# Wake EMS System

# 1Q 2023 Peer Review Protocol Update













# **Protocol Review**

- OEMS process/protocol revisions
  - ~60 documents updated with admin edits, typo corrections, clarifications in "pearls"
- State protocol changes that we will adopt
  - The excel/pdf table that you were sent
- Protocol review notable clinical changes
  - What we will review tonight

## Summary of Change Document - Wake County EMS Protocol update 2023

- \* The information presented under "NCCEP Protocol/Policy/Procedure Changes 2022" are all of the current changes to the NCOEMS "state protocols"
- \* The information in the first column, titled "Wake EMS Action," is the Wake County EMS action taken on the change listed. Options in this column include:
  - 1. Adopted = Wake EMS has adopted the NCCEP protocol changes or new protocol as listed
  - 2. Adopted with edits = Wake EMS has adopted the NCCEP protocol changes or new protocol with edits from Wake EMS; edits are described in comments
  - 3. Not Adopted = Wake EMS has not adopted the NCCEP protocol changes or new protocol

	NCCEP Protocol/Policy/Procedure Changes 2022				
WAKE EMS ACTION	Protocol #	Title			
	Triage and Destination Protocols				
Adopted with edits- clarifications added for our trauma system	Trauma TDP	Trauma	Complete Revision		
	Adult Respiratory Section				
Adopted with edits to pearls; we do not use drug-assisted airway management	AR 1	Adult Airway	Changed SpO2 recommendations to ≥ 92%. Pearls: Updated and corrected typo's. Revised difficult airway assessment mnemonics. Added: NCOEMS Airway Form completed with use of any drug for airway management. Added page numbers.		
Adopted with edits to pearls; we do not use drug-assisted airway management	AR 2	Adult Failed Airway	Changed SpO2 recommendations to ≥ 92%. Pearls: Updated and corrected typo's. Revised difficult airway assessment mnemonics. Added: NCOEMS Airway Form completed with use of any drug for airway management. Added page numbers.		
Not adopted	AR 3	Airway Drug Assisted	Changed SpO2 recommendations to ≥ 92%. Pearls: Updated and corrected typo's. Revised difficult airway assessment mnemonics. Added: NCOEMS Airway Form completed with use of any drug for airway management. Added page numbers. Emphasized arrow from Ketamine arm to the RSI arm if hypoxia/hypotension/combativeness corrected and RSI needed. Changed Ketamine in Pediatric requirement to contact of medical director and assistant medical director only as EMS fellow should be listed as an assistant medical director. Clarified Ketamine dosing to same as UP 19. Clarified Ketamine points and Airway form requirments.		
			1		
Adopted with edits to med doses (no ranges) and pearls	AR 4	COPD and Asthma	Updated IV/IO Protocol UP 6. Added page numbers. Added DuoNeb on page 1 and in Pearls to better clarify combination nebulizers. Cleaned Pearls. Added IM Epinephrine caveats to Pearls for EMR and EMT and clarified Pearls for epinephrine/albuterol/diphenhydramine use.		

# **Protocol Review**

OEMS process/protocol revisions

State protocol changes that we will adopt

Protocol review – clinical changes

## National Guideline for the Field Triage of Injured Patients

### RED CRITERIA

## High Risk for Serious Injury

### **Injury Patterns**

- Penetrating injuries to head, neck, torso, and proximal extremities
- · Skull deformity, suspected skull fracture
- · Suspected spinal injury with new motor or sensory loss
- . Chest wall instability, deformity, or suspected flail chest
- · Suspected pelvic fracture
- · Suspected fracture of two or more proximal long bones
- · Crushed, degloved, mangled, or pulseless extremity
- · Amputation proximal to wrist or ankle
- Active bleeding requiring a tourniquet or wound packing with continuous pressure

## **Mental Status & Vital Signs**

#### **All Patients**

- Unable to follow commands (motor GCS < 6)</li>
- RR < 10 or > 29 breaths/min
- · Respiratory distress or need for respiratory support
- Room-air pulse oximetry < 90%</li>

### Age 0-9 years

SBP < 70mm Hg + (2 x age years)</li>

### Age 10-64 years

- · SBP < 90 mmHg or
- · HR > SBP

### Age ≥ 65 years

- SBP < 110 mmHg or</li>
- · HR > SBP

Patients meeting any one of the above RED criteria should be transported to the highest-level trauma center available within the geographic constraints of the regional trauma system

## YELLOW CRITERIA

## **Moderate Risk for Serious Injury**

## Mechanism of Injury

- · High-Risk Auto Crash
- Partial or complete ejection
- Significant intrusion (including roof)
  - >12 inches occupant site OR
  - >18 inches any site OR
  - Need for extrication for entrapped patient
- Death in passenger compartment
- Child (Age 0-9) unrestrained or in unsecured child safety seat
- Vehicle telemetry data consistent with severe injury
   Rider separated from transport vehicle with significant
- impact (eg, motorcycle, ATV, horse, etc.)

