

***Altered Mental Status:
Diabetes, Overdoses & Behavioral Emergencies***
Continuing Education
October 2016

Diabetes...
Behavioral,
Brain tumor.
Alcohol, Drugs
Medical issues?



**NORTHWEST
COMMUNITY
EMERGENCY
MEDICAL
SERVICES
SYSTEM**

Questions/Comments
regarding this CE are welcome,
and should be directed to:
Susan Wood RN EMT-P
NWC EMSS Educator
swood@nch.org or 847-618-4486

Upon completion of the class and any supplemental materials, each participant will independently do the following with a degree of accuracy that meets or exceeds the standards established for their scope of practice to:

1. Separate the signs and symptoms of DKA into those that reflect acidosis and those that reflect dehydration.
2. Create, through scenario format, the EMS management plan of hyper and hypoglycemia.
3. Differentiate among the various treatment and pharmacological interventions used in the management of diabetes, ETOH or illicit drug use.
4. Integrate the pathophysiological principles and the assessment findings to formulate a field impression and implement a treatment plan for the patient with diabetes, substance abuse or a behavioral emergency.
5. Correlate abnormal assessment findings with the clinical significance in the patient with neurological complaints.
6. Differentiate between the various behavioral and psychiatric disorders based on the assessment and history.
7. Formulate a field impression based on the assessment findings.
8. Develop a patient management plan based on the field impression of a behavioral emergency based on the System SOPs.
9. Predict the risk factors most predisposing to toxic emergencies.
10. Create scenarios to discuss the pathophysiology, assessment findings, need for rapid intervention and transport and management of toxic emergencies.

Altered Mental Status in the Pre-hospital Setting

There are many reasons why EMS may respond to a patient with an altered mental status (AMS). What are the possible etiologies that can cause a person to have AMS?

What are the "A, B, C" priorities of a person who is in the midst of a situation causing an altered mental status?

--	--	--

Today, three different areas of concern will be discussed in regards to the possible underlying etiologies for the pt with AMS, breaking them down into subcategories to discuss in greater detail emphasizing care that is needed in the pre-hospital setting.

Diabetes – The Biggest Epidemic in Human History

The combination of diabetes and obesity is the largest epidemic the world has faced. What HIV/AIDS was in the last 20 years of the 20th century, diabetes and obesity and their consequences will almost certainly be in the first 2 decades of the 21st century.

In the last few decades, the number of people with diabetes has more than doubled globally. The International Diabetes Federation using data from my International Diabetes Institute in Australia recently reported that the number of people with diabetes will escalate from the present 246 million to 380 million by 2025.^[1] Despite the warning signs, most governments have been slow to act. Tragically, diabetes is now a global epidemic with devastating humanitarian, social, and economic consequences.^[2]

Against this background, December 21, 2006 was a momentous day for the global diabetes community. On that day, the United Nations General Assembly unanimously passed a resolution declaring diabetes an international public health issue, only the second disease after HIV/AIDS to attain that unenviable status. Diabetes is a chronic disease which, through its complications, can impact seriously on the quality of life

of individuals and their families through premature illness and death. Because diabetes is now affecting many in the workforce, it has a major effect on both individual and national productivity. The socioeconomic consequences of diabetes are likely to bankrupt the economies of many developing nations apart from their devastating impact on the economies of developed nations, such as the United States, the United Kingdom, and Australia.

Tackling diabetes and obesity is likely to be one of the most important challenges for the global public health community in the 21st century. It is a battle that we can and must win.

That's my opinion. I'm Professor Paul Zimmet, Director of the International Diabetes Institute in Melbourne, Australia, down under!

[MedGenMed](#). 2007; 9(3): 39. Published online 2007 Aug 20. PMID: PMC2100115

[Paul Zimmet](#), AO, MD, PhD, FRACP, FRCP, Professor

1. Sicree R, Shaw JE, Zimmet PZ. The global burden of diabetes. In: Gan D, editor. Diabetes Atlas. 2nd ed. Brussels, Belgium: International Diabetes Federation; 2003. pp. 15–71.
2. Zimmet P, Alberti KGMM, Shaw J. Global and societal implications of the diabetes epidemic. *Nature*. 2001;414:782–787.

