenched jaw, cyanosis, and copious oral secretions. Incontinent of urine. No IV access. Bleeding from a bitten tongue. He weighs approximately 80 kg.

Initial Vital Signs

HR	132	**BP**	162/96
RR	Irregular, ineffective	**SpO2**	82% (poor waveform)
EtCO2	58 mmHg	**BGL**	98 mg/dL
Temp	100.1°F	**GCS**	3 during seizure

History

Epilepsy since a head injury in his twenties. Prescribed levetiracetam twice daily. Wife reached by phone states he has been skipping doses. He drank heavily last night. No allergies. Last meal unknown.

Progression

1. With no IV access, the P-1 administers midazolam 10 mg IM. Suction and a NPA are used to manage the airway and the crew provides BVM support.
2. Seizure activity continues 4 minutes after the IM dose. IV access is obtained during the seizure. The crew reviews the guideline for the correct dose now that a line is in place.
3. The P-2 prepares levetiracetam at 60 mg/kg and infuses it over 10 minutes, rounding to the nearest 250 mg.
4. Seizure activity continues 12 minutes after the first benzodiazepine. The P-1 administers ketamine at 1 to 2 mg/kg IV with RASS documented before and after. Convulsive activity stops within 90 seconds.
5. The patient remains unresponsive with a GCS of 6 and a patent airway on an NPA with an EtCO2 of 44. The crew discusses whether to proceed to Drug Assisted Intubation or continue without an advanced airway.

6. Fifteen minutes later he begins to wake and asks the crew to let him drive home.

Discussion Questions

1. State the midazolam doses for an actively convulsing adult without IV access and with IV access. Why does the route matter?
2. Calculate the levetiracetam dose for this patient and state the infusion time and the rounding rule.
3. At what point in the PEARLs sequence does ketamine enter, and what documentation is required with it?
4. Seizures stop after ketamine. What does the guideline say about proceeding to intubation in that situation?
5. What assessments are expected during the postictal period, and why?
6. The patient wants to refuse after midazolam and levetiracetam. What does 1.8 say about this refusal?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.11	Seizure / Convulsions	**1.5**	General Management of Medical Emergencies
1.2	General Management of Airway and Breathing Emergencies	**5.2**	Blood Glucose Management
2.3	Drug Assisted Intubation	**2.5**	Post-Intubation Care
7.6	Drug Assisted Intubation Checklist	**7.13**	Richmond Agitation-Sedation Scale (RASS)
1.8	Consent and Refusal	**8.36**	Suctioning
8.3	Airway Adjunct (NPA) Insertion	**8.24**	Medication Administration - Intramuscular
8.20	Intravenous Cannulation	**9.32**	Midazolam (Versed)
9.28	Levetiracetam (Keppra)	**9.24**	Ketamine (Ketalar)

SCENARIO 9

High-Speed MVC with Hemorrhagic Shock and Tension Pneumothorax

Trauma

Dispatch	Two-vehicle collision, one patient entrapped	**Time**	1755 hrs
Location	State Hwy 21 at FM 1441, Paige	**Resources**	MICU; Heart of the Pines VFD heavy rescue on scene; P-3 Supervisor en route; PHI Air Medical placed on standby

Scene

A sedan struck a pickup that turned in front of it at highway speed. The sedan driver, a 34-year-old female weighing approximately 70 kg, is restrained and entrapped with 18 inches of intrusion on the driver's door. The pickup driver is ambulatory and refusing care. Heart of the Pines VFD heavy rescue performs extrication over 14 minutes. During extrication the patient's mental status declines.

Patient Presentation

After extrication: pale, diaphoretic, confused, and combative. Open right femur fracture with bright red pulsatile bleeding. Right chest wall is tender with crepitus, absent breath sounds on the right, and tracheal deviation to the left. Abdomen is distended and rigid. Pelvis is stable.

Initial Vital Signs

HR	138	**BP**	72/40 (MAP 51)
RR	34, shallow	**SpO2**	84% on NRB
EtCO2	22 mmHg	**BGL**	162 mg/dL
GCS	E3 V4 M5 = 12	**Pain**	Unable to rate; grimacing

History

No known medical history per driver's license and a medical alert app on her phone. No known allergies. Approximately 12 weeks pregnant per the app. Last ate at 1300.