   Pedestrian/bicycle rider thrown, run over, or with
- significant impact
   Fall from height > 10 feet (all ages)

## **EMS Judgment**

## Consider risk factors, including:

- Low-level falls in young children (age ≤ 5 years) or older adults (age ≥ 65 years) with significant head impact
- Anticoagulant use
- · Suspicion of child abuse
- Special, high-resource healthcare needs
- Pregnancy > 20 weeks
- Burns in conjunction with trauma
- Children should be triaged preferentially to pediatric capable centers

If concerned, take to a trauma center

# Trauma TDP – new/changes

• Age ≥ 65 with SBP, 110 or HR> SBP (ages 10+)

- GCS motor < 6 (not following commands)</li>
  - (old criteria: GCS <14 closed eyes + confused?)

Fall from height > 10 feet (all ages)



## Trauma

### The Purpose of this plan:

- Rapidly perform Primary and Secondary Survey, measure Vital Signs, and assess level of consciousness.
- Rapidly identify injured patient presenting to the 911 system and minimize time from injury to definitive trauma care.
- Rapidly identify life or limb threatening injuries for EMS treatment and stabilization.
- Rapidly identify most appropriate hospital destination based on time from injury, severity of injury, and estimated transport time.
- Provide early activation/ notification to the receiving hospital of a trauma patient prior to EMS arrival.
- Minimize scene time to ≤ 15 minutes from patient extrication.
- Provide quality EMS service and patient care to citizens within the EMS system.
- Continuously evaluate the EMS system based on NCOEMS performance measures.

## AIRWAY / BREATHING SpO2 < 90% Respiratory Rate < 10 or > 29 breaths/minute Respiratory distress or need for respiratory support Chest wall instability, deformity, or suspected flail segment CIRCULATION Age 0-9 years: SBP < 70mmHg + (2 x age in years) Age 10 - 64 years: SBP < 90mmHg or HR > SBP Age ≥ 65 years: SBP < 110mmHg or HR > SBP Active bleeding requiring a tourniquet or Requiring wound packing and continuous pressure Penetrating injuries to: Head, neck, chest, back, abdomen, and/or proximal extremities (at/above elbows or knees) Suspected skull fracture/ skull deformity Suspected pelvic fracture

- Suspected fracture of ≥ 2 proximal long bones (at/above Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle

- GCS Motor Component < 6 (Unable to follow commands)
- Suspected spinal injury with new motor or sensory loss
  - (or any new weakness or new sensory deficit)

## Trauma Center or more Level 1 - WakeMed New Bern Avenue Criteria YES Duke in Durham - UNC Chapel Hill \*\* In our system, a Level I NO trauma center is mandated for **ALL** pediatric trauma patients (age < 18) due to destination capabilities. Any one or more Level 3 YES criteria NO Transport to closest appropriate facility Transport to: Closest Level 1 Or Level 3 Trauma Center

Transport to:

Level 1

WakeMed New Bern Avenue

- WakeMed Cary

- Duke in Durham

- UNC Chapel Hill

#### \*Mechanism of Injury

### OTHER (LEVEL 3) CRITERIA

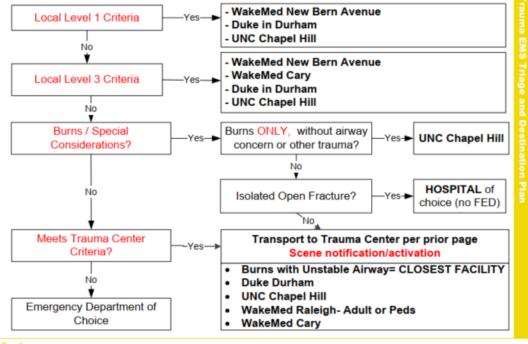
- High-Risk MVC, including:
  - Partial or complete ejection
  - Significant intrusion into passenger space (> 12in occupant site or > 18in any site)
  - Any need for extrication for entrapped patient
  - Death in passenger compartment
  - Child (age 0-9) unrestrained or in unsecured child safety seat
- Rider separated from vehicle with significant impact (e.g. motorcycle, ATV, horse, etc)
- Pedestrian/bicycle rider ejected, thrown, run over, or with significant impact
- Fall > 10 feet (all ages)

#### \*Consider other risk factors, including:

- Pregnancy > 20 weeks with even minor blunt trauma should be transported to a trauma center due to the need for trauma service evaluation and prolonged fetal monitoring. \*\*If a pregnant patient meets level 1 criteria, transport to a Level 1 trauma center
- Older adults ≥ 65 years of age: Even low impact mechanisms (e.g. ground level falls, minor MVCs) may result in severe injury, especially in patients who are taking anticoagulants
- Low level falls with significant head impact in older adults or pediatrics
- Medically complex patients at baseline (multiple medical problems, special needs/resources)
- Pediatrics: Suspected child abuse, falls with significant head impact when ≤ 5 years of age EMS Provider discretion may be used to determine if a patient needs to be transported to a
- trauma center vs. a non-trauma center. WHEN IN DOUBT OR ANY CONCERN, TRANSPORT TO A TRAUMA CENTER.