In accordance with the CDC as of 2013, the incidence in the US of people with or potentially with diabetes is staggering. There are 26 million people with the disease, another 27% (7 million) undiagnosed and 79 million have prediabetes. The CDC estimates 1 in 3 will have type 2 by 2050! Many individuals hang out hyperglycemic up to 6 years before being diagnosed and the encounters with EMS can be the situation that creates awareness for the individual that there is something wrong.

In accordance w/ CDC, there are common risk factors for DM. At what age does a person have greater risk for DM?

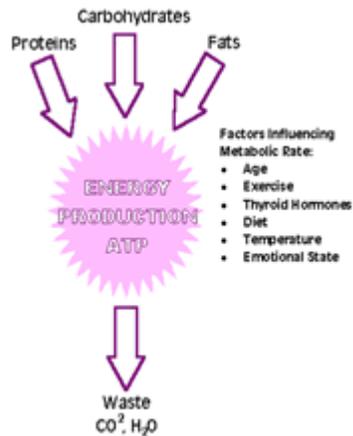
How does weight play a factor into a pts risk for DM?

What family hx including genetic makeup plays into a pts risk for DM?

What medical conditions can cause an individual to have increased risk for DM?

So according to history, a Greek physician named this disease

Glucose levels fluctuate continuously based on a variety of factors such as:



2000 years ago when he observed that affected persons produced large amounts of urine that attracted bees and other insects. If you understand different languages, the name can be broken down as follows. The word diabetes in the Greek means "to siphon" or "to pass through" and the word mellitus in Latin means "honey sweet" named for the sugar in the urine. When discussing diabetes, it is understood as a group of chronic metabolic diseases characterized by high blood glucose resulting from defects in insulin secretion, metabolism, function or both. The consequence is that the individual has an impaired ability to use glucose. **Metabolism** is the sum of the processes that produce the energy and molecules needed for cell growth or repair (Bledsoe, 2006). One form will build complex molecules from simpler ones (**anabolism**) and the other will break down complex molecules into simpler ones (**catabolism**).

Normally, the body fuels metabolic processes from three food sources: carbohydrates, used in the form of glucose; fats, which convert to fatty acids; and proteins, in the form of amino acids. Glucose is the main source of fuel for the body.

--	--

Which organ is largely responsible for maintaining blood glucose levels? _____

Specifically the area of endocrine tissue that releases three hormones is known as the islets of Langerhans.

Islet cell type	Identify the hormone secreted
Alpha cells	
Beta cells	
Delta cells	

Identify the primary action for the hormone that is secreted by the alpha cells? _____

Identify the primary action for the hormone that is secreted by the beta cells? _____

What factors will stimulate the release of insulin? _____

There is an updated way in which to classify diabetes. Back in 1997, the American Diabetes Association (ADA) committee recommended a universal adoption of a simplified approach to diabetes classification. They ceased basing the names of the two main types on treatment or age at onset because those descriptions did not define the nature of the diseases of the care provided.

Former names	Names now
Juvenile diabetes insulin-dependent diabetes mellitus (IDDM)	_____ diabetes Characterized primarily by an absolute deficiency of insulin
Adult-onset diabetes Noninsulin-dependent diabetes mellitus (NIDDM)	_____ diabetes Characterized primarily by insulin resistance (insulin ineffective in target tissue) and an inadequate compensatory insulin secretion response

Type 1 DM is characterized by an absolute _____ due to pancreatic β cell depletion. When cells cannot use glucose, blood glucose levels _____ and cells transition to burning fat for energy.

There are several signs and symptoms associated with diabetes including the 3 Ps, please identify 6 S & S below.

