



Uniform Trauma Transport Protocols

I. COMMUNICATION (DISPATCH) CENTER PROCEDURE

- A. All EMS systems utilize the E911-phone system in conjunction with Computer Aided Dispatch (CAD) and Emergency Medical Dispatch programs. The call taker confirms all emergency information, including address and callback data prior to the end of the telephone conversation; immediately transmits the emergency call request to the nearest available Fire-Rescue unit(s) for response; and provides all unit(s) with all available information concerning the incident.
- B. Call taker personnel/dispatchers shall make every attempt to obtain the following information from the 911 caller:
 1. Nature of the emergency;
 2. Location of the incident;
 3. Call back number;
 4. Number of patients;
 5. Severity of the illness/injury;
 6. Name of the caller.
- C. Broward County operates a consolidated communications system, encompassing all but three self-dispatched fire rescue agencies. Should on scene personnel recognize a need for other emergency agencies (e.g. law enforcement, fire, EMS, Coast Guard), they shall notify Dispatch immediately. On scene personnel must identify the type of additional equipment/staffing needed/required. The communications center shall contact the appropriate services (mutual aid/automatic aid).

II. ON SCENE PROCEDURE - Ground

- A. Upon arrival at the scene, EMS personnel shall conduct a size up of the scene, to include, but not limited to, Trauma Alert Criteria (Section IV), safe entry, severity, and number of patients, the need for extrication, and the need for additional help. Dispatch and the nearest appropriate trauma center will be notified, as soon as possible, of "Trauma Alert" patient(s). Dispatchers shall immediately transfer this information, using the words "Trauma Alert" to the supervisor on duty.
- B. EMS personnel shall transport patient(s) to the nearest appropriate trauma center (catchment area identified in the Broward County Trauma Plan). If the nearest appropriate Trauma Center is outside of the Trauma Agency's geographical boundaries, the Trauma Alert patient will be transported to the nearest appropriate facility.
- C. EMS personnel shall submit the treatment data for each trauma patient to the trauma center as required in 64J-1.014, F.A.C. and their respective agency.

III. TRANSPORT PROCEDURE (Rescue Helicopter)

*Three steps to follow when Broward Sheriff's Office, Dept. of Fire Rescue's (BSODFR) Helicopter is used for rapid transport of the trauma patient. **The first two** are directed toward the safety of the helicopter pilot and crew, ground personnel, patient, and bystanders; and the **third** is to establish operational guidelines as to when and/or if the helicopter may be used to transport these patients.*

- A. Severe weather at scene, helicopter hanger, landing zone (LZ), or Trauma Center reduces the use of the Rescue Helicopter.
- B. Safety considerations for landing zone (if any of 4 below, use ground transport or **move** the landing zone):
 - 1. Power lines around landing zone;
 - 2. Trees, signs, poles, or other obstacles in immediate landing area;
 - 3. Pedestrians and large gatherings of civilians in the area;
 - 4. An expectation that the area may not remain safe.
- C. Rescue helicopter may be used if:
 - 1. Transport driving time to the appropriate Trauma Center the patient is farther away than twenty (20) minutes;
 - 2. Ground transportation is not available and is not expected to be available within a reasonable time;
 - 3. The helicopter is needed to gain access to a patient for transport from an inaccessible area;
 - 4. Extrication time greater than fifteen (15) minutes.

D. Operational Guidelines by ground EMS crews for Rescue helicopter use:

1. Secure a TAC radio channel through the County's dispatch center and keep open until Helicopter has left scene.
2. Ground Crew **PRE-ALERT** Trauma Center.
3. Start County Unified Trauma Telemetry Report (**CUTT REPORT**) or respective agency's modified patient treatment form.
4. Airway - advise Air Crew on airway status and if airway assistance or **RSI** (Rapid Sequence Intubation) is required.
NOTE: (for pediatric patients only) if using the landing pad at Broward Health North Medical Center and crew feels that the patient requires immediate attention, advise helicopter crew that the patient will be seen by the Trauma Services physicians prior to transport to pediatric trauma center (BHMC or Memorial)
5. Begin Packaging Patient (remove shoes and clothes from vital areas). Advise Air Crew of the weight of the patient.
6. Have a minimum of three (3) unobstructed lanes of traffic for roadway landings whenever possible.
7. Pilot may require traffic stopped in both directions.
8. Landing Zone units must remain at their post until helicopter has left the scene.
9. Headlights should be turned off at night.
10. Only clear landing zone upon direction of Air Rescue crew and law enforcement on scene.