## Trauma **EMS Triage and Destination Plan**

Critical or Serious burns should be transported directly to a Burn Center if possible. Consider whether a patient meets trauma criteria, Transport to a Trauma Center or the CLOSEST EMERGENCY DEPARTMENT as necessary in the event of any airway management complication in a burn patient. Consider remaining at the ED if possible in order to resume transport to burn center once airway secured, if patient condition permits.



- If unstable airway, may divert transport to closest appropriate facility.
- All trauma patients should be triaged and transported using this plan daily.
- Patients not meeting RED or YELLOW criteria should be triaged to most appropriate facility in the usual fashion.
- Designated Trauma Centers:

Hospital currently designated or with provisional level status by NCOEMS.

Level I, II, or III designated centers are recognized.

Free standing emergency departments are not considered part of the trauma center.

- Burns: Isolated burn patients should be triaged to most appropriate, closest facility. Burns with other penetrating or blunt trauma should be triaged using this protocol.
- Designated Burn Center: American Burn Association (ABA) verified Burn Center co-located with a designated Trauma Center.
- Helicopter EMS (HEMS):

There is no clear evidence that define strict criteria as to which patients may benefit from HEMS transport.

There is no clear evidence that define transport time considerations when assessing the need for HEMS transport.

HEMS service should be incorporated into the regional EMS plan and participate in agency Peer Review. HEMS utilization is strictly a medical decision and while life saving, can be very costly to the patient.

Considerations when utilizing HEMS:

Patients meeting Trauma Triage and Destination RED criteria:

When transport times are > 30 - 45 minutes from the Trauma Center.

When geographic distance is > 45 minutes from the Trauma Center.

When faced with an entangled or entrapped victim, add estimated extrication time to transport time.

Modality of transport in acute trauma depends on multiple factors, but safest and fastest should be considered, whether ground EMS, air medical EMS, or specialty/critical care ground transport.

## AIRWAY / BREATHING

- SpO<sub>2</sub> < 90%</li>
- Respiratory Rate < 10 or > 29 breaths/minute
- Respiratory distress or need for respiratory support
- Chest wall instability, deformity, or suspected flail segment

## CIRCULATION

**Age 0-9 years**: SBP < 70mmHg + (2 x age in years)

Age 10 - 64 years: SBP < 90mmHg or HR > SBP

Age ≥ 65 years: SBP < 110mmHg or HR > SBP

## **HEMORRHAGE**

- Active bleeding requiring a tourniquet or Requiring wound packing and continuous pressure
- Penetrating injuries to:

Head, neck, chest, back, abdomen, and/or proximal extremities (at/above elbows or knees)

- Suspected skull fracture/ skull deformity
- Suspected pelvic fracture
- Suspected fracture of ≥ 2 proximal long bones (at/above elbows or knees)
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle

## DISABILITY

- GCS Motor Component < 6 (Unable to follow commands)
- Suspected spinal injury with new motor or sensory loss (or any new weakness or new sensory deficit)

## \*Mechanism of Injury

## OTHER (LEVEL 3) CRITERIA

- High-Risk MVC, including:
  - Partial or complete ejection
  - Significant intrusion into passenger space (> 12in occupant site or > 18in any site)
  - Any need for extrication for entrapped patient
  - Death in passenger compartment
  - Child (age 0-9) unrestrained or in unsecured child safety seat
- Rider separated from vehicle with significant impact (e.g. motorcycle, ATV, horse, etc)
- Pedestrian/bicycle rider ejected, thrown, run over, or with significant impact
- Fall > 10 feet (all ages)

## \*Consider other risk factors, including:

- Pregnancy > 20 weeks with even minor blunt trauma should be transported to a trauma center due to the need for trauma service evaluation and prolonged fetal monitoring. \*\*If a pregnant patient meets level 1 criteria, transport to a Level 1 trauma center
- Older adults ≥ 65 years of age: Even low impact mechanisms (e.g. ground level falls, minor MVCs) may result in severe injury, <u>especially in patients who are taking anticoagulants</u>
- Low level falls with significant head impact in older adults or pediatrics
- Medically complex patients at baseline (multiple medical problems, special needs/resources)
- Pediatrics: Suspected child abuse, falls with significant head impact when ≤ 5 years of age
- EMS Provider discretion may be used to determine if a patient needs to be transported to a trauma center vs. a non-trauma center. WHEN IN DOUBT OR ANY CONCERN, TRANSPORT TO A TRAUMA CENTER.



