Northern Arizona Healthcare
Flagstaff Medical Center

Prehospital Care Treatment Guidelines

RP MD

Rianne Page, M.D.
FMC Base Hospital Administrative Medical Director

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INTRODUCTION

The purpose of these treatment guidelines is to provide uniform prehospital care for agencies under the medical direction of Flagstaff Medical Center Base Hospital. They are directed towards ALS (Paramedic) levels of Arizona Department of Health Services (ADHS) certified pre-hospital care providers.

GOALS OF PRE-HOSPITAL CARE

The first goal of pre-hospital care is on-scene recognition and treatment of conditions in which the delay of treatment might increase morbidity and mortality. Once the patient enters the Emergency Medical Services (EMS) system, life-saving interventions should be initiated immediately.

The second goal is rapid transport, with only minimal on-scene delay, for patients whose conditions require immediate hospital stabilization.

The third goal of pre-hospital care is to provide entry into the EMS system, initial stabilization, and safe transport to an emergency medical facility or alternate facility approved by the administrative medical director for those patients whose conditions are not immediately life or limb threatening.

The fourth goal is on-scene triage in multiple casualty incidents.

To achieve the above stated goals of pre-hospital care, the provider must be skilled in patient assessment. He/she must be able to recognize those conditions where on-scene intervention is necessary.

Assessment must be rapid, succinct and goal directed. Main emphasis is on the primary survey. Secondary survey should not delay either life saving interventions or transport. Interventions identified in the assessment should be acted on immediately.

MEDICAL CONTROL

It is important to recognize that emergency care rendered in the pre-hospital environment, even though performed by an emergency medical technician, remains the responsibility of the Administrative Medical Director or On-line Physician when on-line direction is required. These treatment guidelines are not intended for use as inflexible rules for pre-hospital care, but rather as guidelines for physicians and pre-hospital care

personnel alike. Although they represent a minimum standard of care against which actions may be judged, treatment guidelines are not absolute. Common sense and good judgment are equally important. Since individual situations may require variance from these guidelines, the final authority is the independent medical judgment of the medical control physician. Also, it should be understood that skill levels of individuals will vary, and the On-line Physician may find it necessary to vary from these guidelines.

STANDING ORDERS

Standing orders are those interventions, approved by the Administrative Medical Director, which may be done immediately, prior to radio contact with an On-line Physician. Generally, they will include those life or limb saving procedures where either the delay caused by direct communication could contribute to death or where there is no disagreement about what should be done in a very specific situation.

MEDICAL CONTROL OPTIONS

Medical control options are those interventions which require a specific order from the On-line Physician via radio or telephone prior to performance. Any situation where interventions are performed, which by these treatment guidelines require a medical control option, and such medical control option is not obtained because of inability to establish direct communications or due to the critical nature of the situation, clear cut indications for the procedure(s) must exist (according to the treatment guidelines herein). We do not wish patients to suffer because of inadequacies or failures of the communication system. Communication with the Base Hospital should be established as soon as possible in such incidents.

Suggestions for medical control options will be noted in the individual treatment guidelines.

TERMINATION/WITHHOLDING OF RESUSCITATION

Prehospital personnel respond to victims of cardiopulmonary arrest in a variety of circumstances. The following guidelines are intended to assist in determining how and when resuscitative measures should be withheld, initiated, and/or terminated. Refer to appropriate related treatment algorithms for other specific information.

If the victim meets the criteria listed below, no resuscitative efforts need to be initiated. On-line medical direction is NOT

necessary. Contact law enforcement and initiate grief support. An EMS provider must remain with the victim until released to law enforcement.

All of the following criteria must be met:

- Patient is pulseless and apneic
- Presence of one or more signs of irreversible death
- Asystole is confirmed on the monitor in two leads for at least 12 seconds as defined in the guideline
- Hypothermia is not present

Signs of irreversible death:

- Decapitation
- Decomposition
- Transection of thorax or abdomen
- Burned beyond recognition
- Dependent lividity and/or rigor mortis and Asystole in 2 leads for 12 seconds

Field termination/withholding of resuscitative efforts for other reasons may be considered for both trauma and medical patients. Patients must be in cardiopulmonary arrest in a rhythm incompatible with life (asystole, pulseless electrical activity). Treat patients according to the trauma or medical field termination/withholding guideline/algorithm. On-line medical direction may be required for these field terminations.