IV TRAUMA ALERT CRITERIA

The following guidelines are to be used to establish the criteria for a "Trauma Alert" patient and determine which patient(s) will be transported to a trauma center. Any patient that meets any **one** of the "**RED**" criteria or any two "**BLUE**" criterion will be considered a trauma alert.

A. ADULT TRAUMA SCORECARD METHODOLOGY

1. Each EMS provider shall ensure that upon arrival at the location of an incident, EMS personnel shall:
 - a. Assess the condition of each adult trauma patient using the adult trauma scorecard methodology, as provided in this section to determine whether the patient should be a trauma alert.
 - b. In assessing the condition of each adult trauma patient, the EMS personnel shall evaluate the patient's status for each of the following components: airway, circulation, best motor response (i.e., Glasgow Coma Scale), cutaneous, long bone fracture, patient's age, and mechanism of injury. The patient's age and mechanism of injury (i.e., ejection from a vehicle or deformed steering wheel) shall only be assessment factors when used in conjunction with assessment criteria included in # 3 (**Level 2**) of this section. (NOTE: Glasgow Coma Scale included for quick reference.)

2. EMS personnel shall assess all adult trauma patients using the following “**RED**” criteria in the order presented and if **any one** of the following conditions is identified, the patient shall be considered a trauma alert.
 - a. **AIRWAY:** Active ventilation assistance required due to injury(ies) causing ineffective or labored breathing beyond the administration of oxygen.
 - b. **CIRCULATION:** Patient lacks a radial pulse with a sustained heart rate greater than or equal to 120 beats per minute or has a blood pressure of less than 90mmHg systolic.
 - c. **LONGBONE FRACTURE:** Patient reveals signs or symptoms of two or more long bone fractures sites (humerus, radius/ulna, femur, or tibia/fibula).
 - d. **CUTANEOUS:** 2nd or 3rd degree burns to 15 percent or greater of the total body surface area; electrical burns (high voltage/direct lightning) regardless of surface area calculations; an amputation proximal to the wrist or ankle; any penetrating injury to the head, neck, or torso (excluding superficial wounds where the depth of the wound can be determined).
 - e. **BEST MOTOR RESPONSE (BMR):** Patient exhibits a score of 4 or less on the motor assessment component of the Glasgow Coma Scale; exhibits the presence of paralysis; suspicion of a spinal cord injury; or the loss of sensation.
 - f. **MISC.:**
 - PARAMEDIC JUDGEMENT- If none of the conditions are identified using the criteria above during the assessment of the adult trauma patient, the paramedic can call a trauma alert if, in his or her judgment, the patient’s condition warrants such action.
 - GLASGOW COMA SCORE- 12 or less

3. Should the patient not be identified as a trauma alert using the **“RED”** criterion listed in #2 of this section, the trauma patient shall be further assessed using the **“BLUE”** criteria in this section and shall be considered a **trauma alert** patient when a condition is identified from **any two** of the seven components included in this section.
 - a. **AIRWAY:** Respiratory rate of 30 or greater.
 - b. **CIRCULATION:** Sustained heart rate of 120 beats per minute or greater.
 - c. **LONGBONE FRACTURE:** Patient reveals signs or symptoms of a single long bone fracture resulting from a motor vehicle collision or a fall from an elevation of 10 feet or greater.
 - d. **CUTANEOUS:** Soft tissue loss from either a major degloving injury; or major flap avulsion greater than 5 inches; or has sustained a gunshot wound to the extremities of the body.
 - e. **BEST MOTOR RESPONSE (BMR):** BMR of 5 on the motor component of the Glasgow Coma Scale.
 - f. **MECHANISM OF INJURY:** Patient has been ejected from a motor vehicle, (excluding any motorcycle, moped, all-terrain vehicle, bicycle or the open body of a pick-up truck), or the driver of the motor vehicle has impacted with the steering wheel causing steering wheel deformity.
 - g. **AGE:** Anticoagulated Older Adult >55
 - h. **MISC.:** Blunt Abdominal Injury