Trauma Services

Trauma Activation Criteria Raleigh Campus No. 4105 Page: 1 of 1

Effective Date: 11/20/2019

## Adult Trauma Activation Criteria (15 yrs +)

## Trauma One Criteria: Attending within 15 minutes

BP< 90, RR < 10 or >29 GCS  $\leq$  8 after trauma or significant injury

Age >65 with SBP <110

Airway Compromise Penetrating injury to the head, neck, or torso

Amputation proximal to wrist or ankle Paralysis

Transfer patients from other hospitals receiving blood to maintain vital signs

Drowning, hanging, asphyxiation that meets above criteria or with physiologic abnormality

Tourniquet in place to any extremity after traumatic injury

CODE STEMI, CODE Stroke with any trauma criteria

Physician's discretion

## <u>Trauma Alert Criteria: Trauma team</u> evaluation within 30 minutes

Altered mental status (GCS 9 to <14) after trauma or significant injury

Flail chest or multiple rib fractures

Blunt chest trauma

2 or more long bone fractures

Penetrating injury to extremity proximal to elbow/knee

Crushed, degloved, or mangled extremity Pelvic fractures

Open or depressed skull fractures

Falls: Adult > 20 feet (one story is 10 feet)

Adult > 65 y/o with fall from ANY HEIGHT above standing

Intrusion > 12 inch occupant site, > 18 inch into passenger

Ejection (partial or complete) from an automobile

Death in the same passenger compartment Auto vs. Pedestrian/Bicyclist thrown, run over, or with

significant impact, speed > 20 MPH MCC crash with impact > 20 MPH

Significant burns (>10% or to the hands, feet or perineum)

Burns with potential for airway compromise Greater than 55 years old with Traumatic injury

Anticoagulants/antiplatelet/antithrombin agents (other than

ASA) with significant injury EMS Provider judgement

Physician's discretion

Origination date: 10/01/2017
Prepared by: MGR, TRAUMA PROGRAM
Approved by: MED DIR. TRAUMA

## Special Population Trauma Activation Criteria

## **Pediatric Trauma One:**

If less than 15 years meeting any Trauma One Criteria or

- SBP< 70 + 2x age (in years)</li>
- RR <20 in infant less than 1 year</li>
- 2 or more long bone fractures

### OB Trauma One:

≥20 weeks meeting any Trauma One Criteria OR vaginal bleeding after traumatic injury OR Significant Blunt Mechanism:

- Ejection (Partial/complete) from automobile
- Auto vs Ped/Bicycle
  - Thrown or run over
  - With significant impact speed
     >20mph
- Pelvic Fx
- 1 or more long bone fracture
- Fall > 20feet (one story is 10 feet)

Fetal Heart Rate <110 bpm for >60sec (Automatic Upgrade)

Physician's discretion

### **Pediatric Trauma Alert:**

If less than 15 years meeting any Alert Criteria

Falls: > 10 feet or 2-3 times height of child

#### **OB** Trauma Alert:

≥20 weeks on long spine board OR

Abd pain

Altered mental status (GCS 9 to <14) after trauma or significant injury

Flail chest or multiple rib fractures

Blunt chest trauma

Crushed, degloved, or mangled extremity

Intrusion >12 inch occupant side, >18 inch into passenger compartment

Open or depressed skull fractures

Death in the same passenger compartment MCC crash with impact > 20 MPH

Significant burns (>10% or to the hands, feet or perineum)

Burns with potential for airway compromise Anticoagulants/antiplatelet/antithrombin agents (other than

ASA) with significant injury

EMS Provider judgement Physician's discretion

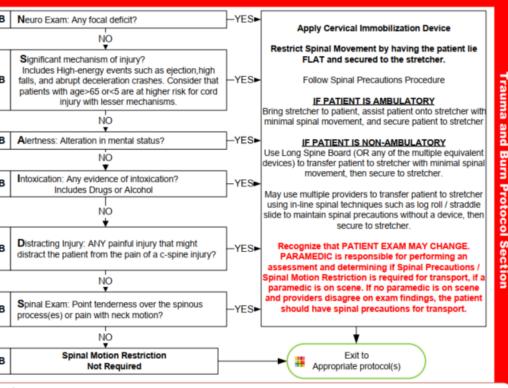
lysician's discretion

## \*Injuries occurring within 24 hrs should be considered for activation

# **Hospital Criteria**

- EMS does not worry about "level" of internal response
  - Our job/field triage criteria is correct destination
- EMS provider judgment vs. physician's discretion
- Conservative with elderly!
  - MVCs and falls

## **Selective Spinal Motion Restriction**



#### earls

Recommended Exam: Mental Status, Skin, Neck, Heart, Lungs, Abdomen, Back, Extremities, Neuro
Patients without all the above criteria do not require spinal motion restriction. However, patients who fail one or more
criteria above require spinal motion restriction, but do NOT require use of the long spine board for immobilization.
Significant mechanism includes high-energy events such as ejection, high falls, and abrupt deceleration crashes and may indicate
the need for spinal motion restriction. Consider also the "change of plane fall" mechanism in which a patient strikes his head while
falling, causing sudden deceleration and hyperextension of the cervical spine.

Long spine boards are NOT considered standard of care in most cases of potential spinal injury. Spinal motion restriction while padding all void areas is appropriate. Spinal motion restriction is always utilized in at-risk patients. Spinal Motion Restriction is defined as cervical collar, securing FLAT to stretcher unless anatomy prevents, minimizing movement / transfers and maintenance of in-line spine stabilization during any necessary movement / transfers. This includes the elderly or others with body or spine habitus preventing them from lying flat. Consider spinal motion restriction in patients with arthritis, cancer, dialysis, underlying spine or bone disease, including any prior spinal surgery or fusion.