Progression

1. During extrication a tourniquet is applied to the right thigh with the application time noted. The patient cannot be cleared under the Canadian C-Spine Rule, so spinal motion restriction is maintained.
2. The P-1 performs needle decompression of the right chest with immediate rush of air and improvement in SpO2. The P-2 prepares for finger thoracostomy if the decompression fails.
3. Bilateral IV access is obtained. The patient meets Trauma Red criteria on multiple points. TXA 2 g IV is administered given injury within the last 3 hours.

4. The P-2 confirms the Adult Blood Product Inclusion Criteria are met and initiates LTOWB, making sure the line is not running Lactated Ringer's. Calcium gluconate is prepared for administration after the first unit.
5. Norepinephrine is initiated after the first unit of blood with MAP still below goal. Pain is addressed with a ketamine bolus with RASS documented.
6. The helicopter is launched and the patient is flown to a Level I trauma center with early notification of the pregnancy.

Discussion Questions

1. List the Trauma Red criteria this patient meets. What does Trauma Red direct for destination?
2. What findings prompt needle decompression, and what is the P-2 alternative if needle decompression fails? What contraindication does 8.15 list for finger thoracostomy, and does this patient raise that concern?
3. State the TXA dose, the time window for administration, and the age restriction.
4. What fluid is incompatible with LTOWB? What medication follows the first unit, and at what dose and rate?
5. When does the guideline direct norepinephrine versus continued blood product administration, and what is the push-dose agent while an infusion is prepared?
6. The patient is approximately 12 weeks pregnant. Does the pregnancy risk factor in 7.18 apply, and what notification is expected?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
1.4	General Management of Trauma Emergencies	**3.10.2**	Circulatory Support / Compromise: Hemorrhagic Shock
3.10.6	Circulatory Support / Compromise: Blood Product Administration	**7.18**	Trauma Alert Criteria
4.4	Chest Trauma	**4.5**	Abdominal Trauma
4.6	Extremity Trauma	**4.3**	Spinal Trauma
5.7	Pain Control	**1.10**	Approved Transport Destinations
0.11	Automatic Medical Director Notification	**8.6**	Bleeding Control and Tourniquet Application
8.30	Needle Decompression	**8.15**	Finger Thoracostomy
8.19	Intraosseous Insertion	**8.20**	Intravenous Cannulation
8.35	Spinal Motion Restriction Clearance	**9.47**	Tranexamic Acid (TXA)
9.30	Low-Titer O-Negative Whole Blood (LTOWB)	**9.8**	Calcium Gluconate
9.35	Norepinephrine (Levophed)	**9.18**	Epinephrine Push-Dose
9.24	Ketamine (Ketalar)		

SCENARIO 10

Geriatric Ground-Level Fall on Anticoagulants

Trauma

Dispatch	81-year-old female, fall with head injury	**Time**	0655 hrs
Location	Assisted living facility, Smithville	**Resources**	MICU; Smithville VFD First Responders notified; Smithville PD on scene

Scene

Facility staff found the patient on the bathroom floor at 0630. She states she slipped on the tile getting out of the shower and hit the back of her head on the toilet. Staff report she was initially fine but has become more confused over the last 20 minutes and vomited once. She is seated on the bathroom floor with a towel around her.

Patient Presentation

Awake but slow to respond, repeating the same questions. A 4 cm hematoma is present on the right occiput with no active bleeding. Pupils are equal and reactive on initial exam. She complains of a headache and neck stiffness. No focal weakness on initial exam.

Initial Vital Signs

HR	68	**BP**	104/62
RR	16	**SpO2**	95% on room air
EtCO2	40 mmHg	**BGL**	128 mg/dL
Temp	97.8°F	**GCS**	E4 V4 M6 = 14

History

Atrial fibrillation, hypertension, osteoporosis. Takes apixaban, metoprolol, and alendronate. Allergic to penicillin. Ate dinner at 1800 the prior evening.

