

# Level 4 Trauma Hospital Designation Criteria

FULL IMPLEMENTATION DEADLINE 01.01.2027

Revision 12.2025

## Level 4

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### Institution - Criterion 1.1

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#### Definition

The board of directors, administration, and medical staff shall demonstrate a commitment to provide the resources and support necessary to sustain the trauma designation. This commitment shall be signed and dated within one year of designation expiration.

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#### Measures of Compliance

The following must be submitted with the designation application:

- A signed hospital board resolution letter dated no more than one year prior to designation expiration
  - A signed medical staff board resolution letter dated no more than one year prior to designation expiration
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#### Resources / Sample Documents

1.1 Hospital Board Resolution

1.1 Medical Staff Resolution

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#### References

None

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#### Helpful Tips

Resolution should include language such as

“THEREFORE; BE IT RESOLVED that the board of directors of [HOSPITAL] acknowledges the commitment to adherence to the standards required for level [III or IV] trauma designation, as well as commitment to ensuring that the necessary personnel, facilities, and equipment are made available to support adherence to those standards.”

When using templates, be sure they are modified as appropriate including your hospital name and designation level.

Evaluate the appropriate timeline to start this process, as it can take a while to cycle through meetings for the appropriate signature(s).

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## Level 4

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### Institution - Criterion 1.2

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#### Definition

The trauma program shall be established by the facility and represented on the official hospital organizational chart.

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#### Measures of Compliance

The following must be submitted with the designation application:

- An official hospital organizational chart.
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#### Resources / Sample Documents

Organizational Chart

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#### References

None

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#### Helpful Tips

The facility's organizational chart should show where trauma "lives" in the facility in relation to other departments in the hospital. The organizational chart should represent job titles or positions, not specific people.

The trauma program may be located within an existing department, such as the Department of Surgery or Emergency Department, but must appear on the official organizational chart.

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## Level 4

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### Medical Director - Criterion 2.1

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#### Definition

The trauma medical director (TMD) shall be a physician whose job description defines his or her authority, roles, and responsibilities for the leadership of the trauma program, the trauma performance improvement process, and tertiary case review.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Start month and year for the TMD
  - Expiration date of current board certification
  - Current job description(s) should include
    - Role and responsibilities for:
      - Leadership of the trauma program
      - Trauma performance improvement
      - Tertiary case review
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#### Resources / Sample Documents

2.1 Trauma Medical Director Job Description- Sample

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#### References

None

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#### Helpful Tips

The trauma medical director (TMD) position may also be titled trauma medical advisor if needed.

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## Level 4

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### Medical Director - Criterion 2.2

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#### Definition

The trauma medical director (TMD) must meet the same trauma training requirements as the Emergency Department Physician.

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#### Measures of Compliance

The following must be submitted with the designation application:

- The month and year of course completion for the TMD's last training course (ATLS or CALS)
  - Clinician roster including the required educational and certification components
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#### Resources / Sample Documents

Clinician Roster

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#### References

Educational Resources website

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#### Helpful Tips

There is no grace period for either ATLS or CALS training.

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## Level 4

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### Medical Director - Criterion 2.3

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#### Definition

The trauma medical director (TMD) may appoint another physician or Nurse Practitioner (NP)/Physician Assistant (PA) to serve as a co-medical director to assist in fulfilling the roles and responsibilities of the leadership of the trauma program, the trauma performance improvement process, and tertiary case review. If a co-medical director is appointed, the TMD must remain active in and responsible for all trauma program functions.

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#### Measures of Compliance

If the facility has appointed a co-medical director, the following must be submitted with the designation application:

- The name of the physician or NP/PA who has been assigned the co-medical director position
  - Their start date (MONTH/YEAR) in the position
  - A job description defining their roles and responsibilities for the trauma program and PI process
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#### Resources / Sample Documents

2.3 Level 4 Co-Trauma Medical Director Job Description - Sample

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#### References

None

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#### Helpful Tips

The co-medical director position may also be titled co-medical advisor if needed.

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## Level 4

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### Medical Director - Criterion 2.4

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#### Definition

The co-medical director must meet the same trauma training requirement as the Emergency Department providers.

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#### Measures of Compliance

The following must be submitted with the designation application:

- The month and year of course completion for the co-medical advisor's last training course (ATLS or CALS)
  - Clinician roster including the required educational and certification components
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#### Resources / Sample Documents

Clinician Roster

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#### References

Educational Resources website

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#### Helpful Tips

None.

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## Level 4

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### Program Manager - Criterion 3.1

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#### Definition

The trauma program manager (TPM) must be either a registered nurse or an allied health professional with emergency and trauma care experience.