4. If the patient is not identified as a trauma alert after evaluation using the criteria in sections 2 or 3 above, the trauma patient will be evaluated using all elements of the Glasgow Coma Scale. If the score is **12 or less**, the patient shall be considered a trauma alert (excluding patients whose normal Glasgow Coma Scale Score is 12 or less, as established by medical history or pre-existing medical condition when known).
5. Where additional trauma alert criteria have been approved by the EMS service's medical director and approved for use in conjunction with Broward County Trauma Alert Criteria as the basis for calling a trauma alert shall be documented as required in section 64J-1.014, F.A.C. of the patient care record. Such local trauma assessment criteria can only be applied after the patient has been assessed as provided in sections #2, #3, and #4 above of the Adult Trauma Alert Criteria.
6. If paramedic judgment is used as the basis for calling a trauma alert, it shall be documented on all patient data records as required in section 64J-1.014, F.A.C.
7. The results of the patient assessment shall be recorded and reported on all patient data records in accordance with the requirements of section 64J-1.014, F.A.C.

Patients found to meet Trauma Alert criteria upon arrival or after arrival at a non-trauma center will be expeditiously transferred to the appropriate trauma center. (See Section V.)

B. PEDIATRIC TRAUMA SCORECARD METHODOLOGY

Pediatric patients are those persons age 15 or younger and will be transported to the nearest appropriate Pediatric Trauma Center.

1. EMS personnel shall assess all pediatric trauma patients using the following **"RED"** criteria and if **any** of the following conditions are identified, the patient shall be considered a pediatric trauma alert:
 - a. **AIRWAY:** Active ventilation assistance required due to injury(ies) causing ineffective or labored breathing beyond the administration of oxygen.
 - b. **CONSCIOUSNESS:** Patient exhibits an altered mental status that includes drowsiness; lethargy; inability to follow commands; unresponsiveness to voice or painful stimuli; or suspicion of a spinal cord injury with/without the presence of paralysis or loss of sensation (can include reliable history of loss of consciousness).

- c. **CIRCULATION:** Faint or non-palpable carotid or femoral pulse or the patient has a systolic blood pressure of less than 50 mmHg.
 - d. **FRACTURE:** Evidence of an open long bone (humerus, radius/ulna, femur, or tibia/fibula) fracture or there are multiple fracture sites or multiple dislocations (except for isolated wrist or ankle fractures or dislocations).
 - e. **CUTANEOUS:** Major soft tissue disruption, including major degloving injury; or major flap avulsions; or 2nd or 3rd degree burns to 10 percent or more of the total body surface area; electrical burns (high voltage/direct lightning) regardless of surface area calculations; or amputation proximal to the wrist or ankle; or any penetrating injury to the head, neck or torso (excluding superficial wounds where the depth of the wound can be determined).
 - f. **PARAMEDIC JUDGEMENT:** If none of the conditions are identified using the criteria above during the assessment of the pediatric trauma patient, the paramedic can call a trauma alert if, in his or her judgment, the patient's condition warrants such action.
2. In addition to the criteria listed above in (1) of this section, a pediatric trauma alert shall be called when **"Blue"** criteria are identified from **any two** of the components included below:
- a. **CONSCIOUSNESS:** Exhibits symptoms of amnesia, or there is loss of consciousness.
 - b. **CIRCULATION:** Carotid or femoral pulse is palpable, but the radial or pedal pulses are not palpable or the systolic blood pressure is less than 90 mmHg.
 - c. **FRACTURE:** Reveals signs or symptoms of a single closed long bone fracture. *Long bone fractures do not include isolated wrist or ankle fractures.*
 - d. **MISC.:** Blunt Abdominal Injury
 - e. **SIZE:** Pediatric trauma patients weighing 11 kilograms or less, or the body length is equivalent to this weight on a pediatric length and weight emergency tape (the equivalent of 33 inches in measurement or less).
3. In the event paramedic judgment is used as the basis for calling a **Trauma Alert**, it shall be documented as required in the 64J-1.014 F.A.C., on the patient care report and the County Unified Trauma Telemetry Report (CUTT), if used.