Progression

1. The crew reviews the Canadian C-Spine Rule and determines that she cannot be cleared. A cervical collar with spinal motion restriction is applied. A long spine board is used only to move her out of the bathroom.
2. The crew keeps her head elevated above 30 degrees and applies oxygen to keep SpO2 above 95%.
3. The EMT-A recognizes the SBP as below the hypotension threshold for her age group and begins a fluid bolus.
4. Ten minutes into transport her GCS drops to 11 (E3 V3 M5). The right pupil is now 5 mm and sluggish compared to the left at 3 mm. Blood pressure is 158/92 with a heart rate of 52 and an irregular breathing pattern.

5. The P-2 recognizes signs of herniation and administers levetiracetam for seizure prophylaxis while preparing for a possible airway intervention.
6. Ondansetron is given for continued nausea. The crew selects a trauma center and calls ahead with the anticoagulant history.

Discussion Questions

1. The crew attempts to apply the Canadian C-Spine Rule. Which contraindication to clearance in 8.35 does this patient have, and what high-risk factor in the rule would apply even if she could be cleared?
2. What is the hypotension threshold for a head injury patient over 65, and why does the guideline treat a single hypotensive reading as significant?
3. Name the three findings that each double the chance of death in head injury. Does this patient show any of them on arrival, and how does her SBP of 104 fit against the age-based threshold in the guideline?
4. List the seizure prophylaxis criteria in 4.2. Which ones does this patient meet after her deterioration, and what is the levetiracetam dose and rate?
5. Is she a Trauma Red, Trauma Yellow, or EMS Judgment patient? Cite the specific criteria.
6. Which destinations in 1.10 carry a trauma designation, and what level should this patient go to?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
4.2	Head Trauma	**4.3**	Spinal Trauma
1.4	General Management of Trauma Emergencies	**7.18**	Trauma Alert Criteria
7.7	Glasgow Coma Scale	**5.11**	Seizure / Convulsions
5.6	Nausea / Vomiting	**2.3**	Drug Assisted Intubation
1.10	Approved Transport Destinations	**8.35**	Spinal Motion Restriction Clearance
8.32	Oxygen Administration	**8.20**	Intravenous Cannulation
9.28	Levetiracetam (Keppra)	**9.38**	Ondansetron (Zofran)
9.36	Normal Saline	**9.27**	Lactated Ringer's

SCENARIO 11

Structure Fire Burn with Inhalation Injury

Trauma

Dispatch	Residential structure fire, one occupant rescued	**Time**	0215 hrs
Location	Single-family home, McDade	**Resources**	MICU; Heart of the Pines VFD on scene; Bastrop County ESD 2 engine responding; P-3 Supervisor on scene; Starflight requested

Scene

Heart of the Pines VFD firefighters carried the patient out of a smoke-filled bedroom. He is a 46-year-old male weighing approximately 90 kg. He was found on the floor near the bed in a room that was fully involved on one side. Fire crews report a space heater as the suspected origin. The patient is lying on a tarp in the front yard.

Patient Presentation

Awake and agitated with a hoarse voice and a persistent cough producing carbonaceous sputum. Singed nasal hairs and eyebrows. Partial and full thickness burns to the face, anterior chest, and circumferentially on both arms. Wearing a wedding ring on a burned hand. Wheezing on auscultation. Skin outside the burns is pale.

Initial Vital Signs

HR	126	**BP**	138/86
RR	28	**SpO2**	98% (pulse oximetry unreliable in this setting)
EtCO2	40 mmHg	**BGL**	138 mg/dL
GCS	14	**Pain**	9/10

History

No known medical history. Social alcohol use; he admits he had been drinking before falling asleep. No medications. No known allergies. Last ate at 2200.

Progression

1. The crew calculates TBSA using the Burn Tool and estimates 27%. The burns are covered with dry sterile dressings. The ring is removed.
2. Bilateral IV access is established and fluids are started at the adult rate for burns 10% TBSA or greater.
3. The P-1 recognizes facial burns, inhalation injury, and the fire environment and initiates hydroxocobalamin at 70 mg/kg over 30 minutes.
4. Pain is managed with fentanyl and a low-dose ketamine bolus with RASS documented.

5. The patient's voice becomes progressively more hoarse and stridor develops. The P-2 makes the decision to proceed with Drug Assisted Intubation using the checklist, anticipating a difficult airway.
6. Post-intubation the patient is placed on the Z-Vent, sedated, and flown to a burn center. The circumferential arm burns are reassessed for distal perfusion throughout.

