# ✦UNIVERSAL CARE – ADULT

**Goal:** Facilitate appropriate initial assessment and management of any EMS patient and link to appropriate *specific* CPG(s), as dictated by the findings within this universal care CPG **Inclusion Criteria:** All patient encounters with and care delivery by BioTel EMS Providers **Exclusion Criteria:** None (refer to UNIVERSAL CARE – PEDIATRIC for specific pediatric considerations) **Refer to:** Patient Evaluation and Transport Policy for the definition of a PATIENT in the BioTel EMS System and for other evaluation and transport guidelines

All persons meeting the definition of a PATIENT shall be assessed in a manner consistent with standard EMS clinical practice. The **ONLY** exception shall be if it is determined to be unsafe to perform such an assessment.

- 1. Assess scene safety: evaluate for hazards to EMS Providers, patient and bystanders
  - a. Determine number of patients
  - b. Determine mechanism of injury
  - c. Request additional resources, if needed, especially in case of:
    - i. Multiple victims (especially if adult and pediatric patients at the same scene)
    - ii. Childbirth
    - iii. Cardiac arrest
    - iv. Excited Delirium
    - v. Agitated or violent patient
- 2. Use appropriate Personal Protective Equipment (PPE)
- 3. Consider spinal motion restriction (SMR) if trauma, per Spinal Motion Restriction (SMR) Policy
  - Primary survey (Airway, Breathing, Circulation sequence, unless otherwise specified, e.g. cardiac arrest)
    - a. Airway: Refer to Airway Management CPG, as needed
    - b. Breathing: Provide supplemental oxygen to maintain SpO2 at least 94%, unless specified otherwise
      - i. Supplemental oxygen is not helpful and may be harmful to patients who are not hypoxemic
      - ii. In most cases of critically ill or injured patients, high-flow supplemental oxygen is acceptable during initial resuscitation
      - iii. Titrate oxygen supplementation to maintain SpO<sub>2</sub> 94-99% after initial resuscitation, unless otherwise specified
    - c. Circulation:

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- i. If pulseless, refer to Cardiac Arrest CPG
- ii. If major hemorrhage, refer to Trauma CPG and Hemorrhage Control/Tourniquet Use CPG
- d. Disability: If suspected acute Stroke, refer to Stroke CPG
  - i. GCS (or AVPU): Motor score is the most predictive and important factor

EYE OPENING (4)	
Spontaneous	4
To Speech	3
To Pain	2
None	1
VERBAL RESPONSE (5)	
Oriented & Appropriate	5
Confused Speech	4
Inappropriate Words	3
Incomprehensible or Moans	2
None	1
BEST MOTOR RESPONSE (6)	
Follows Commands	6
Localizes Pain/Pressure	5
Withdraws from Pain/Pressure	4
Abnormal Flexion	3
Abnormal Extension	2
None	1
TOTAL (3 to 15)	

e. Exposure & Environmental Control: Consider patient modesty when feasible; keep patient warm

- 5. **Secondary survey** (do not delay transport of critically ill or injured patients; tailor to patient presentation and complaint)
  - a. Head and face
  - b. Neck
  - c. Chest
  - d. Abdomen/back/flanks/buttocks
  - e. Extremities
  - f. Neurologic
- 6. Baseline vital signs for ALL patients (at least TWO sets, at least 5 minutes apart and documented):
  - a. Palpated pulse (Heart Rate, HR)
  - b. Blood pressure (BP)
  - c. Respiratory rate (RR) and effort
  - d. Oxygen saturation (SpO<sub>2</sub>)
  - e. Temperature (Temp)
  - f. POC Glucose (need not be repeated, unless abnormal or unless clinical condition warrants repeat)
  - g. Neurologic status (GCS) (Refer to Stroke CPG, if acute stroke is suspected)
  - h. NOTE: Unstable patients shall have repeat vital signs documented every 5 to 10 minutes
- 7. Acutely ill or injured patients, patients with altered LOC, and any patient with an advanced airway:
  - a. Continuous ECG monitoring
  - b. Continuous pulse oximetry (SpO<sub>2</sub>) monitoring
  - c. Continuous waveform capnography (ETCO<sub>2</sub>) monitoring
- 8. 12-Lead ECG Acquisition for all patients with cardiac or respiratory complaints:
  - a. EMS Providers MUST acquire a 12-Lead ECG for any patient who meets EITHER of these criteria:
    - i. Patient 20 years of age or older with ANY Acute Coronary Syndrome (ACS) sign or symptom;
      - ii. Any age patient with ACS signs or symptoms AND a history of:
        - 1. Hypertension
        - 2. Cardiac disease
        - 3. Tobacco use (any form)
        - 4. Diabetes Mellitus
        - 5. Severe obesity
        - 6. High cholesterol
        - 7. Family history of cardiac disease, especially sudden cardiac death
        - 8. Recent recreational drug use
  - b. When in doubt, obtain and transmit a 12-Lead ECG
  - c. **NOTE:** Continuous, 3-lead ECG monitoring is NOT the same as a 12-Lead ECG and does NOT substitute for the acquisition and transmission of a 12-Lead ECG