One common way in which treatment exists for an individual with T1 DM is with an insulin pump. Physical assessment should include identification of a pt with an external pump located on their abdomen. A patient with a pump is able to give themselves both a _____ and _____ dose of insulin. If a pt presents hyperglycemic, one plausible explanation is that their insulin pump malfunctioned and that T1DM pt can easily go into _____

Two plausible explanations for a hyperglycemic pt with a pump would be:

_____ and _____

Approximately 90-95% of all diagnosed cases are for pts with T2DM & the overwhelming prediction is that even more individuals (up to 50%) with T2DM may not even know that they have it. The incidence of getting T2DM increases w/ individuals > 40 yo. Factors that leads a person to suspect T2DM is because of a history that includes: _____ and _____

If a pt presents hyperglycemia, EMS must ascertain if the patient is actually in DKA or HHNS but know that they could JUST be hyperglycemic. If there is NO associated S and S of dehydration, they are NOT in need of IVFs. In accordance with SOP, the pt must:

present with at least with S&S of _____ and _____.

Dehydration: _____, _____, skin turgor, warm, dry, _____, N/V, abdominal pain

Acidosis: AMS, _____ ventilations, _____, peaked T waves, and _____ (fruity odor to breath)

Hyperglycemia: Elevated _____; most commonly 240 or above. (SOP p. 26)

As tissues starve due to lack of usable sugar, the body tries to compensate in three ways:

1. Hunger _____: The patient consumes more food (polyphagia) but the carbohydrates cannot be used, raising blood sugar levels even higher.
2. The liver converts amino acids taken from muscle tissue into _____ (proteolysis).
3. Fat deposits are broken down, releasing _____ to be oxidized as fuel (lipolysis).

But in the end, why does the patient become dehydrated?



What other physical assessment finding would you expect to see that is considered a life threatening issue and is the single most common cause of death in pts with DKA? _____

Explain why this occurs and why it is so deadly. _____

Moving On...Substance Use/Misuse/Abuse

The scope of this information is limited. Our ability to cover the underlying causes and substances of a pt presenting with an AMS is limited to the more frequently seen in our pt population. Discussion will cover the most common underlying pathology. For additional information, there will be a list of resources available at the end of this document.

The American Association of Poison Control Centers estimates that there are over 4 million poisonings every year. Poisoning deaths include those resulting from drug overdose, those resulting from other misuse of drugs, and those associated with solid or liquid biologic substances, gases or vapors, or other substances such as pesticides or unspecified chemicals.



Children under the age of 6 years account for over 70% of all poisoning cases, but only 5% of deaths. More serious cases in children may involve intentional poisoning by parents or caretakers. These pts often present to EMS with an altered

mental status and if found alone, EMS is left to investigate the situation and work diligently to identify the underlying reason for their condition. When it comes to drug use, it may be intentional or unintentional. **Intentional** drug abuse often includes both alcohol and prescription drugs. The adolescent and teenage population experiment with medication found in their parents/caregivers medicine cabinet creating an unknown and/or unpredictable affect when trying to anticipate symptoms. **Unintentional** use can stem from an iatrogenic cause such as a care provider giving the person the wrong medication, potentially combining medications or drug dosing errors. As individuals age, they can become confused and forget to take their correct dose of medicine.

This can create a situation in which the individual can present with an altered mental status (AMS) as well as another medical condition requiring intervention. Care of pt presenting with AMS relies heavily on the EMS personnel to complete a thorough assessment of the pt, the surrounding scene



including potential drug paraphernalia. Additionally, signs and symptoms will be treated in accordance SOP and not based on physical findings of the situation as that is not as a reliable indicator of what the person actually ingested