Discussion Questions

1. What dressing does the guideline call for at this TBSA, and at what threshold does the dressing type change?
2. State the fluid rate for this patient and compare it with the rates for the 6 to 14 and 5 and under age groups.
3. Calculate the hydroxocobalamin dose for this patient. What is the infusion time and the repeat criteria?
4. Which findings direct the P-2 to strongly consider Drug Assisted Intubation? Walk through the DAI checklist items that matter most in a burned airway.
5. Why is the pulse oximetry reading of 98% unreliable here?
6. Under Trauma Alert Criteria, where do burn patients go, and how does the presence of trauma concerns change that?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
4.7	Burn Injuries (Chemical / Electrical / Thermal)	**1.4**	General Management of Trauma Emergencies
1.2	General Management of Airway and Breathing Emergencies	**2.3**	Drug Assisted Intubation
2.5	Post-Intubation Care	**2.6**	Mechanical Ventilation
7.6	Drug Assisted Intubation Checklist	**7.9**	Intravenous Fluid Therapy
7.18	Trauma Alert Criteria	**7.22**	Zoll Z-Vent: Setup
5.7	Pain Control	**5.13.7**	Overdose/Toxins: Cyanide
5.13.9	Overdose/Toxins: Other	**1.10**	Approved Transport Destinations
8.31	Orotracheal Intubation	**8.38**	Surgical Cricothyrotomy
8.20	Intravenous Cannulation	**8.19**	Intraosseous Insertion
9.21	Hydroxocobalamin (B12 / Cyanokit)	**9.19**	Fentanyl (Sublimaze)
9.24	Ketamine (Ketalar)	**9.44**	Rocuronium (Zemuron)

SCENARIO 12

Septic Shock from a Urinary Source

Medical

Dispatch	79-year-old male, altered mental status, fever	**Time**	1330 hrs
Location	Skilled nursing facility, Bastrop	**Resources**	MICU; Bastrop Fire Department First Responders on scene; Bastrop PD on scene

Scene

Nursing staff report the patient has been more lethargic since the morning medication pass and spiked a fever at lunch. He has an indwelling Foley catheter that was last changed three weeks ago. The collection bag contains cloudy, foul-smelling urine with sediment. He is in bed with the head elevated. He weighs approximately 70 kg.

Patient Presentation

Drowsy, arouses to voice, oriented to person only. Skin is hot, flushed, and dry with delayed capillary refill. Mucous membranes are dry. Lung sounds are clear. Abdomen is soft with suprapubic tenderness.

Initial Vital Signs

HR	118	**BP**	84/48 (MAP 60)
RR	26	**SpO2**	93% on room air
EtCO2	22 mmHg	**BGL**	188 mg/dL
Temp	102.8°F	**GCS**	E3 V4 M6 = 13

History

Benign prostatic hypertrophy with chronic urinary retention, type 2 diabetes, coronary artery disease, and a prior stroke with residual left-sided weakness. Takes tamsulosin, metformin, aspirin, and atorvastatin. Allergic to sulfa. Ate a partial breakfast at 0800.

Progression

1. The crew identifies SIRS criteria and then the additional criteria for Sepsis. A 12-lead shows sinus tachycardia.
2. Bilateral IV access is established. The EMT-A begins a 20 mL/kg fluid bolus with warmed fluid and prepares to repeat toward the maximum total.
3. The P-1 administers IV acetaminophen for the fever. The P-2 begins ceftriaxone over 30 minutes after confirming the allergy history.

4. After 40 mL/kg the MAP remains 58 mmHg. The P-2 starts norepinephrine at 0.05 to 0.15 mcg/kg/min through an IV pump and titrates every 5 minutes, using push-dose epinephrine while the infusion is prepared.
5. En route the norepinephrine IV site becomes swollen and pale. The crew manages the extravasation per the reference and establishes a new line.
6. The receiving facility is given a sepsis pre-alert.

