

EMS SPONSOR HOSPITAL POLICY QUALITY ASSURANCE / QUALITY IMPROVEMENT: PARAMEDIC CHART/CASE REVIEW

Purpose:

Provide quality assurance reviewers and preceptors guidance regarding the evaluation of paramedic documentation and clinical care.

Scope:

All QA reviewers and preceptors at Hartford Hospital-sponsored paramedic-level EMS agencies

Discussion:

The primary purpose of EMS chart review is to assure appropriate and safe clinical care. The secondary but related purpose is to assure thorough record keeping (both to facilitate quality assurance activities and medical-legal protection). Any identified clinical concern which is believed to represent a moderate to high risk of harm to patients or any instance of protocol violation should be forwarded to the Sponsor Hospital EMS Coordinator.

There are few absolutes in medicine and EMS providers are expected to use sound clinical judgment. When any expected action is not performed or benchmark is not met, the provider should have documented an explanation of the circumstances and/or his or her medical decision-making. Clinical goals may be achieved through different methodology and reviewers should generally accept reasonable and well-intentioned explanations unless a provider-specific trend is observed. The reviewer/preceptor should try to focus on whether the treatment plan remained within allowable protocols, was safe and was moving in the appropriate direction and speed to address the clinical condition. Reviewers/preceptors are encouraged to forward questions regarding subjective criteria to the EMS Sponsor Hospital.

Policy:

The following elements should be evaluated when reviewing EMS patient care reports. Additional criteria are listed for select clinical conditions/situations. These are elements which are of particular importance and/or have cropped up as ongoing QA issues.

Elements other than those listed here may be reviewed at the discretion of the EMS Agency's QA coordinator, reviewers or preceptors. More abbreviated, focused reviews may be conducted to address critical elements within a larger volume of cases. The depth of QA call reviews should be determined through ongoing collaborative discussion between the Sponsor Hospital and Sponsored EMS Service.

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Initial assessment/care:

- Appropriate initial assessment was performed
- Significant issues with airway and breathing/oxygenation were adequately addressed prior to patient movement.
 - SpO2 maintained between 94% (90% COPD) and 99%
- Significant cardiovascular issues or inadequate perfusion were adequately addressed prior to patient movement. In some circumstances where time-critical hospital interventions are required, it may be appropriate to defer vascular access and shock resuscitation till enroute (i.e. uncontrolled internal hemorrhage)
- Management of moderate to severe pain was considered prior to patient movement

Detailed/focused assessment:

- Adequate head to toe physical assessment performed (may be focused for isolated complaints)
 - Lung sounds assessed in all fields with description of adventitious sounds including where auscultated and in what phase of the respiratory cycle they occurred
- Pertinent negative assessment findings elicited/documentated

History Taking

- History of present illness and/or mechanism of injury (see trauma) thoroughly described
 - Time and circumstances of onset?
 - Constant or variable in nature with any associated provocative or ameliorative factors?
 - Any self-treatment?
 - Detail regarding complaint/episode
 - What happened/was observed?
 - Similar previous episodes?
 - Duration of episode?
- Medical history, medications, allergies documented
 - Ideally, severity of any 'allergy' should be documented (e.g. nausea versus anaphylaxis from morphine)

Vital Signs:

- Complete set of vital signs (GCS, BP, P, RR, SpO2 and pain) documented for every patient
- Initial vital signs obtained within the first 5 minutes and repeated at appropriate intervals (e.g. approximately every 5 minutes for critically ill, at least every 15 minutes for stable/well patients). A minimum of two sets should be documented for every transport.

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- For pain, it is assumed a verbal numeric score was utilized. It should be noted if r-FLACC or FACES was used instead.
- All vital signs must be documented in data fields. It is recommended that vitals not be repeated in the narrative to avoid contradictions. Instead, narrative should use qualitative terms (hypotension, tachycardia, hypoxemia, etc.) and allow the reader to reference exact values in the data fields.

ECG and 12 lead:

- Upload to ePCR of continuous and complete ECG, SpO2 and etCO2 data/tracing as well as 12 leads
- ECG rhythm monitoring performed when clinically indicated
- Medic's ECG rhythm interpretation matches ECG
- 12 lead acquired for all non-traumatic chest pain or anginal equivalents as per protocol.
- 12 lead interpretation (not just rhythm) documented
- 12 lead interpretation matches 12 lead

Patient Weight:

- On all calls, patient weight (actual or estimate) should usually be entered in the appropriate data field. Weight should be that which the paramedic based decision-making on, not a revised weight obtained at the hospital.
- Weight is a required element whenever any weight-based medication is administered (e.g. fentanyl, diltiazem, norepinephrine, midazolam, etc.).
- Patient height and ideal body weight calculation must be documented (usually in the narrative) when required for medical decision making (e.g. ventilator tidal volume).

