

# 2011 Guidelines for Field Triage of Injured Patients

National Center for Injury Prevention and Control  
Division of Injury Response



## Slide 1

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Welcome! Today, we are going to discuss the 2011 Guidelines for Field Triage of Injured Patients (2011 Guidelines). This presentation and the revised guidelines are designed to help you do your job as emergency medical services (EMS) providers by helping you to respond to severely injured patients more effectively.

# Objectives

- Review the importance of accurate field triage
- Review the history of the American College of Surgeons Field Triage Decision Scheme
- Discuss changes in the 2011 Guidelines for Field Triage of Injured Patients
- Review CDC educational initiatives for the 2011 Guidelines for the Field Triage of Injured Patients

## Slide 2

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The goals for this presentation are to:

- review the importance of accurate field triage in trauma care;
- review the history of the American College of Surgeon's (ACS) Field Triage Decision Scheme;
- discuss the changes in the 2011 Guidelines for Field Triage of Injured Patients; and, finally,
- review the Centers for Disease Control and Prevention (CDC)'s educational initiatives for the decision scheme.

Centers for Disease Control and Prevention

**MMWR**

Morbidity and Mortality Weekly Report

Recommendations and Reports / Vol. 61 / No. 1

January 13, 2012

## Guidelines for Field Triage of Injured Patients

Recommendations of the National Expert Panel  
on Field Triage, 2011



Continuing Education Examination available at <http://www.cdc.gov/mmwr/cme/conted.html>.



U.S. Department of Health and Human Services  
Centers for Disease Control and Prevention

Published: January 2012

Available for FREE at:  
[www.cdc.gov/Fieldtriage](http://www.cdc.gov/Fieldtriage)

### Slide 3

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The decision scheme is based upon “Guidelines for Field Triage of Injured Patients: Recommendations of the National Expert Panel on Field Triage, 2011” published in January 2012 in CDC’s Morbidity and Mortality Weekly Report (MMWR) Recommendations and Reports.

# 10 Leading Causes of Death by Age Group, United States - 2008

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Congenital Anomalies 5,638	Unintentional Injury 1,469	Unintentional Injury 835	Unintentional Injury 1,024	Unintentional Injury 14,089	Unintentional Injury 14,588	Unintentional Injury 16,065	Malignant Neoplasms 50,403	Malignant Neoplasms 104,091	Heart Disease 495,730	Heart Disease 616,828
2	Short Gestation 4,754	Congenital Anomalies 521	Malignant Neoplasms 457	Malignant Neoplasms 433	Homicide 5,275	Suicide 5,300	Malignant Neoplasms 12,999	Heart Disease 37,862	Heart Disease 66,711	Malignant Neoplasms 391,729	Malignant Neoplasms 565,499
3	SIDS 2,363	Homicide 421	Congenital Anomalies 170	Suicide 215	Suicide 4,298	Homicide 4,610	Heart Disease 11,398	Unintentional Injury 20,354	Chronic Low. Respiratory Disease 14,042	Chronic Low. Respiratory Disease 121,223	Chronic Low. Respiratory Disease 141,060
4	Maternal Pregnancy Comp. 1,765	Malignant Neoplasms 394	Homicide 113	Homicide 207	Malignant Neoplasms 1,663	Malignant Neoplasms 3,521	Suicide 6,703	Suicide 8,287	Unintentional Injury 12,782	Cerebrovascular 114,508	Cerebrovascular 134,148
5	Unintentional Injury 1,315	Heart Disease 186	Heart Disease 97	Congenital Anomalies 161	Heart Disease 1,065	Heart Disease 3,254	Homicide 2,906	Liver Disease 8,220	Diabetes Mellitus 11,370	Alzheimer's Disease 81,573	Unintentional Injury 121,902
6	Placenta Cord Membranes 1,080	Influenza & Pneumonia 142	Benign Neoplasms 69	Heart Disease 132	Congenital Anomalies 467	HIV 875	HIV 2,838	Cerebrovascular 8,112	Cerebrovascular 10,459	Diabetes Mellitus 50,683	Alzheimer's Disease 82,435
7	Bacterial Sepsis 700	Septicemia 83	Chronic Low. Respiratory Disease 55	Chronic Low. Respiratory Disease 64	Influenza & Pneumonia 206	Diabetes Mellitus 574	Liver Disease 2,582	Diabetes Mellitus 5,622	Liver Disease 8,526	Influenza & Pneumonia 48,362	Diabetes Mellitus 70,553
8	Respiratory Distress 630	Cerebrovascular 63	Cerebrovascular 41	Cerebrovascular 58	Diabetes Mellitus 204	Cerebrovascular 539	Cerebrovascular 2,035	Chronic Low. Respiratory Disease 4,392	Suicide 5,465	Nephritis 39,921	Influenza & Pneumonia 68,294
9	Circulatory System Disease 584	Chronic Low. Respiratory Disease 54	Influenza & Pneumonia 40	Influenza & Pneumonia 48	Cerebrovascular 189	Liver Disease 423	Diabetes Mellitus 1,854	HIV 3,730	Nephritis 4,803	Unintentional Injury 39,359	Nephritis 48,237
10	Neonatal Hemorrhage 556	Perinatal Period 51	Septicemia 25	Septicemia 38	Complicated Pregnancy 169	Congenital Anomalies 379	Septicemia 882	Viral Hepatitis 2,732	Septicemia 4,552	Septicemia 27,028	Suicide 36,035