Discussion Questions

1. List the SIRS inclusion criteria and the Sepsis inclusion criteria. Which does this patient meet?
2. What is the fluid bolus dose and the maximum total volume under 5.5? How much has the patient received when the crew moves to a vasopressor?
3. State the ceftriaxone dose and infusion time. What does the guideline say about pediatric dosing?
4. What are the norepinephrine starting range, titration interval, and the threshold for adding epinephrine as a secondary agent?
5. What does the Vasopressor Extravasation reference direct when the norepinephrine line infiltrates?
6. Both acetaminophen formulations appear in 5.5. Why does the crew choose the parenteral formulation here?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.5	Fever / SIRS / Sepsis	**3.10.5**	Circulatory Support / Compromise: Septic Shock
1.5	General Management of Medical Emergencies	**7.21**	Vasopressors
7.20	Vasopressor Extravasation	**7.9**	Intravenous Fluid Therapy
5.2	Blood Glucose Management	**0.7**	Infectious Disease
8.20	Intravenous Cannulation	**8.21**	IV Pump Initiation and Maintenance
8.8	Capnography / Capnometry Monitoring	**8.1**	12-Lead ECG Interpretation
9.1	Acetaminophen (Ofirmev)	**9.9**	Ceftriaxone (Rocephin)
9.35	Norepinephrine (Levophed)	**9.17**	Epinephrine Infusion
9.18	Epinephrine Push-Dose	**9.36**	Normal Saline
9.27	Lactated Ringer's		

SCENARIO 13

Violently Combative Patient with Stimulant Intoxication

Medical / Psychiatric

Dispatch	29-year-old male, combative, law enforcement requesting EMS	**Time**	0340 hrs
Location	Rural property, Rosanky	**Resources**	MICU; Bastrop County Sheriff on scene (two deputies); P-3 Supervisor en route

Scene

Bastrop County Sheriff deputies responded to a disturbance call and found the patient shirtless in a gravel driveway, screaming and throwing rocks at vehicles. Two deputies have him prone on the ground with handcuffs applied behind his back after a struggle. He continues to thrash, kick, and yell incoherently. A family member states he has been awake for three days using methamphetamine. He weighs approximately 85 kg.

Patient Presentation

Extremely agitated, screaming, and attempting to strike anyone within reach. Diaphoretic with skin that is hot to the touch. Pupils are widely dilated. He is not responding to verbal de-escalation. Superficial abrasions to both knees and forearms from the struggle.

Initial Vital Signs

HR	156 (obtained after sedation)	**BP**	178/104 (after sedation)
RR	32	**SpO2**	Unable to obtain until sedated; 95% after
EtCO2	Not obtainable until sedated; 30 mmHg after	**BGL**	142 mg/dL (after sedation)
Temp	104.6°F (after sedation)	**RASS**	+4 on arrival

History

Per family: methamphetamine use disorder and a history of a similar episode one year ago. No known medical conditions. No known medications. No known allergies. Last meal unknown.

Progression

1. The P-2 documents a RASS of +4 and determines that the patient meets the criteria for the Violently Combative guideline. With deputies maintaining control, ketamine is administered IM at 4 mg/kg rounded to the nearest 50 mg.
2. Within 4 minutes the patient is sedated. He is immediately moved from a prone position to supine, restrained to the stretcher with soft restraints, and placed on continuous monitoring with capnography.
3. The crew documents a post-sedation RASS. The core temperature is 104.6°F. The crew identifies the applicable hyperthermia band under 5.3 and begins fluid therapy, with TACO available if the core temperature climbs above 105°F.

4. Fifteen minutes into transport the patient begins to emerge with screaming, fear, and thrashing against the restraints. The P-2 treats this as an emergence reaction.
5. As the RASS declines the crew titrates further sedation toward a RASS of -2 to 0 using the Combative Patient guideline.
6. The P-3 confirms whether the patient is in law enforcement custody and how that affects the restraint requirements. The crew reviews whether any element of the call requires Medical Director notification.