As an individual continues, **dependence** will develop causing more than just simple use. The "need" for a substance creates a **tolerance**, thus an increased dose is needed to achieve the previous affects. When a psychological or physical need is developed to continue to take the drug, **addiction** is the end result. Polysubstance abuse is a frequent cause for these pts to need pre-hospital intervention. Upon initial general impression; quickly assess mental status. Uncooperative behavior may be due to intoxication/poisoning; do not get distracted from assessment of underlying pathology. Conscious pts can quickly become unconscious and an airway can be lost quickly. EMS providers must constantly reassess and re-evaluate the need for further intervention. In accordance with SOP, if a pt presents with an AMS AND a RR < 12 with a suspicion of substance abuse but substance unknown (pupils may be small), treatment for the pt includes NALOXONE 0.4 mg IVP/IN/IO/IM. EMS may repeat to total of 2 mg IVP/IN/IO/IM if initial response is inadequate until ventilations increase (EMT can give IN). Because the current trend noted in our adolescent and young adult population is heroin that is often laced with fentanyl,



(<http://www.cnn.com/2016/08/24/health/elephant-tranquilizer-carfentanil-heroin/>) current evaluation is underway to determine if greater initial dose is needed (PBPI committee data results, 2016) for proper affect. If a pt is a known narcotic user, practice in medicine has evolved to the point in which the family of the individual or if PD has arrived on the scene first, the pt may have had naloxone administered prior to EMS arrival. <https://www.youtube.com/watch?v=pFvCWrkeUpE>

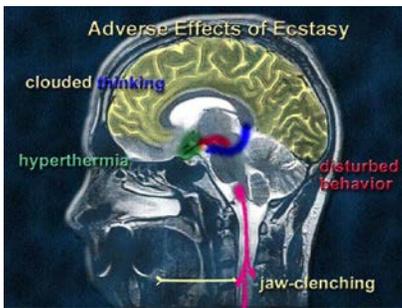
No matter who has administered or how much has been given to the pt, accuracy in documentation must reflect that each dose was administered through a separate entry in the ePCR. For pts who have convulsive activity, SOP dictates that what drug can be given and what is correct dosing? _____

Depending on the drug ingested, such as Krokodil, pts may have a violent narcotic withdrawal. In such instances, what are the priorities to be completed by EMS?

What care should be completed prior to the administration of naloxone to avoid injury to EMS personnel?

In addition to individuals taking narcotics, they may take stimulants. Specifically the trend is toward what is called "designer club drugs." An example is what is known as "bath salts." Others are Molly, PCP, ecstasy and crack. This group of drugs used is especially troublesome to the EMS provider for a number of reasons.

First of all, they are manufactured by criminals, so the user never really knows what they are getting. If the persons "manufacturing" the drug run out of one thing, they do not hesitate to substitute anything else in its place. This can create unexpected, unpredictable and long term devastating effects. The anticipated or desired effects of the drugs are (entactogenic) - total peace, understanding, acceptance and self-confidence. As well, (empathogenic) there is a desire to be emotionally close to



people around them. Lastly it will enhance all senses including touch, vision, smell, taste, and sound.

The *adverse effects* are those of hallucinations, profuse sweating, muscle tension and involuntary jaw clenching followed with possible muscle tension, nausea, blurred vision and seizures. The end result can be a pt presenting with significant tachycardia and HTN. One of the more unusual presentations can be a malignant hyperthermia caused by the muscle tissue breaking down and in some of the fatal cases there was reported kidney and CV failure. The **unpredictability** makes these pts. a challenge for EMS therefore they MUST be alert!

Excited delirium is another potential complication.

"Without Warning: How to effectively treat excited delirium patients."

The initial understanding of excited delirium came through the accumulation of autopsy results that consistently revealed the presence of stimulant drugs and alcohol in the blood of patients with excited delirium. These drugs include cocaine and methamphetamine. However, people with high levels of these drugs don't always suffer from excited delirium. Likewise, it can occur in individuals without any stimulants in their system.

Current research reveals excited delirium patients have abnormally altered levels of several neurochemicals in their brain—the most important being dopamine.(4) Cocaine blocks re-uptake of dopamine, resulting in elevation of dopamine levels in the brain.