#### 9. OPQRST History for pain or a similar symptom

- 10. SAMPLE History for all patients, when possible:
  - a. S: Symptoms
  - b. A: Allergies (medications, environmental, food)
  - c. M: Medications (prescription, over-the-counter; BRING CONTAINERS to hospital, if possible)
    - i. NOTE: Blood thinners are very important, especially for trauma (even "minor" trauma)
  - d. P: Past Medical/Surgical History
    - i. Look for medical alert tags, portable medical records and advance directives (DNR)
    - ii. Look for medical devices and implants (e.g. dialysis shunt, insulin pump, pacemaker or implanted defibrillator, central venous catheter/port, gastric tubes, bladder catheter)
    - iii. Consider possibility of pregnancy in any female patient older than 10 years of age
  - e. L: Last oral intake
  - f. E: Events leading up to the 911 call
    - i. For a patient with altered LOC, syncope, seizure or acute stroke:
      - 1. Consider transporting the family member/guardian on-scene to the hospital, OR
      - 2. Obtain contact information (mobile or other telephone number) to provide to E.D. personnel

#### 11. Specific patient considerations:

- a. "Geriatric" definition varies according to the specific CPG and receiving hospital
  - i. 65 years of age is the general definition in most cases, unless otherwise specified
  - ii. 55 years of age is the definition for TRAUMA, unless otherwise specified
- b. "Pediatric" definition and general guidelines are covered in UNIVERSAL CARE PEDIATRIC

## 12. Specific treatment considerations:

- a. **Reduced medication doses** may apply to patients with kidney or liver disease, to geriatric patients, or to patients on prescription medications with known, drug-drug interactions
- b. Endotracheal medication administration:
  - i. Because of lack of efficacy/benefit, endotracheal medication administration is not used in the BioTel EMS system

### c. Intranasal medication administration, as device availability permits:

- i. ONLY the following medications may be administered by the intranasal (IN) route, as clinically indicated, in the BioTel system:
  - 1. Diazepam (optional medication; adults only)
  - 2. Fentanyl (optional medication)
  - 3. Glucagon
  - 4. Midazolam (optional medication)
  - 5. Naloxone
  - 6. Ondansetron (optional medication)

### d. Vascular access and fluid administration:

- i. Normal Saline (0.9% Saline) is the only IV/IO fluid routinely used in the BioTel EMS system ii. Vascular access:
  - 1. Antecubital or external jugular veins are preferred for adults in cardiac arrest
  - 2. Paramedics may use existing central venous lines in critical cases, if the paramedic has the specialized knowledge and equipment to do so
  - 3. Intraosseous (IO) access may be performed in critically ill or injured patients when fluids and/or medications are necessary, but is not the first-line access modality
    - a. In adult cardiac arrest, IO administration may be less effective than IV
    - b. Paramedics shall not establish IO access to replace routine IV access that is unsuccessful or difficult to establish
- iii. Fluid administration:
  - 1. For routine IV placement, fluid may be administered at a TKO rate or a saline lock may be substituted.
  - 2. Selected, hypotensive trauma patients, such as those in traumatic cardiac arrest, may benefit from initial fluid administration at "wide open" rate, until ROSC (palpable radial pulse) or other appropriate clinical response is achieved.
  - 3. For patients requiring fluid resuscitation, infuse 20 mL/kg (maximum 1000 mL (1L) per bolus), with frequent reassessment after each bolus
  - 4. For patients with hemorrhagic shock due to uncontrollable external or internal bleeding, administer only enough IV/IO fluid to maintain a palpable radial pulse (equivalent to approximately SBP 90 mmHg)