Centers for Disease Control and Prevention  
National Center for Injury Prevention and Control

Source: National Vital Statistics System, National Center for Health Statistics, CDC.  
Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC.

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Injury is the leading cause of death for Americans aged 1–44 years.

So understandably, almost half of the 16.6 million transport calls per year that we—the approximately 1 million EMS providers—respond to are related to injury.

SPECIAL ARTICLE

## A National Evaluation of the Effect of Trauma-Center Care on Mortality

Ellen J. MacKenzie, Ph.D., Frederick P. Rivara, M.D., M.P.H.,  
Gregory J. Jurkovich, M.D., Avery B. Nathens, M.D., Ph.D.,  
Katherine P. Frey, M.P.H., Brian L. Egleston, M.P.P., David S. Salkever, Ph.D.,  
and Daniel O. Scharfstein, Sc.D.

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ABSTRACT

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**BACKGROUND**

Hospitals have difficulty justifying the expense of maintaining trauma centers without strong evidence of their effectiveness. To address this gap, we examined differences in mortality between level 1 trauma centers and hospitals without a trauma center (non-trauma centers).

**METHODS**

Mortality outcomes were compared among patients treated in 18 hospitals with a level 1 trauma center and 51 hospitals non-trauma centers located in 14 states. Patients 18 to 84 years old with a moderate-to-severe injury were eligible. Complete data were obtained for 1104 patients who died in the hospital and 4087 patients who were discharged alive. We used propensity-score weighting to adjust for observable differences between patients treated at trauma centers and those treated at non-trauma centers.

**RESULTS**

After adjustment for differences in the case mix, the in-hospital mortality rate was significantly lower at trauma centers than at non-trauma centers (7.6 percent vs. 9.5 percent; relative risk, 0.80; 95 percent confidence interval, 0.66 to 0.98), as was the one-year mortality rate (10.4 percent vs. 13.8 percent; relative risk, 0.75; 95 percent confidence interval, 0.60 to 0.95). The effects of treatment at a trauma center varied according to the severity of injury, with evidence to suggest that differences in mortality rates were primarily confined to patients with more severe injuries.

**CONCLUSIONS**

Our findings show that the risk of death is significantly lower when care is provided in a trauma center than in a non-trauma center and argue for continued efforts at regionalization.

“If you are severely injured, care at a Level I trauma center, rather than a nontrauma center, lowers your risk of death by 25%.”

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CDC-supported research shows that, if you are severely injured, care at a Level I trauma center, rather than a nontrauma center, lowers your risk of death by 25%. This statistic is important to remember because, as an EMS provider, you know that getting the right patient, to the right place, at the right time is critical.