Range of motion (ROM) is tested by touching chin to chest (look down), extending neck (look up), and turning head from side to side (shoulder to shoulder) without posterior cervical pain. ROM should NOT be assessed if patient has any spinal tenderness. Patient's range of motion should not be assisted.

### Immobilization on a long spine board is not necessary where:

Penetrating trauma to the head, neck or torso with no signs / symptoms of spinal injury.

- Other concerning mechanisms that may result in spinal column injury:
   Fall from ≥ 3 feet and/or ≥ 5 stairs or steps
  - MVC ≥ 30 mph, rollover, and/or ejection, or Motorcycle, bicycle, other mobile device, or pedestrian-vehicle crash
  - Diving injury or axial load to spine such as something heavy hitting the top of the head, or jumping from height.
  - Significant Electric shock

# **SMR** reminders

- "If no paramedic is on scene and providers disagree, pt should have SMR"
  - Aka, if no collar from FRs, EMS EMTs follow the protocol and place collar if indicated. If collar in place from FRs, leave in place.

- SMR is cervical collar and LYING FLAT on the stretcher
  - Not 45 degrees, not monitor behind head of bed, etc

# **Questions about Trauma?**

Next....

# Non-paramedic trucks \*see Transport 21

- Should an EMS crew encounter a patient that meets the criteria below for non-transfer to a lower credential, or encounter any situation in which paramedic care is needed, and a paramedic is not on-scene, a paramedic should be requested to respond to the scene or intercept the EMS unit en-route to the hospital in order to participate in patient care. Depending on the circumstances, appropriate care options include:
  - A. Request for the closest paramedic unit to be dispatched to respond to the scene; wait on scene until a paramedic arrives.
  - B. Coordinate a paramedic intercept while the non-paramedic unit is en-route to the ED
  - C. Transport directly to the ED without a paramedic if the appropriate ED is closer than the closest available paramedic unit.
- \*\* Triage and Destination plans should be followed when taking into account whether the closest paramedic unit is a faster source of advanced care than transport to the ED. For example, a patient meeting trauma criteria should still be transported to an appropriate trauma center rather than the closest ED. In this case, a paramedic intercept should be coordinated at the discretion of the transporting EMS crew, considering time, distance, and urgency of need for paramedic-level interventions. An exception to this guidance is medical cardiac arrest; all medical cardiac arrests should have initial on-scene treatment and request for a code response to the scene consistent with our cardiac arrest protocols.
- Don't wait on scene if the ED is closer than the paramedic
- Start transport, request intercept if necessary/feasible

## Background...

- Wake EMS historically staffed "at least one paramedic" on every truck responding to 911 calls
  - Medic-Medic, Medic-AEMT, Medic-EMT, Medic/FTO-Medic-EMT

- Summer 2021 staffing issues, growth, need for new plan
- BLS units in-service 9/20/2021
  - 2 peak-load units, EMT-EMT or AEMT-EMT



## Analysis of our care by EMD code

- Reviewed a year's worth of calls using our ESO data
  - Reported out EMD code, clinical criteria, meds/procedures, etc

- Wanted to know, for example, of all the 26A1 calls (sick person, no priority symptoms), what percentage of those patients met high acuity criteria and/or received ALS meds/interventions
- Calls with a low percentage (20%? Less?) were highlighted for potential BLS unit dispatch (i.e. BLS response plan)



# Analysis of "historical" care by EMD code

• Yes it's done differently everywhere... But, this was going to be a big change for us- less meds, less 12 leads?

• Where is the "balance" – can we find enough low acuity calls to keep the BLS units busy (don't need to find more than that, necessarily), then expand as the number of units expand?

- 192 determinants on the final list, ~10% of total determinants
  - Alphas, Omegas, Bravos



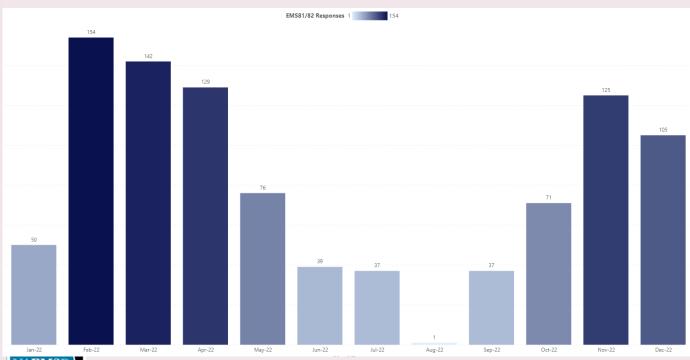
## Operational considerations

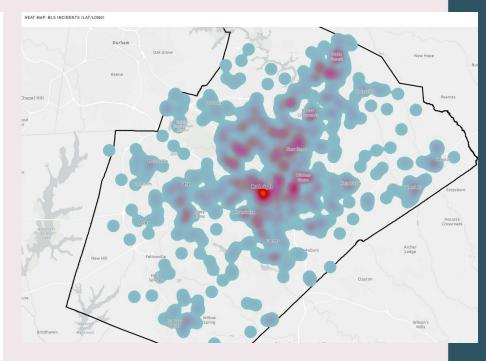
- All BLS units are stocked with the same equipment, meds, supplies as every other truck in the system
  - Crews know their scope of practice
  - Flexibility with rolling stock for 911 service, special events
- Dispatch framework established and response plans created
  - Modifications to dispatch criteria "in real time" by our shift commander
- Hospital System and ED partner education