Discussion Questions

1. State the two restraint rules at the top of 5.9 and 5.10, including the law enforcement custody exception. How do they apply once the deputies hand the patient to EMS?
2. Calculate the IM ketamine dose for this 85 kg patient, apply the rounding rule, and state the maximum. How does the IV dose differ?
3. What RASS documentation is required, and where in 0.6 is that requirement stated?
4. Describe the first-line treatment for an emergence reaction and the dose range.
5. Which hyperthermia band does this patient fall into under 5.3, and what changes in the guideline if his core temperature crosses 105°F?
6. Which items in 0.11 would trigger a Medical Director notification on this call if they occurred?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.10	Psychiatric (Violently Combative)	**5.9**	Psychiatric (Combative Patient)
5.8	Psychiatric (Anxiety & Psychiatric Management)	**5.13.3**	Overdose/Toxins: Stimulants & Alcohol Withdrawal
5.3	Environmental (Hyperthermia)	**7.13**	Richmond Agitation-Sedation Scale (RASS)
7.17	Transportation of Restrained Patients	**0.6**	Documentation of Vital Signs
0.11	Automatic Medical Director Notification	**1.5**	General Management of Medical Emergencies
8.8	Capnography / Capnometry Monitoring	**8.24**	Medication Administration - Intramuscular
8.40	Tarp-Assisted Cooling with Oscillation (TACO)	**9.24**	Ketamine (Ketalar)
9.32	Midazolam (Versed)	**9.20**	Haloperidol (Haldol)
9.13	Diphenhydramine (Benadryl)	**9.37**	Olanzapine (Zyprexa)

SCENARIO 14

Precipitous Field Delivery with Postpartum Hemorrhage

Obstetrical / Neonatal

Dispatch	26-year-old female, in labor, imminent delivery	**Time**	0450 hrs
Location	Private residence on a county road, Red Rock	**Resources**	MICU; Bastrop County Sheriff deputy en route; second MICU requested for the newborn

Scene

The patient is on the bathroom floor of a rural home 35 minutes from the nearest hospital with obstetrical capabilities. Her partner states contractions started two hours ago and are now less than a minute apart. She is G3P2002 at 39 weeks by her last prenatal visit. On arrival the crew observes crowning with each contraction.

Patient Presentation

Alert, in obvious distress, and bearing down. Crowning is present. Membranes are ruptured with clear fluid. No visible cord. She reports an uncomplicated pregnancy with prenatal care.

Initial Vital Signs

HR	108	**BP**	132/84
RR	24	**SpO2**	98% on room air
BGL	96 mg/dL	**Temp**	98.9°F
GCS	15		

History

Two prior term vaginal deliveries without complication. No medical history. Takes prenatal vitamins. No allergies. Last ate at 2100. Estimated due date is in five days.

Progression

1. The crew prepares for delivery on scene. The infant delivers head first with a single loop of nuchal cord that is slipped over the head. Time of birth is 0458.
2. The newborn is dried, warmed, and suctioned with a bulb aspirator, oropharynx first and then the nares. The infant is initially limp with a heart rate of 88. The crew supports ventilations and reassesses.
3. At 1 minute the APGAR is 5. By 5 minutes, with ventilatory support and blow-by oxygen, the infant is crying with a heart rate of 150 and an APGAR of 8.
4. The placenta delivers at 0512 and appears intact. Within minutes the mother has brisk vaginal bleeding that soaks two pads. The EMT palpates a boggy fundus and begins fundal massage. The crew encourages the mother to nurse the infant.

5. The P-2 administers oxytocin 10 units IM to the mother. The P-1 administers TXA 2 g IV given the birth occurred within the last 3 hours. Bilateral IV access is established and the crew begins treating for hypovolemic shock.
6. Bleeding slows but the mother's heart rate rises to 128 with a BP of 88/54. The P-2 evaluates the Adult Blood Product Inclusion Criteria and considers LTOWB. The crew completes the emergency childbirth documentation and selects destinations for both patients.