C. LEVEL 2 TRAUMA PATIENTS:(ADULTANDPEDIATRIC)

Persons who sustain injury with any of the following Mechanisms of Injury shall be classified as a Level 2 Trauma

1. Falls > 12 feet (adults); falls > 6 feet (pediatrics);
2. Extrication time > 15 minutes;
3. Rollover motor vehicle crash;
4. Burns involving the face, eyes, ears, hands, feet, or perineum that may result in functional or cosmetic impairment;
5. Death of occupant in the same passenger compartment;
6. Major intrusion into passenger compartment;
7. Separation from a bicycle;
8. Pedestrian struck by vehicles—not meeting the preceding automatic criteria (i.e. adults < 15 mph and pediatrics < 5 mph);
9. Any height fall adult age >55 on anticoagulant/antiplatelet medication;
10. Paramedic judgment.

V. TRANSFER PROCEDURES FOR EMERGENCY INTER-HOSPITAL TRAUMA TRANSFERS

Any hospital in Broward County may transfer a patient meeting “**Trauma Alert**” criteria by:

- A. Calling 911 and reporting a **Trauma Alert** in their Emergency Department. This call will automatically initiate a response from the local EMS rescue agency.
- B. Calling the closest Trauma Center (adult vs. pediatric) and advising the trauma section of the Trauma Alert completes the initiation of the transfer. This call should be from the sending emergency department physician to the receiving trauma surgeon.
- C. The Fire-Rescue/EMS Provider that is responsible for the area where the sending hospital is located, shall respond to the emergency department and transport the patient to the nearest trauma center as identified by the sending hospital.
- D. At the start of the transport, the Fire Rescue/EMS Provider shall notify the receiving trauma center that the unit is enroute to their facility and provide the trauma center with an estimated time of arrival.

VI. GLASGOW COMA SCALE SCORING

The Glasgow Coma Score (GCS) measures cognitive abilities. It is composed of three parameters, (eye, verbal, and motor responses) and uses numerical scoring to assist in the correlation of brain injury. Those scores are as follows:

Adult GCS:

Best Eye Response:

1. No eye opening;
2. Eye opening to pain;
3. Eye opening to verbal command;
4. Eyes open spontaneously.

Best Verbal Response:

1. No verbal response;
2. Incomprehensible sounds;
3. Inappropriate words;
4. Confused;
5. Oriented.

Best Motor Response:

1. No motor response;
2. Extension to pain;
3. Flexion to pain;
4. Withdrawal from pain;
5. Localizing pain;
6. Obeys commands.

*A GCS score is between **3 and 15, 3 being the worst and 15 the best.** A Coma score of 13 or higher correlates with a mild brain injury; 9 to 12 is a moderate injury, and 8 or less a severe brain injury. (Note a phrase "GCS of 11" is essentially meaningless, and it is important to break the figure down into its components, such as eye 3+ verbal 3 + motor 5 = GCS 11)*

Pediatric GCS:

Eye Opening	<1 Year	>1 Year	
4	Spontaneously	Spontaneously	
3	To verbal command	To verbal command	
2	To pain	To pain	
1	No response	No response	
Motor Response	<1 Year	>1 Year	
6		Obeys	
5	Localizes pain	Localizes pain	
4	Flexion – normal	Flexion – withdrawal	
3	Flexion – abnormal (decorticate rigidity)	Flexion – abnormal (decorticate rigidity)	
2	Extension (decerebrate rigidity)	Extension (decerebrate rigidity)	
1	No response	No response	
Verbal Response	0-23 Months	<2-5 Years	>5 Years
5	Smiles, coos, cries appropriately	Appropriate words and phrases	Oriented and converses
4	Cries	Inappropriate words	Disoriented and converses
3	Inappropriate crying and/or screaming	Cries and/or screams	Inappropriate words
2	Grunts	Grunts	Incomprehensible
1	No response	No response	No response