Not all injuries require care at a Level I trauma center. Transporting less severely injured patients to a lower level trauma center or nontrauma center can help ensure that resources at Level I trauma centers are available for those patients who need them most.

# History of the Decision Scheme

- The American College of Surgeons-Committee on Trauma (ACS-COT) developed guidelines to designate “trauma centers” in 1976
  - Set standards for personnel, facilities, and processes necessary for the best care of injured persons
- Studies showed mortality reduction in regions with trauma centers



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In 1976, the American College of Surgeons Committee on Trauma developed guidelines to authenticate trauma centers and set standards for personnel, facilities, and processes necessary for the best care of injured persons.

Studies in the 1970s and early-to-mid-1980s showed a reduction in mortality in those regions with specialized trauma centers.

# History of the Decision Scheme

- National consensus conference in 1987 resulted in first ACS field triage protocol, the “Triage Decision Scheme”



- The Decision Scheme serves as the basis for field triage of trauma patients in most EMS systems in the U.S.

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These studies led to a national consensus conference in 1987 that resulted in the first ACS field triage protocol, known as the “triage decision scheme” for trauma patients.

Since 1987, this decision scheme has served as the basis for field triage for trauma patients in most EMS systems in the United States.

# History of the Decision Scheme

- The Decision Scheme has been revised five times (1990, 1993, 1999, 2006, 2011)
- In 2005-2006 the Centers for Disease Control and Prevention (CDC), with support from the National Highway Traffic Safety Administration (NHTSA), convened the National Expert Panel on Field Triage
- In 2011 the Panel reconvened to review and update the 2006 Guidelines



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Since its initial publication, the decision scheme has been revised five times: 1990, 1993, 1999, 2006, and 2011.

We will discuss the 2011 decision scheme today. The 2011 decision scheme was developed when the National Expert Panel on Field Triage, which was initially formed to develop the 2006 Guidelines, reconvened to review the 2006 Guidelines in the context of recently published literature and experiences of states and local communities working to implement the Guidelines.

The National Expert Panel on Field Triage comprises persons with expertise in acute injury care, including EMS providers and medical directors, state EMS directors, hospital administrators, emergency medicine physicians and nurses, adult and pediatric trauma surgeons, persons in the automotive industry, public health personnel, and representatives of federal agencies.

# National Expert Panel on Field Triage

## ■ Membership

- National leadership, expertise, and contributions in the realm of injury prevention and control

## ■ Members

- EMS Providers and Medical Directors
- Emergency Medicine Physicians and Nurses
- Trauma Surgeons
- Public Health
- Federal Agencies
- Automotive Industry



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This panel included professionals with a variety of backgrounds, including EMS, emergency medicine, trauma surgery, nursing, public health, research, and automotive engineering.

# National Expert Panel on Field Triage



- The role of the Expert Panel is to:
  - Periodically review the Decision Scheme
  - Ensure criteria are consistent with existing evidence
  - Ensure criteria are compatible with advances in technology
  - Make necessary recommendations for revision