## Operations metrics – CY 2022

- Staffing challenges, especially in the summer (no BLS unit in service)
- ~1000 BLS unit responses during CY 2022
- Geography, units in service (vs. on a call) and dispatch rules







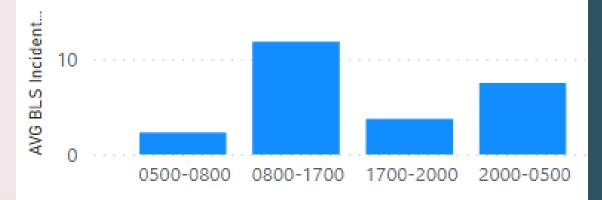
## Operations metrics – CY 2022

- About half of BLS unit calls run (n=496)
   were on the "BLS response plan"
  - Others initiated by shift commander or closest additional unit (e.g. to a code)
  - BLS unit + single paramedic responder during times of low unit availability
- On average, ~30 incidents per day that are in the BLS response plan

  AVG BLS I
  - ~11k/yr, or ~9% of call volume

Problem	EIVI SO I	EIVI302	Total
Sick Person 26A1	102	46	148
Falls 17A4G	62	26	87
Sick Person 26A10	49	21	70
Sick Person 26A2	23	11	34
Hemorrhage/Lacerations 21A1M	17	3	20
Sick Person 2606	14	2	16
Sick Person 26A9	7	5	12
Sick Person 26O28	8	3	11
Sick Person 2607	5	6	11
Falls 17A3G	7	1	8
Headache 18A1	5	2	7
Cardiac Arrest 9B1A	3	2	5
Hemorrhage/Lacerations 21A1T	4	1	5
MVC Injuries 29B5U	3	2	5
	-		

## AVG BLS Incidents Per Day by ShiftPeriod





## Operations metrics – Summary

- There are more than enough "BLS response plan" calls to support more BLS units
  - BLS units are busy and/or far away, so ALS units still take the great majority of "BLS response plan" calls

• BLS units are also being successfully assigned to calls outside the "BLS response plan"



# Non-paramedic trucks \*see Transport 21

- Should an EMS crew encounter a patient that meets the criteria below for non-transfer to a lower credential, or encounter any situation in which paramedic care is needed, and a paramedic is not on-scene, a paramedic should be requested to respond to the scene or intercept the EMS unit en-route to the hospital in order to participate in patient care. Depending on the circumstances, appropriate care options include:
  - A. Request for the closest paramedic unit to be dispatched to respond to the scene; wait on scene until a paramedic arrives.
  - B. Coordinate a paramedic intercept while the non-paramedic unit is en-route to the ED
  - C. Transport directly to the ED without a paramedic if the appropriate ED is closer than the closest available paramedic unit.
- \*\* Triage and Destination plans should be followed when taking into account whether the closest paramedic unit is a faster source of advanced care than transport to the ED. For example, a patient meeting trauma criteria should still be transported to an appropriate trauma center rather than the closest ED. In this case, a paramedic intercept should be coordinated at the discretion of the transporting EMS crew, considering time, distance, and urgency of need for paramedic-level interventions. An exception to this guidance is medical cardiac arrest; all medical cardiac arrests should have initial on-scene treatment and request for a code response to the scene consistent with our cardiac arrest protocols.
- Don't wait on scene if the ED is closer than the paramedic
- Start transport, request intercept if necessary/feasible

# Meds in pregnancy

- "Tylenol is the only safe med in pregnancy"
  - Like HRR, it's case-by-case, there won't be a safe/not safe list

 In life-threatening situations, treating the mother is best for the baby (e.g. follow cardiac arrest protocols, dysrhythmia protocols, etc)

• In non-emergent situations, it is ok to have a risk-benefit conversation with mom, especially if she is wary or questions the need for the med. She can refuse the med.

## New "pearl" in N/V protocol re: meds in pregnancy

• Some options exist for treating nausea in pregnant patients. There is no medicine that can be guaranteed "100% safe" in pregnancy and some patients may prefer no medicine during transport and/or to discuss their choice with their physician or OB practice. Non-pharmacologic remedies could include a cold washcloth or allowing a nauseated patient to sniff an alcohol swab. In general, current guidelines suggest giving IV fluids for dehydration, and if medication is indicated/chosen, first-line therapy may include doxylamine + Vitamin B6, which may not be available to EMS providers. Next-line therapy may include Benadryl (diphenhydramine 25mg IV x 1 dose) or Reglan (metoclopramide 10mg IV x 1 dose). Currently, Zofran (ondansetron) use in early pregnancy is controversial given limited data that shows a possible very small risk of congenital anomalies in early pregnancy. When possible, EMS providers should encourage pregnant patients to engage in shared-decision-making with their OB providers regarding nausea medications, and/or give medications that patients have already been prescribed by their OB providers. Ref: https://www.uptodate.com/contents/nausea-and-vomiting-of-pregnancy-treatment-and-outcome accessed 1/10/23