A GCS score is between 3 and 15, 3 being the worst and 15 the best. A Coma score of 13 or higher correlates with a mild brain injury; 9 to 12 is a moderate injury, and 8 or less a severe brain injury. (Note a phrase “GCS of 11” is essentially meaningless, and it is important to break the figure down into its components, such as eye 3 + verbal 3 + motor 5 = GCS 11)

VII. DESIGNATED FACILITIES

Trauma Alert patients will be transported to the nearest appropriate trauma center. If the nearest appropriate Trauma Center is outside of the Trauma Agency's geographical boundaries, the Trauma Alert patient will be transported to the nearest appropriate facility. Should this Trauma Center be temporarily unable to provide adequate trauma care, the patient will be transported to the next closest Trauma Center.

Listed below are the Trauma Centers located in Broward County:

Broward Health North Medical Center
201 E. Sample Road
Deerfield Beach, Florida 33064

Broward Health Medical Center
1600 S. Andrews Avenue
Fort Lauderdale, Florida 33316

Memorial Regional Hospital
3501 Johnson Street
Hollywood, Florida 33021

Listed below are the Pediatric Trauma Centers located in Broward County:

Broward Health Medical Center
1600 S. Andrews Avenue
Fort Lauderdale, Florida 33316

Memorial Regional Hospital
3501 Johnson Street
Hollywood, Florida 33021

VIII. RUN REPORTS

The Fire Rescue/EMS provider issuing the “**Trauma Alert**” shall provide the trauma center (Adult or Pediatric) with information required under section 64J-2.002(5), F.A.C., as well as ensuring the timely delivery of a copy of the Patient Care Run report. In addition, the EMS crew will complete the County Unified Trauma Telemetry (CUTT) Report for rapid transfer of patient information to Air Rescue and leave a copy of this report with the trauma center staff if utilized by respective EMS agency. (See attached.)

IX. TRANSPORT DEVIATION

- ***Any deviation from these Trauma Transport Protocols must be documented and justified on the patient-care incident report.***

Pre-hospital providers covered under these Uniform Trauma Transport Protocols are:

American Ambulance Service	American Medical Response
Broward Sheriff's Office Fire Rescue	Century Ambulance Service
Coral Springs Fire Rescue	Davie Fire Rescue
Fort Lauderdale Fire Rescue	Hallandale Beach Fire Rescue
Hollywood Fire Rescue	Lauderhill Fire Rescue
Lighthouse Point Fire Rescue	Margate Fire Rescue
Miramar Fire Rescue	National Health Transport
North Lauderdale Fire Rescue	Oakland Park Fire Rescue
Pembroke Pines Fire Rescue	Plantation Fire Rescue
Pompano Beach Fire Rescue	Seminole Tribe Fire Rescue
Sunrise Fire Rescue	Tamarac Fire Rescue
Tri-County Ambulance Service	



Broward County Unified Trauma Telemetry Report

Rescue Unit #: _____ Trauma Alert Type: Adult _____ OB >20weeks _____ Pediatric ≤15 YOA _____
 Mode of Transportation: Ground _____ Air _____ ETA _____
 Meets Color Criteria: Red _____ Blue _____ (1 red or 2 blue = Trauma Alert)
 Meets Level 2 Criteria: _____

Adult Trauma Alert Criteria		
	Red Criteria (1 Required)	Blue Criteria (2 Required)
Airway	_____ Active airway assistance required	_____ Sustained respiratory rate ≥ 30
Circulation	_____ No radial pulse with sustained HR ≥ 120 or BP < 90 systolic	_____ Sustained HR ≥ 120
Fractures	_____ Multiple long bone FX sites	_____ Single long bone FX sites due to MVA or single long bone FX site due to fall ≥ 10 feet.
Cutaneous	_____ 2 ^o or 3 ^o burns > 15% BSA, electrical burns (high voltage/direct lightning) regardless of surface area, amputation proximal to wrist or ankle, penetrating injury to head, neck, or torso	_____ Major degloving, flap avulsion > 5 inches, or GSW to extremities
Best Motor Response (BMR)	_____ BMR ≤ 4, or exhibits presence of paralysis, suspicion of spinal cord injury, or loss of sensation	_____ BMR = 5
Mechanism of Injury		_____ Ejection from vehicle (excluding open vehicles) or deformed steering wheel
Age		_____ Anticoagulated Older Adult >55
Misc.	_____ Paramedic Judgment (Comment Below) _____ Glasgow Coma Score ≤ 12	_____ Blunt Abdominal Injury