HEALTHCARE DIRECTIVES

If a valid Prehospital Medical Care Directive/POLST with NO CPR selected, is present, no resuscitative measures are needed. A patch should be made to the base hospital if possible.

If a valid Living Will/Advanced Directive/Do Not Resuscitate consent or order is present, begin resuscitation and contact medical control.

MEDICAL CONTROL OF Advanced Life Support (ALS) AT THE SCENE

General Principles:

When an ALS unit, under medical direction, is requested and dispatched to the scene of an emergency, a doctor/patient relationship has been established between the patient and the physician providing medical direction. The individual with the highest level of certification is responsible for management of the patient, and acts as the agent of medical direction.

ON-SCENE PHYSICIAN

If the patient's private physician is on the scene or a physician intervener* is present and he/she prefers to assume responsibility for care, an On-line Physician must be contacted and the situation discussed. The on-line physician has the option of managing the case entirely, working with the intervener physician or allowing them to assume responsibility. Only Medical Control can relinquish care of the patient to another physician. The on-scene physician must be licensed in the state of Arizona and agree to accompany the patient to the receiving facility and provide appropriate documentation. An ALS provider may follow the orders of an on-scene physician after a patch to Medical Control and obtaining a release to do so. The ALS provider may not follow any requests that are outside the scope of practice for the provider in the state of Arizona. If requests significantly deviate from the providers treatment guidelines Medical Control should be contacted.

If on-line medical direction is not possible, treatment guidelines will be followed.

The ALS provider should clearly document the on-scene physician name and license number along with all orders specifically received.

*A physician intervener is a licensed physician who has not established a prior physician/patient relationship and who wishes to take charge of a medical emergency scene, and who is willing to provide evidence of licensure and agrees to continue care for the patient during transport to the hospital.

ALS CALLS

ALS providers shall contact the On-line Physician for medical direction, as defined in the treatment guidelines.

MEDICAL CASES

Chest Pain
Shortness of breath
Hematemesis, melena, or hematochezia
Altered Level of Consciousness
Loss of consciousness (syncope, seizures)
Possible drug overdose or ingestion of poisonous substances
Recent change in mental status
More than one acutely ill person
Painful, cold, pulseless, extremity

Acute abdominal pain
Terminal malignancy in distress

TRAUMA CASES

Motorcycle, auto vs. pedestrian or bicycle accidents
Suspected fractures of femur, pelvis, spine, or skull
Extremity wounds with distal neurological and/or vascular compromise
Head injuries with history of loss of consciousness or presently impaired mental status
Penetrating wounds of head, neck, chest, abdomen, or thigh
Blunt trauma to abdomen or chest wall
Burn Injuries
Significant acute external blood loss
Water accidents and near drownings
Extrication problems
Multiple casualties

OBSTETRICAL-GYNECOLOGICAL CASES

Vaginal Hemorrhage
Childbirth
Pregnancy with abdominal pain

PSYCHIATRIC CASES

Suicide (attempts or verbalization)
Hallucinations with behavioral problem
Violent or dangerous patients (result of mental disorders)

GENERAL CASES

Signs of shock
Hypotension (systolic blood pressure of 90 or less in an adult)
Altered mental status
Weak, thready peripheral pulses
Cold, clammy extremities
Consideration for Withholding/Termination of resuscitation
Any patient who, in the opinion of the ALS personnel, would benefit from Base Hospital consultation.
Any patients with suspected medical or traumatic problems of an ALS nature, who refuse treatment or transportation to a hospital.
Abnormal body temperatures
When there is a physician on the scene who wishes to take

control of patient care.