3.1.1 The TPM job description must define the roles and responsibilities for the management and leadership of the trauma program and the trauma performance improvement process.

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#### Measures of Compliance

The following must be submitted with the designation application:

- The name and credentials of the TPM position
  - Their start date (Month/Year) in the position
  - The TPM job description describing all trauma program roles and responsibilities, including the performance improvement process
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#### Resources / Sample Documents

3.1 Trauma Program Manager Job Description - Sample

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#### References

None

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#### Helpful Tips

The TPM job description will define the roles and responsibilities related to the leadership of the trauma program, including trauma performance improvement.

The TPM position may also be titled coordinator if needed.

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## Level 4

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### Program Manager - Criterion 3.2

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#### Definition

If the trauma program manager (TPM) is not a registered nurse, a registered nurse must assist with:

3.2.1 Primary review of trauma care provided in all areas of the hospital

3.2.2 Function as a liaison between the trauma program and the nursing staff

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#### Measures of Compliance

The following must be submitted with the designation application:

- The name and credentials of the registered nurse assisting the TPM
  - Their start date (Month/Year) in the position
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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

The liaison should assist with follow-up/investigation, education, etc. between the trauma program and nursing staff.

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## Level 4

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### Program Manager - Criterion 3.3

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#### Definition

The trauma program manager (TPM) must have at least a portion of an FTE dedicated for trauma program responsibilities.

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#### Measures of Compliance

The following must be submitted with the designation application:

- The amount of FTE the TPM has dedicated to the trauma program.

This will be validated at the site visit.

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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

The trauma program performance improvement process requires that sufficient resources are invested in order to maintain integrity and support the growth of the trauma program. The time allotted should be dedicated, protected, and uninterrupted.

Dedicated time for trauma program managers\* directly correlates with the success of a facility's trauma program. TPM workloads are extremely dependent on ED and admission volumes. Most successful Level 4 trauma programs have a minimum 0.2 FTE (smallest facilities) to 1.0 FTE (largest facilities), which increase rapidly with higher ED and admission volumes. This does not include FTE allocation for registry entry.

Leadership of the trauma program, the PI process and other workload completion/timeliness must be monitored closely to judge whether the FTE assignment is adequate.

PI and other workload completion and timeliness must be monitored closely to judge whether the FTE assignment should be increased.

If the facility had immediate actions or multiple recommendations in the past designation cycle, reevaluate the FTE allocation and responsibilities of the TPM.

\*Some TPM responsibilities may be delegated to other staff.

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## Level 4

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### Trauma Team Activation - Criterion 4.1

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#### Definition

The hospital must have a trauma team activation (TTA) policy, protocol or guideline that includes:

- 4.1.1 A list of all team members expected to respond, which may include telemedicine providers.
  - 4.1.2 The response time expectation for the team members, including in-house and off-site staff.
  - 4.1.3 The physiologic, anatomic, and clinical indicators that, when met, require the activation of the trauma team.
  - 4.1.4 The person(s) authorized to activate the trauma team.
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#### Measures of Compliance

The following must be submitted with the designation application:

- A list of team member positions (not names) expected to respond to each level of trauma activation
  - The response time expectation for each of the team members listed above
  - The criteria for each level of activation
  - A list of positions authorized to activate the trauma team
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#### Resources / Sample Documents

4.1 Level 4 Single-Tier Trauma Team Activation (TTA) Policy- Sample

4.1 Level 4 Multi-Tier Trauma Team Activation (TTA) Policy- Sample

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#### References

None

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#### Helpful Tips

When trauma activation criteria are changed, review and update any associated policy to ensure it matches.

Provide nurse and provider education when any activation criteria or policy change occurs.

Anatomic criteria refer to specific injuries and injury patterns.

Physiologic criteria refer to disturbances in vital signs, such as low GCS, decreasing GCS, or hypothermia.

## Level 4

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### Trauma Team Activation - Criterion 4.2

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#### Definition

The trauma team activation (TTA) criteria must be readily available in locations where a trauma patient is likely to be initially encountered.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Trauma team activation (TTA) poster

Locations of posted criteria will be validated during the site visit.

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#### Resources / Sample Documents

4.2 Level 4 Single-Tier Trauma Team Activation (TTA) Poster- Sample

4.2 Level 4 Multi-Tier Trauma Team Activation (TTA) Poster- Sample

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#### References

None

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#### Helpful Tips

Criteria should be readily available in the ED triage area, trauma bays, and any other ED rooms where injured patients may receive care.

Ensure that any wall posters match the trauma activation policy, protocol, or guideline.