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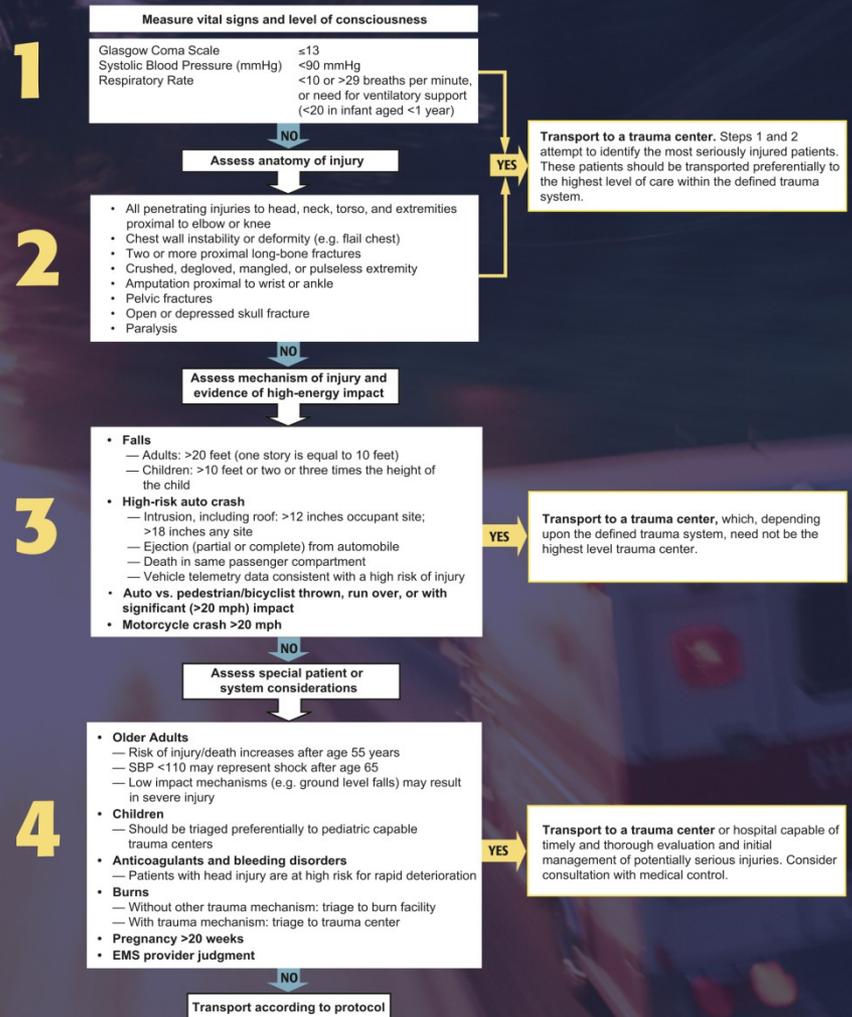
The National Expert Panel on Field Triage's role is to:

- periodically review the decision scheme,
- ensure that criteria are consistent with existing evidence,
- ensure that criteria are compatible with advances in technology, and
- make necessary recommendations for revision.

Not an official advisory committee of CDC and does not have a fixed membership or an officially organized structure.

# 2011 Guidelines for Field Triage of Injured Patients

## 2011 Guidelines for Field Triage of Injured Patients



When in doubt, transport to a trauma center.

Find the plan to save lives, at [www.cdc.gov/FieldTriage](http://www.cdc.gov/FieldTriage)

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As I pointed out earlier, the decision scheme was developed to assist local medical directors and EMS providers with decisions about field triage and destination facility.

It is the foundation for field triage protocols for trauma patients in most EMS systems across the United States.

The decision scheme is divided into four steps:

Step 1. Physiologic criteria,

Step 2. Anatomic criteria,

Step 3. Mechanism of injury criteria, and

Step 4. Special patient or system considerations.

After each step, the Guidelines includes two transition boxes. One box provides guidance on the appropriate destination for a patient that meets the criteria outlined in the preceding step. The other box moves the reader to the next step in the Guidelines if the patient does not meet the criteria in the preceding step. In essence, the Guidelines help you determine the gravity of the injury and the most appropriate destination facility for your patient, or it helps you move further through the decision scheme criteria.

# Clarification and Explanation

- Purpose
- Utilization
- Guidelines “name”
- Literature and experience
- Future research



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### Purpose

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So what is the purpose of the Guidelines? They are intended to lay the foundation for developing local and regional field triage protocols, including areas with limited medical resources and/or geographic hurdles to transporting patients to trauma centers. The Guidelines were revised to facilitate more effective triage and better match trauma patients' conditions with the medical resources best equipped to treat them.

#### **Purpose: Clearly states that this is not for mass casualty triage**

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The Guidelines provided in this report are not intended for mass casualty or disaster triage; instead, they are designed for use with individual injured patients and provide guidance for EMS providers who care for and transport patients injured in U.S. communities daily through motor-vehicle crashes, falls, penetrating injuries, and other injury mechanisms.