Additionally, a large number of patients who suffer from excited delirium have pre-existing psychiatric conditions that are treated with dopamine re-uptake inhibitors. The combination of cocaine's effect and the patient's psychiatric medication appear to contribute a dysregulation of dopamine transport.

Elevated levels of dopamine cause agitation, paranoia and violent behavior. Heart rate, respiration and temperature control are also

affected by dopamine levels with elevation resulting in



tachycardia, tachypnea and hyperthermia. For this reason, hyperthermia is a hallmark of excited delirium.

It's important to remember that many other conditions can present with the same signs and symptoms as excited delirium. This includes hypoglycemia, hypoxia, psychiatric conditions, head injury, postictal state and other acute drug intoxications (particularly hallucinogens). However, the presence of hyperthermia is unique to excited delirium, but it may not be recognized due to weather conditions. Hypoglycemia will be detected with blood glucose measurement. The acute psychiatric conditions will present more often than not with more coherent speech, and the postictal state should clear with time. The patient with a head injury should present with more cognitive deficits, such as amnesia and repetition of statements.

Exert from February 2011 JEMS
Keith Wesley, MD, FACEP Medical Director for Minnesota State EMS and Health East Ambulance

If a pt presents with the above complaint, the goal is to prevent the pt from going into cardiac arrest and treatment per SOP is to provide supportive care, maintain pt / EMS safety and if agitated and combative treat with _____ or _____.

While there are so many other drugs that we could cover, there simply is not enough time.

Behavioral Emergencies

"If the patient depresses you, they have a depressive disorder.
 If they annoy you, they have a personality disorder.
 If they confuse you, they're schizophrenic."

Behavioral emergencies again, are an area in which limited information is usually known to EMS, as least initially. Upon arrival to the scene, the highest priority is safety. Pts. involved in these situations may or may not want to be transported to the emergency department for further evaluation. In order to determine if they indeed have the right to refuse care, their *decisional capacity* must be evaluated. In accordance with SOP, what is the **mnemonic** used in order to determine decisional capacity?



Because of the uncertainty of the situation, a few things to take into special consideration in addition to IMC would be:

- Limit stimuli and the personnel treating the patient as much as possible.
- Do not touch patient without telling them your intent in advance.
- Provide emotional reassurance. Verbally attempt to calm and reorient the patient as able.
- Do not reinforce a patient's delusions or hallucinations.
- Avoid threatening or advanced interventions unless necessary for patient safety.
- Protect patient from harm to self or others. Do not leave them alone. (SOP p. 33)

Emphasizing that safety is the number one concern, when interacting with a pt. with a behavioral emergency, restraints may be indicated. Always remember to ensure an adequate airway, ventilations and peripheral perfusion distal to the restraint after application with routine monitoring of the pts respiratory and circulatory status.

The answer to the first question of this packet outlines the possible etiologies for a pt with an AMS. Most of them outline

medical conditions that similarly present. Frequently pts may be assumed to have a psychological condition actually have a medical problem that mimics those signs and symptoms. It is the obligation of the EMS responder to identify and correct (if able) any underlying medical condition. Number 5 on the list of the altered mental status SOP found on p. 33 is crucial so that the pt. can be treated. There are **MANY medical etiologies** that can mimic a behavioral issue, therefore due diligence is indicated to not overlook a reversible cause. A sneak peek into the new SOPs will reveal a new mnemonic.

- H** Head injury
- E** Epilepsy
- A** Aneurysm
- D** Drugs/psychiatric causes

- H** Hypoxia or heart disease
- E** Embolism
- A** Arrhythmia
- R** Respiratory (hyperventilation or breath-holding)
- T** Thoracic outlet syndrome

- V** Vasovagal
- E** Ectopic (pregnancy-related hypotension)
- S** Situational, sepsis
- S** Sinus sensitivity
- E** Electrolytes
- L** Lung (pulmonary embolism)
- S** Subclavian steal syndrome

This is our check list so to speak; the differential diagnosis, to review each time a pt presents status post a syncopal episode with a goal of ruling in or out an underlying medical etiology. Treat condition in accordance with SOP.