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## Level 4

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### Trauma Team Activation (TTA) - Criterion 4.3

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#### Definition

The trauma team activation (TTA) guideline, at a minimum, must include the following physiological and anatomical indicators:

- 4.3.1 Sustained GCS  $\leq$  10 secondary to trauma.
- 4.3.2 Respiratory distress, airway compromise, intubation, or respiratory rate outside of acceptable range

*Table 1: Age-specific respiratory*

<b>Age (years)</b>	<b>RR (per min.)</b>
< 1	< 20 or > 60
1-<2	< 16 or > 50
2-5	< 10 or > 40
6- 17	< 10 or > 30

- 4.3.3 Penetrating injury to the head, neck, chest, abdomen, or pelvis
- 4.3.4 Evidence of shock/hypoperfusion indicated by:
  - 4.3.4.1 Systolic blood pressure  $\leq$  90 mmHg at any time or age-specific hypotension in pediatrics

*Table 2: Age-specific hypotension*

<b>Age (years)</b>	<b>SBP (mmHg)</b>
< 1	< 70
1-<2	< 75
2-5	< 80
6-17	< 90

#### 4.3.4.2 Persistent abnormal heart rate in a patient $\leq 17$ years old

Table 3: Abnormal age-specific heart rate

Age (years)	HR (bpm)
0-1	< 80 or > 180
1-<2	< 70 or > 180
2-5	< 60 or > 160
6-17	< 60 or > 160

4.3.4.3 Provider impression of hypoperfusion (consider absent distal pulses, agitation, anxiety, confusion, delayed capillary refill, diaphoresis, pallor, persistent heart rate > 120 in a patient >14 years old, tachypnea)

4.3.5 Arterial tourniquet indicated

4.3.6 Pregnancy > 20 weeks with vaginal bleeding or contractions attributed to a traumatic mechanism.

4.3.7 Burns > 20% TBSA OR burns with potential need for airway management

4.3.8 Time sensitive orthopedic injuries OR severe orthopedic injury from high energy mechanism

4.3.8.1 Threatened limb: including extremity ischemia, crush injuries, concern for neurovascular compromise, amputation proximal to the wrist or ankle.

4.3.8.2 Dislocated knee or native hip

4.3.8.3 Open long bone or multiple long bone fractures

4.3.9 Suspected spinal cord injury with focal neurological deficit (i.e. numbness/tingling)

4.3.10 Discretion of the emergency department (ED) provider for those patients not meeting any of the TTA criteria

4.3.10.1 Additional considerations should include:

- Use of Anticoagulants
- Burns with concomitant trauma
- Positive eFAST exam
- Falls:
  - Fall from height > 10 feet
  - Age > 65 with fall from elevation or downstairs

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### Measures of Compliance

The following must be submitted with the designation application:

- Trauma Team Activation (TTA) policy

Validated through case reviews and tour at the site visit.

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## Resources / Sample Documents

4.1 Level 4 Single-Tier Trauma Team Activation (TTA) Policy- Sample

4.1 Level 4 Multi-Tier Trauma Team Activation (TTA) Policy- Sample

4.2 Level 4 Single-Tier Trauma Team Activation (TTA) Poster- Sample

4.2 Level 4 Multi-Tier Trauma Team Activation (TTA) Poster- Sample

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## References

None

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## Helpful Tips

Discretionary items are required to be listed on the TTA policy, but activation is at the decision of the ED provider.

Additional considerations by the ED provider may include:

- Age (pediatric (< 5) and elderly (> 65 years old)
- Multiple co-morbidities
- Suspected inhalation injury
- Mechanism of Injury:
  - MVC with ejection or MVC with death of an occupant
  - Separation of rider from motorized device or large animal
  - Pedestrian or cyclist struck by vehicle and thrown
  - Concern for blunt thoraco-abdominal injury

4.3.4.3 The elements in parentheses are considered early indicators of hypoperfusion.

4.3.8.3 Long bones are defined as humerus, radius/ulna, femur, and tibia/fibula.

- For the purposes of multiple fractures, radius/ulna are one unit and tibia/fibula are one unit.
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## Level 4

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### General Surgery - Criterion 5.1

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#### Definition

If the hospital admits trauma patients as described in Section 10.2, a general surgeon must be continuously on-call and available to respond to the hospital within 60 minutes.

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#### Measures of Compliance

The following must be submitted with the designation application:

- General surgeon on-call schedule (Up to 12 months' worth of schedules may be requested.)

Response time from the surgeon must be documented and will be validated through case reviews at the site visit.

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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

For the purposes of general surgeon coverage, “continuously” means seamless coverage at least 350 days of the calendar year. The surgeon must be available during the acute phase of care.