Medical decision making:

- Differential diagnoses/clinical impressions documented
 - Primary or working diagnosis/clinical impression identified
 - Criteria used to determine working diagnosis/clinical impression described
 - Primary or working diagnosis/clinical impression matches patient presentation, signs and symptoms
 - Plan of care appropriate and matches working diagnosis/clinical impression
- Decision-making described for withholding or modifying otherwise indicated care
- For any "consider" action, reasoning for administration/withholding documented

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Scene time:

- Scene time interval was appropriate based on clinical condition and circumstances. In cases where the patient condition requires immediate, specialized hospital intervention, scene time should be limited. Other times it may be appropriate for EMS to remain on scene for an extended period to address concerns regarding airway, respiratory status, cardiovascular compromise, pain, etc. Reviewers should be aware of any agency-specific operational directives regarding limiting scene time when clinically appropriate.

Protocol adherence:

- Indicated interventions performed
- Contraindicated interventions withheld
- Medications administered only within allowable standing order dosages or on direct medical control orders
 - Most medications may be administered slower, diluted or at lower doses than listed in the protocols as long as a sound reason/medical decision-making is provided
- 12 lead repeated after any change in symptoms or intervention for ACS. At least one repeat 12 lead should be obtained to assess for dynamic changes
- For Zoll ePCR, documentation that 12 leads were printed, labeled and left with hospital staff for inclusion in record

Reassessment/Ongoing Assessment:

- Focused, ongoing reassessment of patient condition after every intervention/medication and while enroute

SPECIAL CRITERIA FOR REVIEW OF SELECT CONDITIONS

Advanced airway management:

- Advanced airway management performed if (and only if) indicated
- Adequate preoxygenation/denitrogenation prior to advanced airway attempt
- End-tidal capnography utilized for all ventilation (BLS and ALS)
- Any esophageal intubation immediately identified and addressed without delay
- Failed advanced airway attempt followed by re-oxygenation and move to a different technique, operator or device (as appropriate).
- SpO2 did not decrease more than 10% during advanced airway attempt

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- Each attempt separately documented with equipment type/sizes used, operator, view obtained, confirmation technique, tube depth at upper teeth and method of securing
- Post-intubation sedation and analgesia provided except in cases of cardiac arrest

Analgesia/Sedation (patient or provider administered): In addition to the usual review elements, evaluate:

- Use of appropriate pain scale with at least first and last pain score
- Continuous SpO2 for any analgesic or sedative
- Continuous etCO2 for:
 - Any sedative or hypnotic
 - Any analgesic resulting in any degree of sedation below “awake and alert”
- Documented assessment of degree of sedation resulting from medication (ideally using Richmond Agitation Sedation Scale)
- Documented reassessment of pain following any administration of analgesic

Altered Mental Status: In addition to the usual review elements, evaluate:

- Blood glucose obtained
- FAST performed or attempted

Paramedic to BLS Downgrade:

- Documentation by paramedic of ALS assessment and medical decision making
- In reviewer’s opinion, ongoing ALS assessment/care was not indicated AND patient was very unlikely to decompensate or sustain an adverse event during transportation
- Complies with expectations regarding provision of ALS care and downgrading to BLS as described in HH to EMS memo dated 9/3/2015

Cardiac Arrest: In addition to the usual review elements, evaluate:

- No avoidable delays in:
 - Time to first CPR
 - Time to AED/ECG analysis/defib
- With passive ventilation CCR, both basic airway and NRB utilized
- Active ventilation CCR (i.e. with BVM) performed when arrest was likely not due to sudden arrhythmic cardiac death (e.g. Trauma, Respiratory, Pediatric, Opiate Overdose, Severe sepsis, etc.)
- End-tidal capnography utilized for all ventilation
- Review continuous ECG data for:

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- Compression fraction (if capable - i.e. using Codestat software). AHA benchmark is a minimum of 60%. Goal is “as high as possible”. Some systems achieve >80%
- Shockable rhythm identified and addressed in a timely manner
- Peri-shock pauses minimized
 - For manual defibrillator, charged prior to pause for analysis
 - Immediate compressions post shock
- Compression rate consistently 100-120/minute
- Amplitude of compressions on ECG (proxy for compression depth) is deep and consistent
- Interruptions in compressions limited to less than 15 seconds
 - Assess number of interruptions >15 seconds as well as any particularly long interruptions
 - No interruption in compressions to perform ETI or insert supraglottic airway
- Resuscitation performed on scene unless special circumstance (e.g. condition requiring specialized hospital intervention, unsafe scene, etc.)
- Naloxone not administered by paramedics unless suspicion of not being a true cardiac arrest (i.e. just respiratory arrest with faint pulse)
- Sodium Bicarbonate only administered for PRE-EXISTING (i.e. before the arrest) acidosis or other specific conditions per protocol and AHA
- Airway secured with ETT or supraglottic device
 - Advanced airway management deferred till after first 8 minutes unless there was evidence of airway compromise/concerns not resolved by BLS maneuvers

