

Squad Review

MCEMS

Fall/Winter 2013

Protocol Update

- Stroke Presentations
- EKG transmission
- Backboards
- Needle decompression

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Goals:

- 1) Review recent changes to MCMES protocols in these areas.
- 2) Update your understanding of the uses and limitations of the Cincinnati Stroke Scale.
- 3) Introduce the possibility of EKG transmission to the EDP from the field in difficult chest pain cases.
- 4) Review the recent changes to the back boarding and c-spine immobilization protocols.
- 5) Discuss the indications/contraindications to needle decompression of the chest in MCEMS.
- 6) Avoid putting you to sleep.

The Cincinnati Stroke Scale, and you.

NWRETAC EMS Protocols 3030

Cincinnati Prehospital Stroke Score

Think "FAST" (face, arm, speech, time)

Assess Facial Droop

Say: "Smile for me", or "Show me your teeth"

Assess Arm Pronator Drift

Demonstrate, and say: "Put your arms up for me like this and hold them while I count to 10"

Assess Speech

Say: "Repeat after me: you can't teach an old dog new tricks", or "No ifs, ands, or buts"

CPSS does not identify all strokes. See below

NWRETAC EMS Protocols 3030

- **The Cincinnati Prehospital Stroke Score (CPSS)** is designed to be very reproducible and identify those strokes most likely to benefit from reperfusion therapy, but does not identify all strokes.
- The CPSS is highly *specific* for stroke, but is not extremely *sensitive*, meaning if you have a positive CPSS, you are almost certainly having a stroke, but if you do not have a positive CPSS, you still may be having a stroke
- Stroke signs may be very subtle, therefore it is important to know other signs of stroke, which include:
 - Impaired balance or coordination
 - Vision loss
 - Headache
 - Confusion or altered mental status
 - Seizure

Predictive Value

Along with Sensitivity and Specificity, Predictive Value is a tool used to decide just how trustworthy a medical test is:

1) Positive Predictive Value:

If the test (CPSS) is positive (indicates stroke) what % of the time is test correct?

2) Negative Predictive Value:

If the test (CPSS) is negative (indicates absence of stroke) what % of the time is test correct?

3) The CPSS has been shown to have very high PPV; but concerningly low NPV... so

High Positive Predictive Value...

Medical tests which have high Positive Predictive Value:

- 1) Have a high True-positive rate, so;
- 2) When they are "positive", they are rarely wrong, so;
- 3) If you get a positive hit on any one of the sections of the CPSS, you should generally proceed as if the patient is having a stroke...

Stroke Mimics

- Hypoglycemia **(BMK)**
- Post-ictal paralysis
- Complex migraine
- Overdose
- Trauma
- Bell's palsy

Low Negative Predictive value...

Medical tests which have low Negative Predictive Value:

- 1) Are often falsely negative, so;
- 2) When they are "negative", they are *often wrong*, so;
- 3) If you get a negative CPSS, but the scenario still seems funny or possible for stroke to you... you may well be correct!

The CPSS and you: Lesson 1

If it is positive, and the patients' BG does not explain things,- Call A Stroke Alert.

The CPSS and you: Lesson 2

If it is negative, your patient may still be having a Stroke.

- Stroke signs may be very subtle, therefore it is important to know other signs of stroke, which include:
 - Impaired balance or coordination
 - Vision loss
 - Headache
 - Confusion or altered mental status
 - Seizure

The CPSS and you: Lesson 3

If it is negative, but you still find symptoms potentially consistent with a stroke,- Call The EDP and Discuss the Case to Determine if a Stroke Alert needs to be Called.

- Stroke signs may be very subtle, therefore it is important to know other signs of stroke, which include:

- Impaired balance or coordination
- Vision loss
- Headache
- Confusion or altered mental status
- Seizure

Stroke Mimics

- Hypoglycemia **(BMK)**
- Post-ictal paralysis
- Complex migraine
- Overdose
- Trauma
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Recent MCEMS stroke case discussion.

Questions about this topic?

EKG Transmission to the SMH
EDP, and you.