### Utilization

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The Guidelines cannot account for all EMS systems, every injury, or transportation. They must ultimately be based upon local data and analysis of systems. The Panel recognizes that these Guidelines cannot address the specific circumstances of each EMS system in the United States or all circumstances that might arise at the scene of injury or while the patient is being transported to a hospital or trauma center. The Guidelines discuss core elements of any well-managed field triage process; these guidelines should be adapted to fit the specific needs of local environments within the context of defined state, regional, or local trauma systems and in accord with an analysis of local data. In areas of uncertainty, or in those not addressed by the Guidelines, local EMS systems should rely on direction from local EMS medical directors, regulations, policies, and protocols.

### Guidelines name

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The Panel decided not to change or modify the name of the decision scheme because creating a new and different name would likely only add to or increase any confusion or misunderstanding that exists. The Panel recommended that the decision scheme be called either the "field triage decision scheme" or the "guidelines for field triage of injured patients." The Panel also recommended that the Guidelines not be referred to as a "national protocol" because using the term "protocol" has an unintended proscriptive inference for the end-user that could restrict local adaptation required for optimal implementation.

### Literature and Experience

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Changes to the Guidelines are based upon literature review AND experience of states, regions, and communities working on field triage.

### Future Research

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More research on Field Triage is needed. Ensuring that the Guidelines are based on the best clinical evidence requires expanded surveillance, focused research using robust study designs, and consistent outcome measures.

1

**Measure vital signs and level of consciousness**

Glasgow Coma Scale	≤13
Systolic Blood Pressure (mmHg)	<90 mmHg
Respiratory Rate	<10 or >29 breaths per minute, or need for ventilatory support (<20 in infant aged <1 year)

YES

**Transport to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

NO

**Assess anatomy of injury**

# Step 1: Physiologic Criteria

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Now, let's take a look at the decision scheme step by step, starting with Step 1, Physiologic criteria.

# Step 1: 2011 Changes

- Modified
  - Glasgow Coma Scale (GCS) from  $<14$  to  $GCS \leq 13$ .
- Added
  - Or need for Ventilatory Support



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The criteria on the Glasgow Coma Scale (GCS) was changed from less than 14 to GCS less than or equal to 13.

Experience with the 2006 Guidelines indicates that many readers interpreted this criterion as recommending that patients with a GCS of 14 or less should be taken to trauma centers. This was rewritten in an effort to reduce confusion.

The need for Ventilatory Support was added to the respiratory rate criterion.

After reviewing the literature, the Panel added “or need for ventilatory support” to the respiratory rate criterion, recognizing that adults and children requiring ventilatory support (including both bag-mask ventilation and intubation) represent a very high-risk group, whether or not they have a respiratory rate of  $<10$  or  $>29$  breaths per minute ( $<20$  in infant aged  $<1$  year).

# 2

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

YES

**Transport to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

NO

Assess mechanism of injury and evidence of high-energy impact

## Step 2: Anatomic Criteria

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We now move to Step 2, Anatomic criteria.

# Step 2: 2011 Changes



- Modified
  - Crushed, degloved, mangled, or pulseless extremity
  - Chest wall instability or deformity (e.g. flail chest)
  - Penetrating injuries to head, neck, torso and extremities proximal to elbow or knee
  - Amputation proximal to wrist or ankle

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“Pulseless” was added to the criteria for crushed, degloved, or mangled extremity for the following reasons:

- vascular injuries of the extremity may lead to significant morbidity and mortality
- these injuries require a high level of specialized trauma care involving multiple medical specialties
- vascular injuries exist in the absence of a crushed, degloved, or mangled extremity.

“Flail chest” was changed to “chest wall instability or deformity (e.g., flail chest)” for the following reasons:

- “flail chest” is rarely diagnosed by EMS providers
- the terminology “chest wall instability or deformity” more accurately describes what EMS providers are asked to identify in the field environment
- the broader terminology ensures that additional blunt trauma to the chest will be identified and transported to the appropriate facility.