ALS RESPONDERS MUST PATCH IN ANY QUESTIONABLE OR UNUSUAL SITUATION

Environmental hazard
Security problem
When disagreements arise between responding EMS providers or with law enforcement

COMMUNICATIONS

GENERAL PROCEDURE:

Participating ALS providers shall initiate ALS care through the use of treatment guidelines, and dependent upon patient response or treatment guideline criteria shall have the following communication options:

1. Stable Situation:
   a. Courtesy Notification (CN) with Receiving Facility
   b. Patch with Base Hospital

2. Unstable Situation after implementation of standing orders:
   a. Patch with Base Hospital

3. Exception Situations:
   a. Critical Trauma, Medical Code:
      i. Courtesy Notification (CN) with Receiving Facility
      ii. Patch with Base Hospital

   b. Unable to contact Base Hospital:
      i. Patch with designated back-up Base Hospital

DEFINITIONS:

1. **ALS STABLE SITUATION (Requires minimum of Courtesy Notification):**

A patient with a single system or well-defined chief complaint(s) that after initial ALS intervention is:

- Without neurological, respiratory and/or cardiovascular compromise; or
- Has responded favorably to initial treatment modalities (resolving or improving chief complaint and/or signs/symptoms).

Criteria for ALS Stable Situations may include:

a. Conscious, alert and oriented to person, time, place and event (with consideration of pre-existing conditions) or an altered mental status in a non-traumatic event after treatment with no signs of impending central herniation, GCS maintained at $\geq$ 12 and stable vital signs.
b. Respirations within normal range for age group and without abnormal breath sounds (with consideration of pre-existing conditions).
c. Pulse within normal range for age group and without irregularities (with consideration of pre-existing conditions).
d. Blood pressure greater than 90 systolic and less than 180 systolic, or within normal range for age group (with consideration of pre-existing conditions).
e. No uncontrolled bleeding.
f. Relief of chest pain.

2. **ALS UNSTABLE SITUATIONS (Requires Patch):**

A patient with a single or multiple system or complex chief complaint with/without hemodynamic compromise and that does not respond favorably to initial treatment modalities. Refer to "Exceptions" for Critical Trauma and Medical Codes. Criteria for an unstable patient condition may be indicated by the presence of any of the following:

a. ALOC, adult non-traumatic, with vital signs outside normal range for age group and/or signs of central herniation (with consideration of pre-existing conditions).
b. ALOC, pediatric all causes other than resolving postictal signs and symptoms (S/S).
c. Abnormal blood pressure (with consideration of pre-existing conditions).
d. Abnormal heart rate or rhythm persisting after treatment that is causing hemodynamic compromise (with consideration of pre-existing conditions).
e. Abnormal respiratory rate not responding to initial treatment(with consideration of pre-existing conditions).
f. Field intubation performed, with exception of Medical Codes and Critical Trauma, with an intervention problem or that required cricothyrotomy.
g. Signs/symptoms of hypoperfusion not improving.
h. Decreased sensory ability (with consideration of pre-existing conditions)
i. Decreased motor ability (with consideration of pre-existing conditions)
j. Changes (deterioration) in presenting symptoms; stable patient who becomes unstable at any time.

k. Consent problems and ALS Refusals.
l. Uncertain triage decisions.
m. Patients with a pulse in which transcutaneous pacemaker or electrical conversion therapy is used and there is no improvement in patient status.
n. At any time the ALS provider feels unsure of patient stability.

3. **COURTESY NOTIFICATION (CN):**

Required contact with receiving facility after ALS care according to treatment guidelines and reassessment. Vital signs are within normal limits, the patient's condition is stable or improved. No ALS treatment/intervention is required in addition to that covered under the treatment guidelines.

- The following minimum information should be given during a "CN":
  a. Identify self, certification level, and agency name and Vehicle I.D.
  b. mechanism of injury
  c. Patient age, sex, chief complaint, vital signs, GCS, pertinent findings.
  d. Interventions, patient response/status
  e. ETA to hospital

4. **PATCH:**

Required on-line medical direction with Base Hospital (or back-up) (requires physician input).

EXCEPTIONS: (Critical Trauma, Medical Codes)

In order to concentrate efforts on administering patient care and enhancing early communication to and preparedness of the receiving facilities of critical trauma patients and patients in cardiopulmonary arrest from medical causes, an abbreviated Courtesy Notification may be made with the receiving facility of these patients rather than a Patch under the following circumstances:

1. Appropriate treatment interventions are covered under trauma treatment guidelines and/or cardiopulmonary arrest treatment guidelines.
2. No question exists in the prehospital provider's judgment as to the application/provision of care outlined in the specific Treatment Guidelines.
3. No additional medical direction is necessary in the prehospital provider's judgment for the provision of care and/or triage.