EKG Transmission

In case you were not aware:

- 1) Dr. Hall is working to get the capability in place for you to transmit a field EKG to the EDP;
- 2) He is working with both PhysioControl and Zoll;
- 3) We are very close to going live with a trial period with the GJFD and the CFD (both Zoll)- hopefully by end of September 2013.

EKG Transmission-a few details

- 1) We are definitely **NOT** trying to usurp EKG interpretation by ALS providers; your ability to field read and call STEMI's has been very, very good. We are happy with it.
- 2) We **ARE** trying to offer you additional support when you have an EKG which you are not sure about- especially if you are on the fence about calling a Cardiac Alert or not.
- 3) We **DO NOT** want you to start faxing every EKG to the EDP to help you decide whether to give NTG and ASA or not.
- 4) If you have a diagnostic dilemma, and feel you need consultation, use the EDP.

EKG Transmission- details...

- 5) You must call the EDP and notify them you are sending an EKG or they will not know to look for it.
- 6) Due to HIPPA issues, the only identifying information on the EKG the EDP sees will be your Unit #- so be sure to tell EDP the fax will be from unit X.
- 7) More details to come as we roll this out on a wider basis.

MCEMS Spinal Immobilization, and you.

MCEMS Protocols 4106

- **Backboards have not been shown to be of any benefit for spinal injuries, but they may cause patient harm**
- **We wish to reduce the use of back boards in patients with traumatic injuries where appropriate**

MCEMS Protocols 4106

- **Backboards are useful tools for carrying patients to a gurney. Patients who do not need a backboard should be gently slid off of backboard onto gurney.**
- **Self-extrication from a vehicle with assistance is likely better than standard extrication procedures.**
- **The goal of spinal “immobilization” is to reduce stress on the spine. Patients should not be “forcefully” restrained if they can be managed with verbal calming techniques.**
- **Vacuum mattresses should be used preferentially over a backboard if readily available.**
- **If for any reason you are uncomfortable NOT immobilizing someone, then place them on a backboard.**

Notice....

In the MCEMS protocols:

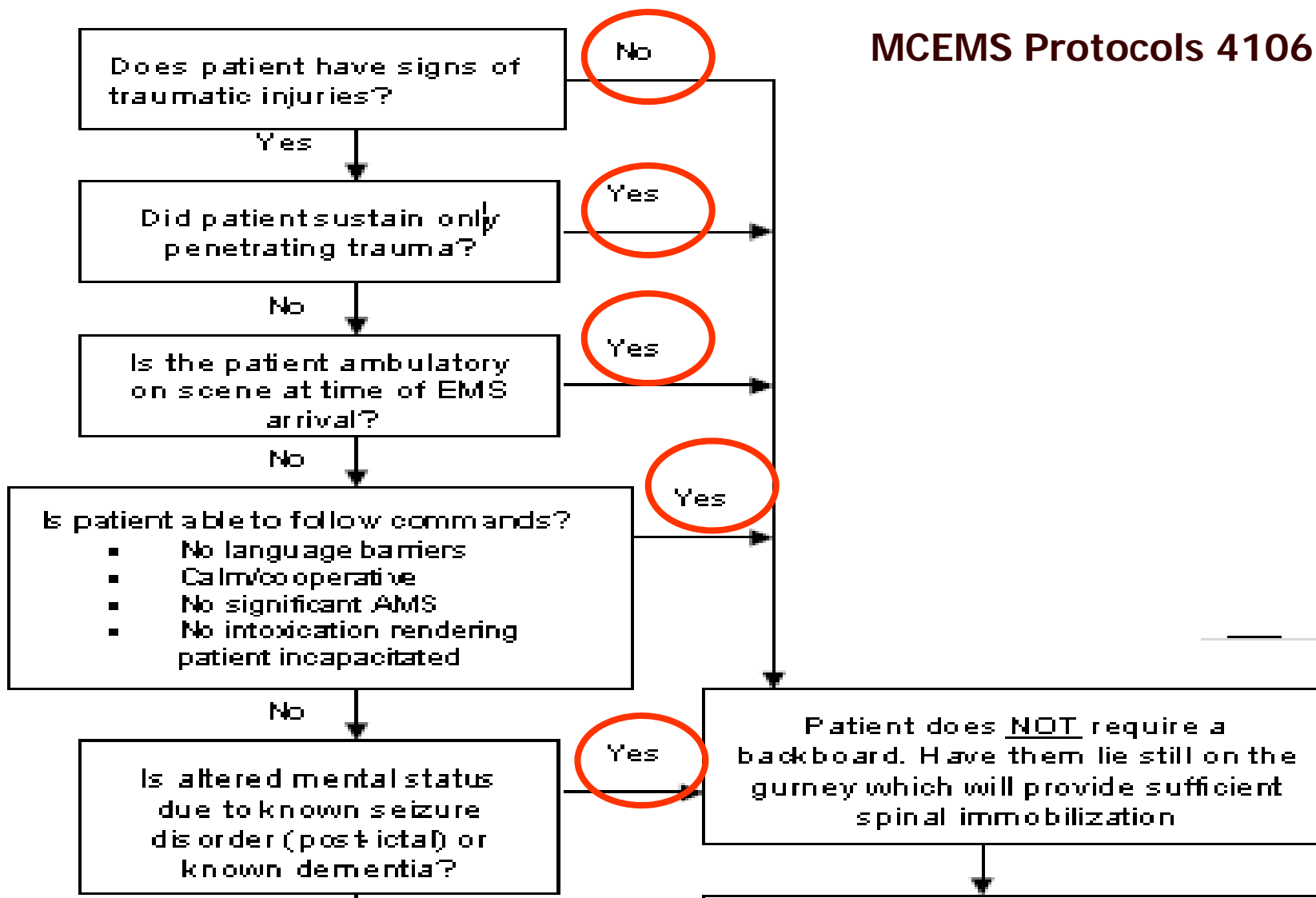
The decision to fully immobilize, or not, is often a *separate and distinct decision* from the decision to place a C-collar, or not.

We use the back boarding algorithm to decide full immobilization or not (vacuum splint preferred).