Penetrating injuries to head, neck, torso and extremities proximal to elbow or knee was modified. The wording of this criterion was modified from “elbow and knee” to “elbow or knee” to recognize that these types of injuries generally occur separately and that each can represent a severe injury.

Amputation proximal to wrist or ankle was modified. It was changed from “amputation proximal to wrist and ankle” to “amputation proximal to wrist or ankle” recognizing that these types of injuries most commonly occur separately and that each can represent a severe injury.

# 3

- **Falls**
  - Adults: >20 feet (one story is equal to 10 feet)
  - Children: >10 feet or two or three times the height of the child
- **High-risk auto crash**
  - Intrusion, including roof: >12 inches occupant site; >18 inches any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Vehicle telemetry data consistent with a high risk of injury
- **Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact**
- **Motorcycle crash >20 mph**

YES

**Transport to a trauma center**, which, depending upon the defined trauma system, need not be the highest level trauma center.

NO

Assess special patient or system considerations

## Step 3: Mechanism of Injury Criteria

## Slide 17

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Moving on to Step 3, Mechanism of injury criteria.

# Step 3: 2011 Changes

- Modified
  - High-risk automobile crash



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“Including roof” was added to the intrusion category for high-risk automobile crashes for the following reasons:

- the 2006 guidelines do not clearly convey that vertical roof intrusion carries the same implication for increased injury severity as horizontal intrusion into the vehicle occupant space
- current review of the literature confirms that intrusion, including vertical roof intrusion, is an important predictor of trauma center need.

# 4

- **Older Adults**
  - Risk of injury/death increases after age 55 years
  - SBP <110 may represent shock after age 65
  - Low impact mechanisms (e.g. ground level falls) may result in severe injury
- **Children**
  - Should be triaged preferentially to pediatric capable trauma centers
- **Anticoagulants and bleeding disorders**
  - Patients with head injury are at high risk for rapid deterioration
- **Burns**
  - Without other trauma mechanism: triage to burn facility
  - With trauma mechanism: triage to trauma center
- **Pregnancy >20 weeks**
- **EMS provider judgment**

NO

Transport according to protocol

YES

**Transport to a trauma center** or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.

## Step 4: Special Considerations

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We have reached Step 4, Special patient or system considerations.

# Step 4: 2011 Changes

- Modified
  - Older adults
  - Anticoagulation and bleeding disorders



## Slide 20

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“SBP <110 may represent shock after age 65 years” and “low impact mechanisms (e.g., ground level falls) may result in severe injury” were added under “Older Adults” in Step 4 for the following reasons:

- undertriage of the older adult population is a substantial problem
- the evidence reviewed suggests that the physiologic parameters used in younger patients may not apply to older adults
- occult injury is likely to be greater among older adults
- low energy transfers (e.g., ground level falls) may result in serious injuries in this population
- there is a need to be more proactive in the field identification of serious injury among older adults.

“Patients with head injury are at high risk for rapid deterioration” was added to anticoagulation and bleeding disorders. Anticoagulation use has been associated with an increased risk of intracranial hemorrhage following head injury. This criterion was modified to underscore the potential for anticoagulated patients who do not meet Step 1, Step 2, or Step 3 criteria, but have evidence of head injury, to undergo rapid deterioration.

# Step 4: 2011 Changes

- Removed
  - End-stage renal disease requiring dialysis
  - Time sensitive extremity injury



## Slide 21

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End-stage renal disease requiring dialysis was removed because there is no research demonstrating the value of dialysis as a triage criterion for identifying patients with serious injury and that concerns regarding anticoagulation in this population are addressed under the anticoagulation and bleeding disorders criterion.

Time sensitive extremity injury was removed because with the addition of “pulseless” to Step Two criteria, the panel thought this criterion was redundant.