Pediatric Trauma Alert Criteria		
	Red Criteria (1 Required)	Blue Criteria (2 Required)
Airway	_____ Assisted or Intubated	
Consciousness	_____ Altered mental status, paralysis, suspected spinal cord injury, or loss of sensation	_____ Amnesia or reliable HX of LOC
Circulation	_____ Faint or non-palpable carotid or femoral pulses, systolic BP < 50	_____ Carotid or femoral pulses palpable; no pedal pulses or systolic BP < 90
Fracture	_____ Any open long bone FX or multiple FX sites or multiple dislocations	_____ Single closed long bone FX site
Cutaneous	_____ Major soft tissue disruption, amputation proximal to wrist or ankle, 2 ^o or 3 ^o burns to 10% BSA, electrical burns (high voltage/direct lightning) regardless of surface area, penetrating injury to head, neck, or torso	
Misc.	_____ Paramedic Judgment	_____ Blunt Abdominal Injury
Size		_____ Red, Purple <11kg (<24 lbs.)

Level 2 Trauma Alert Criteria (Adult and Pediatric)		
_____ Falls > 12ft. Adult _____ Falls > 6ft. Pediatric	_____ Death of an occupant in the same passenger compartment	_____ Any height fall adult >55 on anticoagulant/antiplatelet
_____ Extrication time > 15min.	_____ Major Intrusion into passenger compartment	_____ Paramedic Judgement
_____ Rollover motor-vehicle crash	_____ Separation from Bicycle	
_____ Burns involving the face, eyes, ears, hands, feet, or perineum that may result in functional or cosmetic impairment	_____ Pedestrian struck by vehicle not meeting the preceding automatic criteria (i.e. Adults < 15 mph and pediatrics < 5 mph)	

Paramedic Judgement Comments: _____



Broward County Unified Trauma Telemetry Report

Patient Evaluation

Age: _____ Sex: M or F Glasgow Coma Score (Adult): _____

Mechanism of Injury: _____

Initial Vital Signs: BP: _____/_____ Pulse: _____ Resp. Rate: _____ Skin: _____ Color: _____

Assessed Injuries: _____

Treatment Interventions: (Check all that apply)

Oxygen C-Collar IV x _____ BVM Backboard ETT CPR

Drug Therapy: _____

Other: _____

Current Vital Signs: BP _____ Pulse _____ Resp. Rate _____ Glasgow Coma Score _____

Additional Information: (If time permits)

Name: _____

Date of Birth: _____

Address: _____

Past Medical History: _____

Medications: _____

Allergies: _____

Glasgow Coma Score

Best Eye Response (4)

- 1 – No eye opening
- 2 – Eye opening to pain
- 3 – Eye opening to verbal command
- 4 – Eyes open spontaneously

Best Verbal Response (5)

- 1 – No verbal response
- 2 – Incomprehensible sounds
- 3 – Inappropriate words
- 4 – Confused
- 5 – Orientated

Best Motor Response (6)

- 1 - No motor response
- 2 – Extension to pain
- 3 – Flexion to pain
- 4 – Withdrawal from pain
- 5 – Localizing Pain
- 6 – Obeys Commands

Eye = _____

Verbal = _____

Motor = _____

Total

E () V () M () = GCS _____

Note the Glasgow Coma Scale measures cognitive ability. Therefore, if injury (chronic or acute) has caused paraplegia or quadriplegia, alternate methods of assessing motor response must be used (e.g., ability to blink eyes = obeys commands).