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04 May 2022

[redacted]
Coroner's Officer
The Suffolk Coroner's Service
Beacon House, White House Road, Ipswich, Suffolk, IP1 5PB

Dear [redacted]

The following is in response to a post-inquest request made by Jacqueline Devonish, Area Coroner for Suffolk, dated 10 March 2022, received via email from the Priority Dispatch UK office on 11 March 2022. The related audio file necessary for this review was requested on 15 March 2022 and received from EEAST on 31 March 2022. This inquiry was investigated by [redacted] Chair of the Medical Council of Standards for the International Academies of Emergency Dispatch.

Summary of Call Events (EMS dispatch perspective)

The Chief Complaint was described as a 42-year-old male who had been drinking heavily and recently returned home by taxi and "downed a liter of vodka" prior to collapsing and hitting his head on the pavement. The patient was initially described as unconscious but breathing.

The Emergency Medical Dispatcher (EMD) processed the call using Protocol 17 [Falls] and correctly coded the call as 17-D-3E [Fall, unconscious, environmental concerns].

After providing appropriate Post-Dispatch Instructions and complying with COVID-19 Protocol, the EMD appropriately used the Breathing Verification Diagnostic Tool (BVDxT) to verify effective breathing. Breathing was determined to be agonal.

The patient was described as being in an awkward position, explained as on the floor with his arms over his head and with his head down (potentially flexed neck and occluded airway). The caller was then correctly advised to place the patient flat on his back. This is done to open the patient's airway, further assess breathing, and provide compressions, if necessary. Had the patient been breathing effectively, the Fall Protocol (and other trauma protocols) would have directed the EMD to stay on the line and continue to monitor the patient's breathing without moving the patient.

It should be noted here that about 6 minutes had elapsed since the call was received creating the potential for agonal breathing with a potentially occluded airway to cause hypoxic brain injury.

While the caller was apparently struggling to place the patient on his back, the EMD advised the caller to put her phone down to facilitate the use of both hands in her attempt, and this worked. However, the patient then began to vomit, and the caller was then advised to clean out his mouth and nose. The caller subsequently advised she had complied. It should be noted that the protocol script for this instruction reads: "Turn his head to the side and clean out his mouth and nose." The first part of this instruction (Turn his head to the side…) was not provided as scripted.

The caller then reported the patient was not breathing and she became noticeably upset. The EMD attempted to calm the caller and appropriately provided instructions for chest compressions. The EMD was encouraging and persistent, and the caller stated she was complying. The EMD asked about additional vomiting and the caller did not report any. The EMD continued to encourage, instruct, and count compressions out loud, and compressions were apparently provided until the responders arrived.

Impression

Apart from the omission of part of the "Clear Airway" instruction (PAI C-15), the EMD was compliant to protocol and did an excellent job directing and encouraging the caller under very difficult circumstances.

Matters of Concern (from Coroner Devonish, addressed by [redacted]

(1) When a patient has been known to have been drinking alcohol, whether there is an algorithm in the MPDS detector which takes this into consideration.

I will assume "MPDS detector" refers to the Breathing Verification Diagnostic Tool (BVDxT) used to verify effective breathing in the MPDS. The BVDxT has no algorithm specific to alcohol intoxication, nor should it. The tool is used when the caller reports breathing but any circumstance causes the EMD to question effective breathing, or when mandated by the protocol. In this case, the complaint of fall with associated unconsciousness mandates the use of the tool to verify effective breathing as ground level falls associated with unconsciousness are often caused by cardiac arrest.

The cause of ineffective breathing is irrelevant to the use of the BVDxT except when scene safety issues are a contraindication for its use. Again, the tool is used to verify effective breathing, regardless of the Chief Complaint, and alcohol consumption does not and should not change the parameters of the tool.

(2) *If the MPDS does not provide support for alcohol intoxication, whether this includes support in how to clear the mouth and nose to good effect. If it does not, whether this is something which could be included in the tool.*

The MPDS does provide support for alcohol intoxication. However, the support is generic to airway maintenance and not specific to alcohol intoxication. The same support is provided no matter the insult. Cardiac arrest patients often vomit. Overdose patients vomit. Stroke patients vomit, as do patients with a host of other conditions.

A related Rule in the MPDS states: "The airway of an unconscious patient must be constantly maintained." If the Chief Complaint involves trauma and the caller reports effective breathing, the EMD is advised to use the BVDxT to verify breathing without moving the patient. This was appropriately done in this case, and breathing was determined to be agonal. If the complaint is non-traumatic (medical malady), the EMD will direct the caller to open the patient's airway and further evaluate breathing, then constantly maintain the airway while monitoring breathing.

If at any time a patient vomits, regardless of the Chief Complaint, a "Clear Airway" instruction is prompted. It reads: "Turn her/his head to the side and clean out his mouth and nose." These instructions have been in the MPDS for many years and have proven effective.

(3) *Whether turning an unconscious patient onto their back after vomiting is good practice, in the absence of clinical support.*

I am not sure how to interpret this question. If the patient has ineffective or agonal breathing, what choice is there? The patient must be placed in a supine position to commence CPR. If the patient is breathing and the complaint is non-traumatic, an airway maneuver is appropriate to open the airway, and the airway maneuver itself ensures continuous monitoring by the rescuer. Leaving the patient on their side not only promotes neck flexion which may occlude the airway in an obtunded patient (likely what happened in this case), it also provides an opportunity for the "hands-off" caller to leave the patient rather than monitor the patient closely, hands-on.

Action Should Be Taken

It is unclear what action is expected here from a dispatch perspective. There is suggestion in the report narrative that patients who have ingested alcohol should somehow be treated differently, from a breathing evaluation (BVDxT) and/or airway maintenance/monitoring perspective, than other patients with questionable breathing or vomiting issues, and this is simply not correct. Obtunded patients, no matter the cause, require careful evaluation, constant airway monitoring and maintenance, and rapid intervention, when necessary.

Further observations

The assumption that Mr. Swain stopped breathing as soon as he was turned on his back and vomited is only an assumption. Mr. Swain's breathing was determined to be agonal prior to placing him in a supine position and, without intervention, agonal breathing becomes absent breathing in the natural course of events. We should note that Mrs. Swain was unsure about her husband's breathing initially because of the noise outside, and immediately after she said he was breathing, the BVDxT results suggested agonal breathing. And it is very common for laypersons to misinterpret agonal gasps for effective breathing, especially when they don't want to consider their loved one may not be breathing. Therefore, Mr. Swain may have endured agonal breathing and/or an occluded airway for some time before he vomited. And while an agonal gasp following the vomiting event may well have caused aspiration, this does not definitively mean aspiration alone caused the lethal hypoxia. Regardless, the correct course of action was taken. A patient with agonal breathing was placed in the supine position for further evaluation and resuscitation, and an effort was made to clear the airway after the patient vomited.

IAED Recommendation

No further action is needed regarding dispatch protocol.

The EMD in this case should be educated regarding the clinical purpose of turning the patient's head to the side when clearing the airway of vomit, and the Quality Assurance department at EEAST should continue to monitor cases where such Pre-Arrival instructions are given to ensure protocol compliance.

[redacted]
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