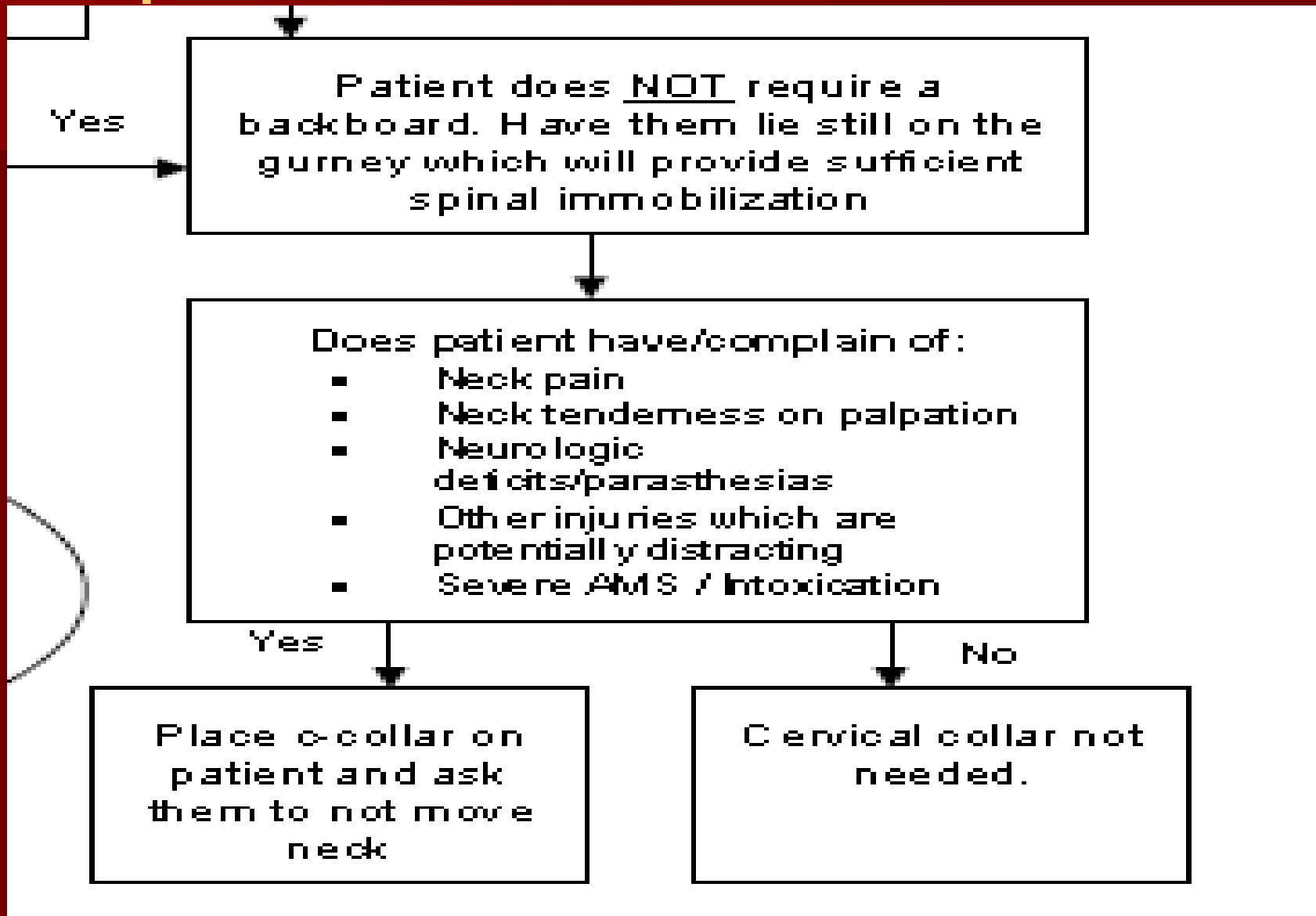
We use the NEXUS Criteria to decide C-collar or not.

Full Immobilization??

MCEMS Protocols 4106



C-Spine Immobilization??



A few details...

- 1) Do not remove backboard in field if it has been placed prior to your arrival, i.e. rendezvous, mutual aid, SAR, etc.
- 2) The over-riding theory is: *Protect the Spine*. You do not need a backboard as the only method for accomplishing this under our current protocols.

Any questions on this topic?

Needle Decompression of the
Chest, and you.

NWRETAC EMS Protocols 4075

Needle Decompression Protocol

Indication:

A. Needle decompression of tension pneumothorax is a standing order for EMT-I and Paramedics.

E. All of the following clinical indicators must be present:

1. Severe respiratory distress
2. Hypotension
3. Unilateral absent or decreased breath sounds

NWRETAC EMS Protocols 4075

Needle Decompression Protocol

Precautions:

- A. Angiocath may become occluded with blood or by soft tissue
- B. A simple pneumothorax is NOT an indication for needle decompression

NWRETAC EMS Protocols 4070

Chest Trauma Protocol

Tension pneumothorax

should be suspected with presence of the following:

- Unilateral absent breath sounds AND:
 - JVD
 - Hypotension
 - Difficult/unable to ventilate
- Needle decompression is NEVER indicated for simple pneumothorax

Tension Pneumothorax...

1) This is very much like a pericardial tamponade... truly is tamponade physiology.

2) That means there is extreme pressure in the thoracic cavity, which is causing severe compromise to lung function AND to blood return to the heart. So:

- severe respiratory distress
- absent/decreased breath sounds
- hypotension (severe cardiac distress!)
- JVD

Needle Decompression

- 1) To prevent someone from dying; i.e. the patient is pre-morbid in your view... dying.
- 2) It is not for comfort.
- 3) Have the right length angiocath (Americans are big people), know the right landmarks, and make sure that it works.
- 4) Notify the ED so we can be ready to follow your needle with a chest tube.

Recent needle decompression case discussion.

Questions about this topic?

No mas