

Trauma Talk

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Neurosurgical Trauma Team



Mark Garrett, MD
- Neurosurgical
Liaison

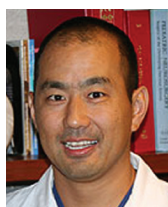
Dr. Garrett is a neurosurgeon at Barrow Neurological Associates, and is on staff at

Chandler Regional Medical Center. As liaison he will be an important part of our Trauma Neuro team. He specializes in cranial and spine surgery, tumors of the brain and spine, skullbase neurosurgery and complex spine surgery.

Steve Chang, MD

Dr. Chang is part of Barrow Neurological Associates on staff at Chandler Regional. He is specially trained

to treat patients with complex health spine and brain disorders, and is a mentor for neurosurgical residents treating patients with spinal disorders and brain tumors.



Taro Kaibara, MD

Dr. Kaibara is Medical Director of Neurosurgery at Chandler Regional Medical Center, and brings his experience to patients

both in Chandler and at St. Joseph's Hospital and Medical Center. He treats patients with both simple and complex cranial and spinal disorders, utilizing the latest in surgical techniques and instrumentation, employing minimally invasive approaches.

The Abbreviated Injury Scale/Injury Severity Score

The Abbreviated Injury Scale (AIS) has been used since 2005, and was previously reported as the Injury Severity Score (ISS). The AIS is a standardized way to assess the severity of trauma. It is the sum of the squares of the highest injury scores in three different body regions. AIS scores are calculated using the following six body regions:

- head/neck
- face
- chest
- abdominal/pelvic contents
- extremities
- external (skin)

The total score for a trauma patient will range from 1 to 75. For every injury, a code is assigned with a score. A simple laceration would merit an AIS score of 1. These codes are on a scale that ranks severity in numerical order.

No matter how many injuries, only the three most severely injured body regions are calculated. Even a patient with lacerations on every body region would have an AIS score of 1, if there are no other injuries.

Likewise, a patient in a motor vehicle crash may have multiple broken ribs, a pneumothorax, chest abrasions and contusions but only have AIS score of 17 if there are no injuries to any other

body region. However, if that same patient ends up with a broken femur along with a skull fracture and a traumatic brain injury in addition to the broken ribs, the AIS score would increase significantly to an AIS of 50+ due to injuries in a variety of body regions. There are injuries that by themselves score high AIS. A spinal cord injury, for example, will have an AIS score of 25 depending upon the severity.

Essentially, AIS score is a tool that helps determine threat to life and complexity of treatment.

AIS Code	Description
1	Minor
2	Moderate
3	Serious
4	Severe
5	Critical
6	Maximal (currently untreatable)

Trauma Activation for Injuries

Measure vital signs and level of consciousness

- GC < 10 or,
- Systolic BP < 90 mmHg (80mmHg < age 8) or,
- Respiratory < 10 or > 29 or, < 20 in infant aged < one year
- Unstable airway
- Shock

NO

YES

Activate
Trauma
Code

Assess anatomy of injury

- All penetrating injuries to head, neck, torso, and extremities proximal to elbow and knee
- Flail chest
- Two or more proximal long bone fractures
- Crushed, degloved, or mangled extremity
- Amputation proximal to wrist and ankle
- Pelvic fractures
- Open or depressed skull fracture
- Paralysis OR
- Unstable patients transferred from other hospitals
- Physician discretion

NO

YES

Activate
Trauma
Code

Assess mechanism of injury & evidence high energy impact

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

NO

YES

Activate
Trauma
Alert

Assess special patient or system considerations

1. Age
Old Adults: risk of injury/death increases after age 55 years
Children: should be triaged preferentially to pediatric-capable trauma centers
2. Anticoagulation and bleeding disorders
3. Burns
Without other trauma mechanism: triage to burn facility
With trauma mechanism: triage to trauma center
4. Time sensitive extreme injury
5. End-stage renal disease requiring dialysis
6. Pregnancy > 16 weeks OR
7. EMS provider judgement

NO

Not a
Trauma
Activation

YES

Activate
Trauma
Alert



For the rapid transfer of trauma, general surgery or surgical ICU patients to the Acute Care Surgery service, contact the First Call Transfer Center at 480-728-8181.

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