# Questions?

New protocols from NC OEMS



## **Mechanical Ventilation; Adult** (Optional)

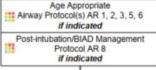
- Multiple etiologies leading to need for advanced airway control
- Requires ventilation support Height and underlying lung

## Signs and Symptoms

- Loss of consciousness or AMS with inability to protect airway
- Difficult oxygenation and/or ventilation

## Differential

- ROSC Trauma
- Stroke
- Seizure
- Shock (see Shock Protocol)
- Toxicological



Volume - Assist Control

FiO: 100%

PEEP: 5 cmH<sub>2</sub>O

#### TIDAL VOLUME (Vt): 8 mL/kg

Follow PBW and V<sub>t</sub> on page 3

#### BPM: RESPIRATORY RATE: 18 BPM

## FLOW RATE:

60 mL/min (preset)

### Check Plateau Pressure Press Manual Breath

P Pressure button Goal Pressure < 30 cm/H<sub>2</sub>O

## Decrease Tidal Volume

1 mL/kg increments Until ≤ 29 cm/H<sub>2</sub>O (DO NOT DECREASE < 4 mL/kg)

## After 10 minutes

Decrease FiO<sub>2</sub> down to 50% Then adjust PEEP and FiO<sub>2</sub> Goal SpO2 92 - 98%

Step 1: PEEP =10 FiO<sub>2</sub> =50%

Step 2: PEEP =10 FiO<sub>2</sub> =60%

Step 3: PEEP =10 FiO2 =70%

Step 4: PEEP =12 FiO2 =70%

Step 5: PEEP =14 FiO<sub>2</sub> =70%

## History of

COPD or Asthma?

Alarming Ventilator and unsure how to

troubleshoot

Immediately disconnect patient and

Once oxygenation and ventilation stabilized, restart ventilator set-up

Home Ventilator

Inter-facility Transfer with Ventilator

Set initial parameters to home or

Use home ventilator if functioning

breathing, SpO2, and EtCO2.

Titrate to oxygenation, work of

facility settings

properly.

use BVM.

procedure.

-YES▶

Volume - Assist Control

PEEP: 5 cmH2O

## 60 mL/min

(preset)

## Check Plateau Pressure

## **Check Peak Inspiratory** Pressure (PIP)

ADJUST PIP Alarm Settings Up until full exhalation

Volume

Notify Destination or Contact Medical Control

## MODE:

FiO2: 100%

## TIDAL VOLUME:

8 mL/kg Follow PBW and V<sub>t</sub> on page 3

#### BPM: RESPIRATORY RATE: 12 BPM

## FLOW RATE:

I:E Ratio

## Increase to 1:4 or 1:5

Press Manual Breath P Pressure button Goal Pressure < 30 cm/H₂O

### Decrease Tidal Volume 1 mL/kg increments Until ≤ 29 cm/H<sub>2</sub>O

(DO NOT DECREASE < 4 mL/kg)

## Goal Vt is 8 mL/kg

achieved on 8 mL/kg Tidal

**AR 11** 

Any local EMS System changes to this document must follow the NC OEMS Protocol Change Policy and be approved by OEMS

## This is a reference

We are not planning to carry ventilators

## Suspected Viral Hemorrhagic Fever Ebola

## **EMS Dispatch Center**

1. Use Emerging Infectious Disease (EID) Surveillance Tool with the following chief complaints: Typical Flu-Like Symptoms

#### **Unexpected Bleeding**

(not trauma or isolated nose bleed related)

2. Use EID Card (or equivalent) with the following protocols (or equivalent)

EMD 6 Breathing Problem

EMD 10 Chest Pain EMD 18 Headache

EMD 21 Hemorrhage (medical)

EMD 26 Sick Person

3. Ask the following:

In the past 21 days have you been to Africa or been exposed to someone who has?

Do you have a fever?

DO NOT DISPATCH FIRST RESPONDERS

Viral Hemorrhagic Fevers: Ebola is one of many

Evolving Protocol:

changing outbreak locations.

Monitor for protocol updates.

Protocol subject to change at any time dependent on

-YES► Dispatch EMS Unit only Discretely notify EMS Supervisor or command

NO

Do not rely solely on EMD personnel to identify a potential viral hemorrhagic fever patient - constrained by time and caller information

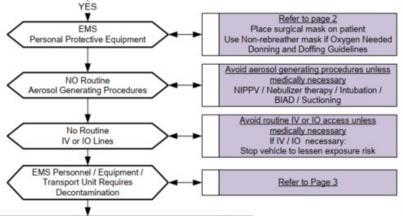
Obtain a travel history / exposure history and assess for clinical signs and

#### **EMS Immediate Concern**

- 1. Traveler from area with known VHF (Ebola) with or without symptoms
- 2. Traveler from a Country, with active Ebola outbreak, within past 21 days