BASIC RADIO PROCEDURES

All communications must include the following information:

1. Agency name and Vehicle I.D.
2. Medic name & certification level
3. Status of call (ALS vs. BLS)(Patch vs. Courtesy Notification)
4. Number of patients(If more than one patient)
5. Age & sex of patient(s)
6. Chief complaint(s)
7. History and objective finding(s)
8. Treatment rendered & response to treatment
9. State the orders you are requesting
10. ETA and destination

COMMUNICATION GUIDELINES

1. Allow for a two-second delay after depressing the transmit key. This allows the electronics to fully engage.
2. Stop frequently and release transmit key to insure that the base hospital has received your transmission.
3. Ask for On-line Physicians to come on the line for any ALS calls regarding patients you think might be unstable; or any time the scope of complexity of information requires direct contact with the physician.
4. Present information so that the listener gets an overview early (e.g. "... a 68 year old male, auto accident victim in acute respiratory distress..."). Report findings in the same order you evaluate a patient, i.e. primary assessment, vital signs, secondary assessment.
5. You need not list all relatively minor findings that do not affect immediate patient care decisions
6. Communicate with courtesy, brevity, and clarity.
7. Repeat all orders received back to the base hospital
8. Remember that many people are listening to your radio communications, do not use patient names and avoid use of unprofessional comments while on a radio frequency.
9. Follow Arizona Department of Public Safety (ADPS) EMSCOM Operations Manual.
10. Patches on BLS patients should consume a minimum amount of time and only the most pertinent information.

COMMUNICATIONS SYSTEMS FAILURES

If unable to contact the Base Station via Hospital Radio or dedicated phone lines, contact should be made with your alternate Base Hospital. Any situation where procedures are performed, which by these treatment guidelines require a medical control option, and such medical control option is not obtained because

of failure to establish communications, will be reviewed individually as to their appropriateness. Clear cut indications for procedures must exist.

Base Hospitals shall develop plans for medical control in the event of local equipment failure. Such plans should include contingencies for radio failure, power outages, structural failures, etc.

INTERMEDIARY'S RESPONSIBILITY IN RADIO COMMUNICATION

An intermediary is an emergency department nurse or paramedic designated by the emergency physician to provide on-line medical supervision under verbal direction and control of the physician.

1. An intermediary will participate in daily communications and recording equipment troubleshooting procedures.
2. An intermediary in contact with an ALS unit will ask the emergency physician to come on-line at once if requested by the ALS unit.
3. Communications with ALS providers shall be completed in a timely, organized manner.
4. When a patient is to be transported to another receiving facility, and the receiving facility is also a Certified Base Hospital, direct communications with the ALS unit rendering that care may be transferred to the receiving medical control authority at the discretion of the sending medical control authority, and with the knowledge and consent of the receiving medical control authority.
5. When relaying verbal directions/orders to field units, the intermediary shall identify by name the On-line Physician giving the orders transmitted.

BODY SUBSTANCE ISOLATION

All patients should be considered potentially infectious. Standard precautions should be followed in accordance with Center for Disease Control (C.D.C.),Occupational Safety and Health Administration (OSHA), and base hospital guidelines.

TRANSPORTATION

The patient should go to the medical facility which best meets his medical needs. If not the closest hospital, this decision requires a medical control option unless previously approved by the Administrative Medical Director. The patient's choice of hospital should be considered when such a request does not

adversely affect or delay care or the operation of the transporting agencies.

If immediate hospital (medical/surgical) intervention is required, the quickest form of transport must be considered.

Scoop and Run involves rapid initiation of transport. It should not be undertaken until simple measures of airway control are performed on scene. The implementation of field procedures should not delay the transport of critical patients.

AIRCRAFT RESOURCE UTILIZATION

Due to the expansive area of the Northern Arizona region helicopter use may be appropriate for emergency medical situations. The following criteria may be utilized to assist with determination of appropriate helicopter use:

1. The patient has an anticipated medical or surgical need requiring transport or transfer and without helicopter transport, the patient would be placed at significant risk for loss of life or impaired health; and

2. Available alternative methods may impose additional risk to the life or health of the patient; or,

3. Patients meeting specialty triage criteria.

INTERFACILITY PATIENT TRANSPORTATION

Interhospital patient transfers on an emergency basis are commonly initiated when definitive or therapeutic needs of a patient are beyond the capacity of one hospital. A pre patch needs to be made to the On-line Medical Direction Physician prior to leaving the sending facility with an ALS patient. Any change in patient status requires the personnel to contact their Base Hospital, not the receiving facility for further orders.