# 2011 Guidelines for Field Triage of Injured Patients

1

**Measure vital signs and level of consciousness**

Glasgow Coma Scale	≤13
Systolic Blood Pressure (mmHg)	<90 mmHg
Respiratory Rate	<10 or >29 breaths per minute, or need for ventilatory support (<20 in infant aged <1 year)

NO

**Assess anatomy of injury**

2

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow or knee
- Chest wall instability or deformity (e.g. flail chest)
- Two or more proximal long-bone fractures
- Crushed, degloved, mangled, or pulseless extremity
- Amputation proximal to wrist or ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis

NO

**Assess mechanism of injury and evidence of high-energy impact**

3

- **Falls**
  - Adults: >20 feet (one story is equal to 10 feet)
  - Children: >10 feet or two or three times the height of the child
- **High-risk auto crash**
  - Intrusion, including roof: >12 inches occupant site; >18 inches any site
  - Ejection (partial or complete) from automobile
  - Death in same passenger compartment
  - Vehicle telemetry data consistent with a high risk of injury
- **Auto vs. pedestrian/bicyclist thrown, run over, or with significant (>20 mph) impact**
- **Motorcycle crash >20 mph**

NO

**Assess special patient or system considerations**

4

- **Older Adults**
  - Risk of injury/death increases after age 55 years
  - SBP <110 may represent shock after age 65
  - Low impact mechanisms (e.g. ground level falls) may result in severe injury
- **Children**
  - Should be triaged preferentially to pediatric capable trauma centers
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  - Patients with head injury are at high risk for rapid deterioration
- **Burns**
  - Without other trauma mechanism: triage to burn facility
  - With trauma mechanism: triage to trauma center
- **Pregnancy >20 weeks**
- **EMS provider judgment**

NO

**Transport according to protocol**

**YES**

**Transport to a trauma center.** Steps 1 and 2 attempt to identify the most seriously injured patients. These patients should be transported preferentially to the highest level of care within the defined trauma system.

**YES**

**Transport to a trauma center,** which, depending upon the defined trauma system, need not be the highest level trauma center.

**YES**

**Transport to a trauma center** or hospital capable of timely and thorough evaluation and initial management of potentially serious injuries. Consider consultation with medical control.

**When in doubt, transport to a trauma center.**

Find the plan to save lives, at [www.cdc.gov/Fieldtriage](http://www.cdc.gov/Fieldtriage)

## Slide 22

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The Decision Scheme layout was modified to make it easier to follow and use within any trauma system.

# Decision Scheme Layout

- Modification
  - Changed layout of the guidelines
  - Modified specific language of the transition boxes



## Slide 23

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To improve the layout of the transition boxes, the Panel took two steps. First, because the transition boxes between Steps 1 and 2 communicate the exact same information, they were thought to be redundant, and were consolidated into one box. Second, all transition boxes were moved to the right side of the page for easier readability and determination of outputs for patients meeting different steps in the Guidelines. The Panel also modified the language within the boxes to ensure consistency between transitions in the Guidelines.

# Education Initiative

- CDC, in collaboration with partners and experts, has developed FREE educational tools:
  - Morbidity and Mortality Weekly Reports (MMWR) Recommendations and Reports Guidelines for Field Triage of Injured Patients: Recommendations of the National Expert Panel on Field Triage (includes continuing education opportunity)
  - Implementation guide for EMS leaders
  - Large decision scheme poster- available in color and black & white (size: 17 x 22 inches)
  - Small decision scheme poster - available in color and black & white (size: 8.5 x 11 inches)
  - Badge (size: 2.5 x 3.5 inches)
  - Pocket card (folded size: 2.5 x 6 inches)
  - Implementation guide fact sheet
  - Online course developed with the University of Michigan
  - SmartPhone application



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CDC and its partners have developed resources and tools to help educate EMS leaders and professionals learn about the decision scheme. These resources include:

- Morbidity and Mortality Weekly Reports (MMWR) Recommendations and Reports Guidelines for Field Triage of Injured Patients: Recommendations of the National Expert Panel on Field Triage (includes continuing education opportunity)
- Implementation guide for EMS leaders
- Large decision scheme poster—available in color and black & white (size: 17 x 22 inches)
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# Endorsing Organizations (Partial Listing)



