



## EMS Lessons Learned

To: All Prehospital Providers

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The following information is related to EMS Agency review of Prehospital care. The lessons learned from these reviews are applicable to all paramedic providers. Please review this important information and incorporate it into your practice.

### 1. Assessment of the Diabetic KetoAcidosis (DKA) Patient.

The differential diagnosis of a patient with an altered LOC can include Stroke, Head Injury, Hypoglycemia, DKA and seizure. Careful paramedic assessment can help differentiate between the causes. This discussion concerns DKA. DKA is typically characterized by hyperglycemia (high blood glucose levels) over 300 mg/dL, but can occur at much lower blood glucose levels. Treatment is aimed at preventing common and potentially lethal complications such as hypoglycemia (low blood sugar), hyponatremia (low Sodium levels), and hypokalemia (low Potassium levels).

In the early to middle stages of DKA, patients are typically flushed and breathing rapidly and deeply. Visible dehydration, shallower breathing, and rapid heart rate are often present when coma is reached.

DKA, if it progresses and worsens without treatment, can eventually cause unconsciousness from a combination of severe hyperglycemia, dehydration, shock, and exhaustion. Coma only occurs at an advanced stage, usually after 36 hours or more of worsening vomiting and hyperventilation.

DKA usually requires hospitalization and close medical supervision. DKA can induce coma or death, is serious and should be considered a potentially life-threatening medical emergency. DKA must be treated appropriately because improper treatment (for example, a patient self-treating with large amounts of insulin) can also cause severe, life-threatening problems.

Since dehydration can accompany, or contribute to DKA, bringing blood glucose down too fast, and rehydrating the body too quickly, can cause serious electrolyte imbalances that can lead to coma or death. Rehydration can also lead to a component of hyperchloremic (high levels of serum Chloride) metabolic acidosis.

If a diabetic patient presents with an **altered mental state** and the blood glucose level is 300 or higher, this patient should be transported to the closest facility. We would also like to emphasize that most glucometers are not accurate when the readings are above 250 or less

than 70 mgs/dl, the actual glucose may be much higher or lower than recorded in the machine. An IV should be established but the rate should be maintained at keep open. If the patient's condition appears severe, and or is not readily apparent make base hospital contact for treatment advice.

## **2. Obvious death acknowledgement**

With the exception of the Public Safety officers in Sunnyvale, most law enforcement personnel are not certified EMT's. In particular, CHP officers may have had EMT training but they are not required to maintain their certification. If a law enforcement officer "waves off" a paramedic at the scene of a death, unless the patient clearly meets obvious death criteria: incineration, decapitation, evisceration of heart or brain, or rigor mortis, the paramedic (highest medical authority) should check the patient for viability.

The paramedic can handle these issues discreetly by telling the officer that the EMS medical director expects the paramedic to declare all patients who appear to be dead, unless there is obvious death. If the law enforcement officer insists that the paramedic clear the scene, the paramedic should document this information in a PCR.