1. All patients should be stabilized as much as possible before transfer.
2. EMS personnel must receive an adequate summary of the patient's condition, current treatment, possible complications, other pertinent information, and sending physicians determination of level of service needed during the transport.
3. EMS ALS personnel continue to operate under control of the Base Hospital. Any orders given to such medics on interfacility transfers must be in accordance with their treatment guidelines and must be reviewed and approved by

on-line medical control as the treatment guidelines specifies prior to transport.
4. If a patient has indications for pain management or complaint of nausea or vomiting at the facility, personnel may utilize the appropriate FMC standing order during the transport without on-line medical direction orders.
5. Transfer papers, summary, lab work, X-rays, etc., should be given to the transporting EMS personnel, not the family or friends.
6. The receiving hospital physician must be contacted by the transferring physician and agree to accept the patient prior to the transfer.
7. The level of emergency personnel must be appropriate to the treatment needed or anticipated during transfer.
8. Patients with intravenous infusion must be transported by the appropriate level of personnel. If a patient is receiving medication outside the scope of the transferring ALS provider, that patient must be accompanied by an RN or Physician as indicated by the patient's condition.

AT SCENE TRANSFER OF CARE

It is common for a variety of certified personnel with different skill levels to be providing care at the scene at one time. The fact that there is a higher skill level provider at the scene does not absolve each team member in patient care responsibilities.

Once on scene patient care is completed, and transportation of the patient is necessary, a few rules exist.

1. The ALS provider with the highest skill level must accompany that patient to the receiving facility.
2. If care of the patient is transferred to another provider (that did not initiate the care), a report concerning patient scene, status, and care must be given to the provider when he or she accepts the patient.
3. Upon transfer of patient care, pertinent field information should be relayed without unnecessarily delaying transport.
4. Refer to the Emergency Interfacility Patient Transportation and Physician Intervener at Scene Treatment guidelines for further information.

TRAPPED OR IMPALED PATIENT

If you arrive at the scene to find a trapped or impaled patient who will take a significant time to extricate, or the impaled object cannot be easily cut, stabilize ABC's as much as possible

and contact your Base Hospital. After explaining the situation, it may be appropriate for a physician from the hospital to come to the scene in case of the need for ALS beyond your skills.

REFUSAL OF TREATMENT AND/OR TRANSPORT

Every patient has the right to refuse treatment and/or transport. However, for a patient to be able to refuse treatment and/or transport the following criteria must be present:

1) Age 18 or older or emancipated minor
2) Decision-Making Capacity - An individual who is alert, oriented, and has the capacity to understand the circumstances surrounding his/her illness or impairment, as well as the possible risks associated with refusing treatment and/or transport, typically is considered to have decision-making capacity. Decision making capacity must be demonstrated and documented as defined by these abilities:
    - Receive and comprehend information needed to make a decision
    - Process and deliberate a decision and its potential consequences
    - Make and articulate a decision that is consistent over time
    - Justify that decision with logic that fits the persons own value system

The individual's judgment must not be significantly impaired by illness, injury or drugs/alcohol intoxication.

FMC does not support, condone, or allow EMS initiated refusal of transport. All refusals must be initiated by the patient or their guardian.

All patient refusals that involve ALS complaints and care require a patch to the base station. Medical control has the option to allow the refusal or to request the patient be restrained and brought to the ED for evaluation. This should only be done if it does not endanger the providers.

The patch for refusals should include the following:

1) Patient's chief complaint
2) 2 sets of vital signs (if able to obtain) ***the terminology "vital signs stable" is not acceptable, the patch must include the actual vital signs
3) Patient's physical Exam
4) The patient's reason for refusal
5) Details on how the patient demonstrates decision-making capacity
6) The patient's plan for care or further evaluation

Documentation should include all of the above listed information required for the patch. It should also include any extra efforts done by providers (waiting on scene for parents/family to arrive, discussions with other persons on scene, obtaining phone numbers for call back, etc.)

BLS refusals should be documented identically to ALS refusals. These refusals do not require a patch, however providers are encouraged to patch if any unusual circumstances exist.