Identify one condition above that is unknown to you. Define it here. _____

NWCEMSS CE Scenario Creation

Condition: See Card

Based on the pt condition, create each of the following components to adequately describe a pt with the prescribed complaint.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

NWCEMSS CE Scenario Creation

Condition: See Card

Based on the pt condition, create each of the following components to adequately describe a pt with the prescribed complaint.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

NWCEMSS CE Scenario Creation

Condition: See Card

Based on the pt condition, create each of the following components to adequately describe a pt with the prescribed complaint.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

NWCEMSS CE Scenario Evaluation

Based on the ePCR, evaluate the documentation to ensure that each of the following components has been addressed.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

NWCEMSS CE Scenario Evaluation

Based on the ePCR, evaluate the documentation to ensure that each of the following components has been addressed.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

NWCEMSS CE Scenario Evaluation

Based on the ePCR, evaluate the documentation to ensure that each of the following components has been addressed.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

NWCEMSS CE Scenario Evaluation

Based on the ePCR, evaluate the documentation to ensure that each of the following components has been addressed.

Criteria	Comments
Scene size up issues	
Scene safety (What hazards might be present?)	
Nature of illness/MOI	
Number of patients/triage needed?	
Need for assistance; additional help	
Barriers to care	
Need for spine precautions?	
Primary Assessment findings:	
Level of consciousness	
Airway patency, need for airway adjuncts?	
Adequacy of ventilations/WOB / breath sounds	
Adequacy of gas exchange: SpO2; EtCO2 readings	
*Need for ventilatory assistance? Suppl. O2/by what device?	
Pulses; presence/absence; equality; general rate	
Skin color; temp; moisture	
JVD?	
Need for ECG? If yes, rhythm	
*Need for 12L ECG? If yes, findings	
Any obvious bleeding? Nature of hemostasis needed	
Need for vascular access; amount of fluid	
*Glucose level	
Pupil exam: size, shape, symmetry, equality	
*GCS; initial and <u>repeat</u> values	
Need for initial pain mgt	
Need for initial nausea mgt	
Need for initial drug therapy; drug; dose, route	
Secondary assessment	
Vital signs: Pulse: rate, quality, rhythmicity; *BP: Orthost changes, MAP Respiration: rate; pattern, depth; Temp: High or low	
History of present illness: OPQRST	
SAMPLE history; call back # if stroke; psychosocial development	
*HEENT; include cranial nerves & cerebellar exam if applicable	
Chest/torso	
Abdomen/pelvis/genitalia	
Extremities	
Back	
Skin	
Ongoing assessments if patient is intended to change	

*Special considerations for pts with AMS. Read notes on syncope in SOP and be aware of differences in syncope vs. sz.