## 13. Cardiac Arrest considerations (Refer to the Cardiac Arrest, Asystole/PEA and VF/VT CPGs):

- a. Survival determinants with good neurologic function after out-of-hospital cardiac arrest (OOH-CA):
  - i. Immediate, minimally-interrupted, high-quality, "pit-crew" CPR 1<sup>st</sup> priority for every OOH-CA ii. Prompt defibrillation for a shockable rhythm
- b. The BioTel EMS system uses "Continuous Chest Compressions" for adults and adolescents, either with BVM-assisted ventilation OR with an advanced airway:
  - i. Chest compression rate: 100-120 per minute
  - ii. Chest compression depth: 2" (5 cm) to 2.5" (6 cm)
    - 1. Allow for complete chest recoil, without leaning on the chest
  - iii. Asynchronous ventilations: 8 to 10 per minute (1 breath every 6 to 8 seconds)
    - 1. Do not pause compressions to provide ventilations
    - 2. Six breaths per minute (1 breath every 10 seconds) if TRAUMATIC cardiac arrest
  - iv. Hand placement: Two hands, midline, lower half of sternum
  - v. Chest recoil: Allow full recoil after each compression; do not lean on chest after compression
- c. Chest compression fraction:

- i. Minimal interruptions to effective chest compressions improve survival and recovery
- ii. Chest compression pauses for rhythm check or shock should be less than 5-10 seconds
- iii. The chest compressor role should be rotated during the brief pause to perform rhythm check
- d. **Metronomes** enhance accuracy of chest compression rate (100-120 per minute) and are associated with improved survival and recovery outcomes they should be used for <u>all</u> CPR incidents
- e. AED Deployment (without interrupting chest compressions):
  - i. Power on the AED FIRST
  - ii. Place hands-free pads on bare chest as soon as possible
  - iii. Follow ALL visual and voice prompts by the AED until paramedics arrive
- f. Manual monitor-defibrillator deployment (without interrupting chest compressions):
  - i. PADDLES lead, NOT Lead II, immediately upon patient contact and throughout resuscitation ii. MANUAL mode preferred over "AED mode" whenever possible
- g. Suspected asystole:
  - i. Quick check for loose/disconnected leads, defibrillator power and signal strength ("gain")
  - ii. Do NOT interrupt effective chest compressions to confirm asystole in multiple leads
  - iii. If fine ventricular fibrillation ("fine VFib") cannot be excluded, proceed with treatment according to the Ventricular Fibrillation/Pulseless Ventricular Tachycardia CPG

### h. Advanced airway placement:

- i. BVM with oro- or nasopharyngeal airway on-scene for at least 6 minutes (3 rounds of CPR)
  1. EXCEPTION: Active regurgitation may require earlier advanced airway placement
- ii. There is no survival or recovery benefit to earlier advanced airway placement

## i. Patient movement during CPR:

- i. Perform CPR on-scene for a minimum of 10 minutes, unless scene is unsafe
- ii. There is no survival or recovery benefit to earlier patient movement to the ambulance

### j. Patient transport during or after cardiac arrest:

- i. High-quality resuscitation on-scene correlates with the best chance of favorable outcome
- ii. Very few patients who do not achieve Return of Spontaneous Circulation (ROSC) in the field will be successfully resuscitated in the E.D.
- iii. If a patient is transported EITHER with CPR in progress OR after achieving ROSC, there must be at least two rescuers in the back of the ambulance
- iv. Refer to Field Termination Policy for details about termination of resuscitation efforts