FIELD TRIAGE GUIDELINES

Due to the rural and isolated nature of much of this region, coupled with the long distances between communities, the emergency patient is usually taken to the nearest Emergency Receiving Facility.

Exceptions may occur when:

1. A rational and oriented patient specifically requests transport to another facility, and the EMS personnel deem it feasible to do so. This requires a medical control option. Specific agency policy may affect the decision.
2. The nature of the patient's illness or injury requires services not available at the nearest facility. The decision to bypass the nearest facility should be substantiated during direct communication with the responsible On-line Physician at the Base Hospital unless preapproved by the Administrative Medical Director.
3. Multiple victims have been identified by prehospital personnel and possible overloading of the nearest hospital's resources may prompt directing transport of a victim(s) directly to another facility.

Ordinarily, priority will be given to the most critical patients. However, when the number of patients exceeds the EMS resources immediately available, then priority must be given to more salvageable patients.

MULTIPLE CASUALTY INCIDENTS (MCI)

All agencies should utilize an Incident Command System (ICS) that is compliant with the National Incident Management System (NIMS). All provider should be trained in the basic concepts of the ICS system.

Definition of an MCI:

1. Five (5) or more critically (Immediate) injured patients and/or

2. An incident that exceeds or potentially exceeds the EMS resources available.

All agencies will utilize the Arizona START Triage system.

1. Immediate
   a. **R**espiration-over 30
   b. **P**ulse-No Radial Pulse
   c. **M**ental Status-Unable To Follow Simple Commands
2. Delayed (transportation and treatment may be deferred).
   a. Other patients unable to walk on their own
3. Minor(to be transported or treated last)
   a. Patients that can walk on their own.
4. Dead/Dying
   a. No Resp. After Head Tilt/OPA

Communications:

1. Notify the initial receiving hospital that you have an MCI and approximate number of patients.
2. Incident Command or Medical Group/Branch notifies receiving hospital of the number of patients and their categories. Additional contact should be made to the receiving hospital if there is a significant change in the number of patients they will be receiving.
3. Ambulances will provide brief courtesy notifications to the receiving facility to include:
   a. Triage priority of patients
   b. Description of major injuries
   c. Treatments provided
4. Notify hospital when all patients are transported from scene.

TREATMENT GUIDELINES

GENERAL ASSESSMENT AND TREATMENT APPROACH

Although there are many things that may be medically affecting your patient, there are a limited number of supporting treatments you have to offer. Do not let the gathering of information distract you from the management of life-threatening problems.

Remember, however that you may be able to gather information from bystanders at the scene, from the environment, and perhaps even from the patient that may not be available to the physician later on. Your partner can often be engaged in collecting this kind of information during the secondary examination.

HISTORY

1. Chief complaint (questioning to include, when appropriate):
   a. Onset
   b. Provocation
   c. Quality
   d. Radiation
   e. Severity
   f. Time
2. Associated complaints: question as for Chief complaint
3. Relevant past medical history
4. Allergies
5. Medications and drugs: chronic
6. Survey of surroundings for evidence of drug abuse, mental functioning, family problems
7. Last meal, last menstrual period (if applicable)

INITIAL ASSESSMENT

Primary interventions should always be made as soon as a need for them is assessed.

AIRWAY:

Assess patency, stridor, foreign body (FB), ability to maintain airway.

TREATMENT

1. If compromised or absent airway, or patient unresponsive:
   a) Position the airway
   b) Insert OPA/NPA
   c) Suction PRN
   d) Remove dentures
   e) Always consider C-spine injury
2. Consider Endotracheal/Nasal intubation/Supraglottic airway
3. Consider needle or surgical cricothyrotomy

BREATHING:

Assess: Rate, apparent tidal volume, effort, ability to speak, symmetrical movement, breath sounds, accessory muscle use, oximetry.

Realize that oxygenation and ventilation are separate but interdependent issues. Oxygenation may be assessed as adequate with a pulse oximeter, but the only way to assess ventilation as adequate is by $ETCO_2$ monitoring and/or clinical means, i.e. rate, tidal volume, air movement.