## Slide 25

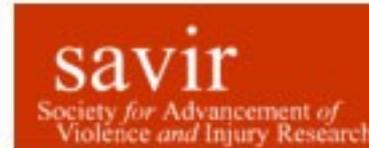
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Thirty-seven organizations and agencies endorse the decision scheme with concurrence from the Federal Interagency Committee on Emergency Medical Services and the National Highway Traffic Safety Administration. They include:

- Air Medical Physician Association
- American Academy of Orthopedic Surgeons
- American Academy of Pediatrics
- American Association of Critical-Care Nurses
- American Association for Respiratory Care
- American Association for the Surgery of Trauma
- American Burn Association
- American College of Emergency Physicians
- American College of Osteopathic Surgeons
- American College of Surgeons
- American Public Health Association
- American Trauma Society
- Association of Air Medical Services
- Association of Critical Care Transport
- Association of Public-Safety Communications Officials
- Association of State and Territorial Health Officials
- Brain Trauma Foundation
- Commission on Accreditation of Medical Transport Systems
- Eastern Association for the Surgery of Trauma
- Emergency Nurses Association

# Endorsing Organizations (Partial Listing)

## INTERNATIONAL ACADEMIES OF EMERGENCY DISPATCH



With concurrence from the National Highway Traffic Safety Administration

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Other organizations and agencies that endorse the decision scheme include:

- International Academies of Emergency Dispatch
- International Association of Emergency Medical Services Chiefs
- International Association of Fire Chiefs
- International Association of Flight and Critical Care Paramedics
- National Association of Emergency Medical Technicians
- National Association of EMS Educators
- National Association of EMS Physicians
- National Association of State EMS Officials
- National EMS Information System
- National EMS Management Association
- National Volunteer Fire Council
- Safe States Alliance
- Society for Academic Emergency Medicine
- Society for the Advancement of Violence and Injury Research
- Society of Emergency Medicine Physician Assistants
- Trauma Center Association of America
- Western Trauma Association
- Federal Interagency Committee on Emergency Medical Services (comprised of representatives from the U.S. Department of Health and Human Services, the U.S. Department of Transportation, the U.S. Department of Homeland Security, the U.S. Department of Defense, and the U.S. Federal Communications Commission).

The National Highway Traffic Safety Administration concurs with these Guidelines.

# References

1. National Center for Injury Prevention and Control, Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System. Ten Leading Causes of Death, 1999-2004.
2. MacKenzie EJ, Rivara FP, Jurkovich GJ, Nahens AB, Frey KP, Egleston BL, Salkever DS, Scharfstein DO. A national evaluation of the effect of trauma-center care on mortality. *N Engl J Med*. 2006 Jan 26; 354(4):366-78.
3. Division of Injury Response, National Center for Injury Prevention and Control, CDC. Guidelines for field triage of injured patients: recommendations of the national expert panel on field triage, 2011. Atlanta, Georgia. MMWR Recomm Rep. 2012 Jan 13;61(RR-1):1-20.
4. Large Cost Savings Realized From The 2006 Field Triage Guideline: Reduction in Overtriage in U.S. Trauma Centers. Faul M, Wald MM, Sullivent EE, Sasser SM, Kapil V, Lerner EB, Hunt RC. *Prehosp Emerg Care*. 2011 Oct 18. [Epub ahead of print]

## Slide 27

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Here are the references for this presentation. However, more than 85 references included in the *MMWR* article were used for revising the decision scheme.

**Find the plan to save lives and  
money at:**

**[www.cdc.gov/Fieldtriage](http://www.cdc.gov/Fieldtriage)**

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I encourage you to visit CDC's Web site for more information about the decision scheme and to take advantage of the continuing education opportunity. You can also order or download the materials to use in your trauma system at no cost.

**The Web site is: [www.cdc.gov/Fieldtriage](http://www.cdc.gov/Fieldtriage).**