Chest pain (non-traumatic) or STEMI: In addition to the usual review elements, evaluate:

- **Patient contact to 12 lead ECG** ≤10 minutes (ideally ≤8 minutes)
- **For STEMI** - scene time ≤15 minutes
- **For STEMI - Radio STEMI Alert and ECG Transmission**
 - Both radio STEMI alert and ECG transmission documented separately as interventions with time performed
 - Time from the 1st ECG meeting STEMI criteria till each of these actions is ≤5 minutes
- **Aspirin administered unless contraindicated.** Make-up dose to total of 324mg if patient self-administered low dose
- **For STEMI** - emergency transportation to the hospital

Opiate Overdose: In addition to the usual review elements, evaluate:

- Naloxone only administered for hypoventilation
- BVM ventilation prior to any naloxone administration

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- Lowest effective naloxone dose administered
- Provide positive feedback/reinforcement for low dose naloxone titration (as low as 0.04mg IV) to achieve spontaneous ventilation/oxygenation with continued sedation in the patient who is being mechanically ventilated/oxygenated effectively.

Pediatric: In addition to the usual review elements, evaluate:

- Patient transported in car seat, not on parent's lap (except for epiglottitis)
- If indicated, croup treated with nebulized epinephrine and not albuterol
- Capillary refill/perfusion status documented
- Blood pressures obtained
- Equipment sizes and medication doses based on patient weight and/or length-based tape

Refusal: In addition to the usual review elements, evaluate:

- Patient decision-making capacity well assessed/described. This should go beyond GCS/A&O and should describe the coherence of thought process and rational judgment as observed through discussion. Hypoperfusion, hypoxia and hypoglycemia should be ruled out. Likelihood of cognitive impairment due to trauma, structural defect or metabolic derangement should be considered.
- Medical control involvement with any high risk refusal (see HH EMS Refusal Policy) to aid in decision-making, to help encourage transport or to provide specific post-refusal medical advice.
- Transport offered and recommended to the patient
- Benefits of ambulance care/transport and hospital evaluation/care communicated to patient and documented. These should be as specific as possible as well as including more general benefit such as physician evaluation to rule out any conditions not identified by EMS.
- Risk of refusing ambulance care/transportation and hospital evaluation/care communicated to patient and documented. These also should be as specific to the patient condition as possible as well as including any more general risk such as disability or death.
- Patient understood the benefits/risks that were explained to him/her. This may be best accomplished by documentation of the patient repeating information back in his or her own words.
- Advice communicated/documented to seek medical evaluation and treatment by a physician and to call 911 if symptoms recur or worsen.
- No advice provided beyond scope of practice (e.g. OTC or prescription medications to self-administer)

Restraint: In addition to the usual review elements, evaluate:

- For physical restraint, soft restraints used and patient in supine position
- Reason for restraint clearly documented and appropriate for use of restraint

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- Assessment/reassessment of distal CMS documented after application of physical restraint
- Chemical sedation/restraint administered with application of physical restraint unless contraindicated or patient is documented to be docile/calm post-physical restraint
- Ventilation, oxygenation and hemodynamics closely monitored following any restraint. SpO2 and etCO2 with any chemical sedation/restraint.

Stroke: In addition to the usual review elements, evaluate:

- Last known well time documented
- FAST exam performed with time of exam and each element documented
- FAST repeated/document at least every 15 minutes
- Scene time ≤ 15 minutes
- Stroke alert performed as early as possible and documented as an intervention with time
- Glucose check performed
- Emergency transportation to the hospital

Trauma: In addition to the usual review elements, evaluate:

- Mechanism of injury thoroughly described
 - Speed, height, orientation, damage (specific location and extent), protective devices, etc.
 - Condition prior to EMS including loss of consciousness, ambulation, etc.
- Major hemorrhage immediately and appropriately addressed
- For trauma center triage criteria:
 - Scene time ≤ 10 minutes or documented reason for delay
 - Trauma Alert notification made as early as possible and documented as intervention with time
 - No fluid resuscitation beyond SBP 90mmHg and adequate perfusion
- If selective spinal clearance performed, all exam elements documented and meet protocol criteria
- If SMR applied, patient movement minimized. Patient transported supine and well secured or documented medical decision-making for other positioning.
- Any penetrating chest or abdominal trauma covered with occlusive dressing
- Patient assessed/reassessed for signs of tension pneumothorax and addressed if indicated
- Sheet wrap or pelvic binder applied for MOI suspicious for pelvic fracture and either pelvic instability, diastasis of pubic symphysis and/or signs of hemodynamic instability

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