TREATMENT

1. Position of comfort when appropriate
2. Oxygen as appropriate; patients with non respiratory complaints should have sats 94% or less in order to use oxygen
3. Assist with Bag-Valve mask
4. Nasogastric tube if gastric distention is compromising breathing

CIRCULATION:

Assess pulse presence, location, quality, and capillary refill; assess blood loss from hemorrhage, skin color and temperature, and level of consciousness.

TREATMENT

1. Control active external bleeding with direct pressure, splint major fractures
2. IV NS/LR; consider volume support (enroute)
3. Monitor Rhythm
4. Drug therapy as indicated

VITAL SIGNS

1. Obtain first quantitative set of vitals within five minutes if practical (pulse, blood pressure, respiratory rate, pulse oximetry, temperature)
2. Repeat according to patient's condition. At least one more set prior to transport or enroute.

NEUROLOGICAL ASSESSMENT

Management of patients with head injury or neurological illness depends on careful assessment of neurological function. Changes in neurologic status are particularly important. The first observation of neurological status in the field provides the basis for monitoring sequential changes. It is, therefore, important that the first responder accurately observe and record neurological assessment, using parameters which will be followed throughout the patient's hospital course.

The Glasgow Coma Scale is one method of monitoring patients with head injury. Errors and confusion are minimized when precise responses to specific stimuli are recorded. Always record specific responses in addition to the total score of the Glasgow Coma Scale.

A. Level of Consciousness (LOC): Glasgow Coma Scale

1. Eye opening:

Spontaneously	4
To sound	3
To pressure	2
None	1

2. Best verbal response

Oriented	5
Confused	4
Words	3
Sounds	2
None	1

3. Best motor response

Obeys commands	6
Localizes pain	5
Normal Flexion	4
Abnormal flexion	3
Extension	2
None	1

Total = 3-15 possible

B. Another method to objectively describe LOC in the non-head injured patient is **AVPU**
A: Awake & Alert
V: Responsive to Verbal Stimulus
P: Responsive to Painful Stimulus
U: Unresponsive

C. Eyes:
1. Direction of gaze
2. Size and reactivity of pupils
3. Visual Field Loss

D. Motor Function and Coordination
1. Observe whether all four extremities move equally well
2. Facial Droop

E. Speech and Language
1. Real words, but slurred enunciation
2. Unable to use correct words and/or unable to comprehend simple question and commands

F. Sensation (if patient awake):
1. Observe for absent, abnormal or normal sensation at different levels if cord injury is suspected

SPECIAL NOTES:

A. Sensory and motor exam **must** be documented before and after moving patient with suspected spinal injury.

B. Note what stimulus is being used when recording responses.

GENERAL: FOCUSED HISTORY/PHYSICAL EXAM OR RAPID ASSESSMENT

DETAILED PHYSICAL EXAM

Definitions:

Focused History/Physical Exam: The part of the assessment process in which the patient's major complaints or any problems that are immediately evident are further and more specifically evaluated.

Detailed Physical Exam: The part of the assessment process in which a detailed area-by area exam is performed on patients whose problems cannot be readily identified or when more specific information about problems identified in the focused history and physical exam is necessary.

The four components of physical examination are: inspection, auscultation, palpation, and occasionally, percussion.

The head-toe assessment should include these areas:

1. Complete set of vital signs
2. Head:
   a) Inspect and palpate scalp, face, ears, nose, eyes
   b) Check pupils for size, equality, reaction to light, accommodation
3. Neck:
   a) Inspect and palpate location of trachea
   b) Check jugular veins
   c) Palpate cervical spine
4. Chest/Back:
   a) Inspect, palpate, auscultate chest and back
5. Abdomen/Pelvis/Buttocks:
   a) Inspect, palpate, auscultate abdomen
   b) Perform 3 point pelvis check
6. Lower Extremities
   a) Inspect and palpate both legs and feet
   b) Check circulation, sensation, and motor function in both feet
7. Upper Extremities:
   a) Inspect and palpate both arms and hands

b) Check circulation, sensation, and motor function in both hands

8. Neurological Assessment
9. EKG Monitoring/12 Lead
10. Pulse Oximetry
11. Glucose Determination
12. History

CENTRAL VENOUS ACCESS

Existing central venous access devices such as, porta-caths, PICC's, Groshongs, etc. may be accessed by Paramedics only with supplemental training approved by the Administrative Medical Director.