Joint and Muscle aches Weakness, Fatique Fever, Headache Vomiting and/or Diarrhea Abdominal Pain Anorexia Bleeding

Exit to Appropriate Protocol(s)



Notify Destination as soon and as discretely as possible DO NOT ENTER facility with patient until instructed Follow entry directions from hospital staff



This is a reference/template for when/if there is another Ebola outbreak of concern

This protocol (and EIDs questions) would be edited as necessary for the current circumstances, and updates provided via our usual CME, roundtable, etc

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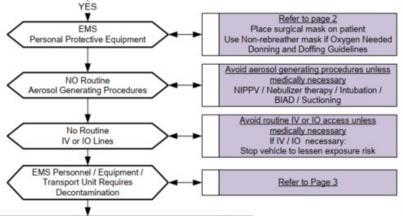
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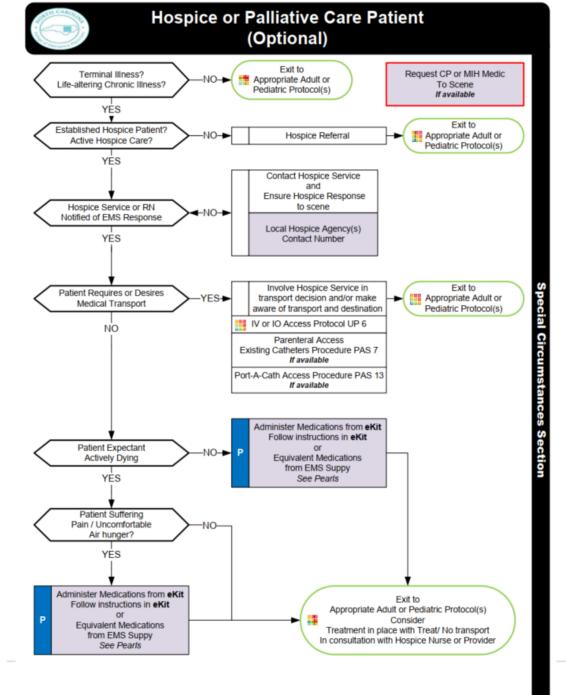


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 This protocol replicates our usual practice for hospice patients, and may be a resource/reminder

 Do not hesitate to contact medical direction for any questions about hospice patients or interactions with another palliative care provider or service.

## CAROLIN CAROLI

## Standards Policy: Disposition Policy Section EMS Offload/ Facility Transition of Care

## Policy:

EMS represents a valuable community asset and timely availability of transport units is paramount to successful system operations. Turn Around Times after transport destination arrival can often decrease availability of units in the community. It is the expectation that medical facilities will accept care in a timely fashion after arrival of EMS and that EMS will transition care to medical facility staff in a timely manner.

Once EMS arrives at a hospital facility, EMS recognizes that the receiving hospital becomes responsible for patient care and receiving the patient for continued care. The Emergency Medical Treatment and Active Labor Act (EMTALA) is a federal law that states once a patient arrives within 250 yards of a hospital's main building(s), the hospital is responsible for care of the patient, and is obligated to perform a medical screening exam. Hospitals are not permitted to delay receiving of a patient(s) due to their EMTALA obligation. If an EMS transport unit arrives on hospital property that has declared diversionary status, the hospital is not relieved of it's EMTALA obligations and must receive the patient.

### Purpose:

The purpose of this policy is to:

- Ensure timely transfer of patient care to the receiving medical facility.
- Provide for the transfer of appropriate care information to the receiving facility.
- Ensure adequate number of transport units available to the community is not delayed due to prolonged Turn Around Times at receiving facilities.
- Promote teamwork and collegiality in transferring care of patients between EMS and hospital
  personnel with the goal of optimal patient care in focus.

#### Procedure:

- EMS will provide an oral report to hospital personnel describing patient status, mechanism of injury or illness, vital signs, therapies provided, procedures performed, and response to treatment.
- Verbal patient report, paper transition of care/ written hand-off report, PCR copy, or ePCR transmission of patient care is provided to hospital personnel at time of transition of care.
  - Demographic information shall be legible and accurate (to the extent known).
  - Summary of care provided.
  - Vital sign summary.
  - Procedures performed summary.
- Assist in moving patient from EMS manner of conveyance to designated hospital area identified by hospital personnel.
- Obtain the name and title of the receiving hospital personnel and document in the EMS PCR or ePCR
- Attempt to obtain the signature of the receiving hospital personnel and document in the EMS PCR or ePCR.
  - In the event hospital personnel refuse to sign acknowledging receipt of the patient, document the name and title of the hospital personnel and note hospital personnel refused to sign in the narrative portion of the PCR or ePCR or other area designated by agency.

 This policy replicates our usual practice for hospital transfers and may be a resource/reminder

 Do not hesitate to contact your DC, shift commander, and/or medical direction for any issues with hospital transfers.

# Questions?

 "Final version" of the protocol set, along with a summary of the changes, will be released after any feedback later this quarter.

 "Final version" will be sent to NC OEMS for Dr. Winslow's approval.

 2023 protocols will go into effect in April, with the exact date TBD- we will send an announcement