Discussion Questions

1. Interpret G3P2002 using the GTPAL definitions in 6.1.
2. Walk through the newborn management steps in order. When does the guideline direct ventilatory support for the infant?
3. Score the 1-minute and 5-minute APGARs from the scenario. When are additional scores required beyond 5 minutes?
4. What are the EMT, P-1, and P-2 interventions for postpartum hemorrhage, in order of credential level?
5. State the TXA dose and the time window that applies to postpartum hemorrhage.
6. List the emergency childbirth documentation elements required by 6.5. Which destination designations in 1.10 apply to the mother and to the newborn?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
6.4	Emergency Delivery	**6.5**	Newborn Management
6.3.4	Maternal Emergencies: Postpartum Hemorrhage	**6.1**	Obstetrical Transport Strategies
1.6	General Management of Obstetrical and Neonatal Emergencies	**7.2**	APGAR Score
7.10	Pediatric Transport	**3.10.2**	Circulatory Support / Compromise: Hemorrhagic Shock
3.10.3	Circulatory Support / Compromise: Hypovolemic Shock	**3.10.6**	Circulatory Support / Compromise: Blood Product Administration
1.10	Approved Transport Destinations	**8.33**	Postpartum Fundal Massage
8.36	Suctioning	**8.7**	BVM Ventilations
8.20	Intravenous Cannulation	**9.41**	Oxytocin (Pitocin)
9.47	Tranexamic Acid (TXA)	**9.30**	Low-Titer O-Negative Whole Blood (LTOWB)
9.8	Calcium Gluconate		

SCENARIO 15

Hypoglycemia on Oral Agents with Refusal

Medical

Dispatch	64-year-old male, confused, possible diabetic emergency	**Time**	0720 hrs
Location	Private residence, Elgin	**Resources**	MICU; Bastrop/Travis County ESD 1 First Responders on scene; Elgin PD on scene

Scene

The patient's wife found him sitting on the kitchen floor, sweating and mumbling. She states he took his morning diabetes pills at 0600 and then skipped breakfast to mow the yard before it got hot. Bastrop/Travis County ESD 1 first responders obtained a fingerstick glucose of 38 mg/dL. He weighs approximately 90 kg.

Patient Presentation

Confused, diaphoretic, and tremulous. Speech is slurred. He is able to swallow and has a patent airway. Pupils are equal and reactive. No focal deficits. No signs of trauma.

Initial Vital Signs

HR	112	**BP**	148/88
RR	20	**SpO2**	97% on room air
EtCO2	37 mmHg	**BGL**	38 mg/dL
Temp	98.4°F	**GCS**	E4 V4 M6 = 14

History

Type 2 diabetes, hypertension, and hyperlipidemia. Takes glipizide, metformin, lisinopril, and simvastatin. No known allergies. Last meal was dinner at 1900 the prior evening. He does not use an insulin pump.

Progression

1. The patient meets the PCG definition of hypoglycemia. Because he can swallow, the EMT administers oral glucose. The First Responder offers a peanut butter sandwich once the patient is more alert.
2. The EMT-A establishes IV access and administers dextrose 10% at 200 mg/kg, titrating to effect. The patient becomes fully alert within 5 minutes and the repeat BGL is 142 mg/dL.
3. The patient is now oriented and embarrassed. He states he feels fine, has done this before, and does not want to go to the hospital. His wife is unsure.
4. The crew reviews his medication list and recognizes that a sulfonylurea places him at risk of recurrent hypoglycemia that can be delayed for hours.
5. The crew completes the Decision-Making Capacity Tool and identifies the refusal as high risk. A P-3 Supervisor is consulted on a recorded line through communications.

6. The patient continues to refuse. He is instructed to contact his physician immediately and eat a full meal. The refusal is documented with the P-3 consult.

Discussion Questions

1. State the PCG definition of hypoglycemia for adults and neonates. What action is required if the patient had been wearing an insulin pump?
2. Calculate the dextrose 10% dose for this patient in grams and milliliters. Why does the guideline allow less than the calculated dose?
3. Why does the PCG treat a refusal after hypoglycemia on oral agents as high risk? Which oral agent is noted as the exception?
4. Who must be consulted for a high-risk refusal, and through what mechanism?
5. What instructions does the guideline direct for a patient who meets criteria to refuse after hypoglycemia on oral agents?
6. Which findings in the Determination of Decision-Making Capacity section were present on arrival and are now resolved?

Relevant PCGs

Reference the following sections of the Bastrop County ESD #3 Patient Care Guidelines, Version 58, when working through this scenario.

Section	Guideline	Section	Guideline
5.2	Blood Glucose Management	**1.8**	Consent and Refusal
1.5	General Management of Medical Emergencies	**1.9**	Atypical Protocol Utilization and Online Medical Control (OLMC)
0.4	Definition of a Patient	**8.18**	Glucometer
8.20	Intravenous Cannulation	**8.27**	Medication Administration - Intravenous
9.39	Oral Glucose	**9.11**	Dextrose