References

- Aehlert, B. (2010). Toxicology. In, Aehlert, B. (Ed), Paramedic Practice Today Above and Beyond Vol. 1 (pp. 1000-1138). St. Louis: Mosby JEMS Elsevier.
- Bledsoe, B.E., Porter, R.S., Cherry, R.A. (2013). Endocrinology. In *Paramedic Care: Principles & Practice Medical Emergencies* (4th ed. Vol. 4; pp. 220-237). Upper Saddle River: Brady.
- DEA-NWW-BUL-009-14, Krokodil: What first responders need to know
- Gussow, L. (2015). Toxicology rounds: Drug-induced seizures? Think bupropion. *Emergency Medicine News*, 37(6), 3. Accessed on line: http://journals.lww.com/em-news/Fulltext/2015/06000/Toxicology_Rounds_Drug_Induced_Seizures_Think.5.aspx doi: 10.1097/01.EEM.0000466614.55252.4c
- Hay, P. et al. (2014). Royal Australian and New Zealand College of Psychiatrists clinical practice guidelines for the treatment of eating disorders. *Aust N Z J Psychiatry*. 48(11), 977-1008; doi: 10.1177/0004867414555814.
- Illinois Poison Center. (Oct 2012). Synthetic drugs: Illinois Poison Center Reports.
- Johnson, M.S., (2013). The top 10 drug trends right now. *Nursing Management*, 44 (7), 34-40.
- Kopito, J. (Jan. 2002). Dancing the night away Part II - Ecstasy and Rohypnol. *Merginet News*, 7(1). www.merginet.com.
- Kuritzky, L. (2010). Closing the gaps in type 2 diabetes mellitus: A focus on improving key performance measures. Accessed on line: Medscape Education Diabetes & Endocrinology CME/CE Released: 12/22/2010.
- Mackie, B. (2013). Eternal High DVD – Discussion Guide
- Mattera, C. 2015-6 EMS Paramedic Class Packets. Psych, Diabetes, and Behavioral Emergencies.
- MCHC. (Dec 2013). Prescription drug abuse. An Illinois public health crisis. Monograph co-published with IDPH and the Illinois Poison Control Center.
- Moore, C. & Woolard, M. (2005). Dextrose 10% or 50% in the treatment of hypoglycaemia out of hospital? A randomized controlled trial. *Emerg Med J* 22:512–515. doi: 10.1136/emj.2004.020693. Downloaded from emj.bmj.com on April 21, 2013.
- National Alliance on Mental Illness (NAMI) web site (www.nami.org)
- Nock, M.K; Greif Green, J.; Hwang, I. McLaughlin, K.A.; Sampson, N.A.; Zaslavsky, A.M., Kessler, R.C. (2013). Prevalence, correlates, and treatment of lifetime suicidal behavior among adolescents. *JAMA Psychiatry*, published online January 9, 2013.doi:10.1001/2013.jamapsychiatry.55
- Page, N., DeLuca, J.P., and Crowell, K. (2012). What medications are best for diabetic neuropathic pain? *J of Family Practice*, 61(11), 691-693.
- Shahady, E. (Nov. 20, 2012) Exploring the role of incretin-based therapy in type 2 diabetes (Part 1). On-line newsletter of the Illinois Academy of Family Physicians and the Primary Care Metabolic Group; peer reviewed by *The Journal of Family Practice*. www.iafp.com/education
- US Dept Health & Human Services, CDC, MMWR, 46(13). Micromedex, Poisindex, Vol. 93

Additional resources:

- American Association of Diabetes Educators: <http://www.aadenet.org>
- American Diabetes Association: <http://www.diabetes.org>
- Centers for Disease Control and Prevention: <http://www.cdc.gov/diabetes> or cdc.gov/nchswww
- Department of Veterans Affairs: <http://www.va.gov/health/diabetes/>
- Juvenile Diabetes Foundation International: <http://www.jdfcure.org>
- Health Resources and Services Administration: <http://www.hrsa.dhhs.gov>
- National Diabetes Education Program: A joint program of NIH & CDC: <http://www.niddk.nih.gov/health/diabetes/ndep/facts.htm>
- National Eye Institute: <http://www.nei.gov/publications/nehepov.htm>
- National Institute of Diabetes and Digestive and Kidney Diseases of the NIH: <http://www.niddk.nih.gov>
- National Diabetes Information Clearinghouse (NDIC)
- Service of the National Institute of Diabetes and Digestive and Kidney Diseases
part of the National Institutes of Health under the U.S. Public Health Service
1 Information Way; Bethesda, MD 20892-3560
e-mail: ndic@info.niddk.nih.gov
<https://www.youtube.com/watch?v=WaBqtFscckWE>
www.diabetes.niddk.nih.gov/dm/pubs/statistics
[FDA 510\(k\) Database Search \(Insulin Pumps\)](http://www.fda.gov/oc/ohrt/510k/510k_database_search_insulin_pumps)