Admission policy or similar document should reflect surgeon response time expectations.

## Level 4

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### Emergency Medicine - Criterion 6.1

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#### Definition

The emergency department must be continuously covered by a physician or Nurse Practitioner (NP)/Physician Assistant (PA)

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#### Measures of Compliance

The following must be submitted with the designation application:

- ED schedule demonstrating continuous coverage (Up to 12 months' worth of schedules may be requested.)
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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

None

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## Level 4

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### Emergency Medicine - Criterion 6.2

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#### Definition

If the emergency department provider is off-site, an on-call schedule must identify the provider(s) covering the emergency department. When called, the provider must arrive at the bedside within 30 minutes of the patient's arrival.

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#### Measures of Compliance

The following must be submitted with the designation application:

- The ED schedule showing physician and NP/PA coverage. If a NP/PA is the primary provider, their physician backup must be listed as well. If telehealth is utilized as back-up, this must be indicated on the ED schedule. (Up to 12 months' worth of schedules may be requested.)

This will be validated during case reviews at site visit.

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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

None

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## Level 4

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### Emergency Medicine - Criterion 6.3

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#### Definition

When the primary emergency department provider is a Nurse Practitioner (NP)/Physician's Assistant (PA), a physician must be on-call and available for consultation by telephone (or similar means) within 30 minutes.

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#### Measures of Compliance

This will be validated during case reviews at site visit.

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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

If an NP/PA is the primary emergency department provider, the on-call schedule must also include the physician providing back-up coverage.

If telehealth is utilized as back-up, this must be indicated on the ED schedule.

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## Level 4

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### Emergency Medicine - Criterion 6.4

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#### Definition

The physician on-call for consultation must either meet the same trauma training requirements as the emergency physician, or practice emergency medicine or trauma surgery at a Level 1 or Level 2 trauma hospital that is verified by the American College of Surgeons (ACS).

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#### Measures of Compliance

If the physician on call for consultation does not practice emergency medicine or trauma surgery at an ACS Level 1 or Level 2 center, the following must be submitted with the designation application:

- Clinician Roster, including education and training information
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#### Resources / Sample Documents

Clinician Roster

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#### References

None

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#### Helpful Tips

If the hospital contracts with a telehealth company for this service, ensure the contracted providers meet this definition.

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## Level 4

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### Orthopedic Surgery - Criterion 7.1

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#### Definition

If the hospital provides emergent orthopedic surgery, a schedule of the orthopedic surgeon on-call must be maintained and accessible by the emergency department and inpatient staff.

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#### Measures of Compliance

If the hospital provides emergent orthopedic surgery, the following must be submitted with the designation application:

- Orthopedic surgeon on-call schedule (Up to 12 months' worth of schedules may be requested)
- Orthopedic Worksheet

Validated through case reviews at site visit.

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#### Resources / Sample Documents

7.1 Level 4 Orthopedic Worksheet

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#### References

None

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#### Helpful Tips

Ensure consistency between the transfer policy, admission policy, and the facility's practice related to orthopedic care.

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## Level 4

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### Orthopedic Surgery - Criterion 7.2

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#### Definition

If the hospital admits patients for the care of surgical orthopedic injuries, a schedule/document outlining the orthopedic surgeon coverage must be maintained and accessible by the emergency department and inpatient staff.

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#### Measures of Compliance

The following must be submitted with the designation application:

- A schedule/document to outline the orthopedic surgical coverage (Up to 12 months' worth of schedules may be requested)
  - Orthopedic Worksheet
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#### Resources / Sample Documents

7.1 Level 4 Orthopedic Worksheet

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#### References

None

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#### Helpful Tips

Ensure consistency between the transfer policy, admission policy, and the facility's practice related to orthopedic care.

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## Level 4

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### Blood Bank - Criterion 8.1

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#### Definition

There must be an in-house blood bank stocked with type-O blood.

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#### Measures of Compliance

The following must be submitted with the designation application:

- The number of units of each blood product that is typically stocked in-house.

This will be validated at site visit.

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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

None

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## Level 4

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### Blood Bank - Criterion 8.2

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#### Definition

There must be a policy establishing a procedure for the emergent release of uncross-matched blood that:

8.2.1 Ensures that uncross-matched blood can be released to the appropriate staff immediately

8.2.2 Includes a provision to release uncross-matched blood to the appropriate staff in the absence of the blood bank staff if they are off-site

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#### Measures of Compliance

The following must be submitted with the designation application:

- Emergent Blood Release policy
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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

None

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## Level 4

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### Radiology - Criterion 9.1

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#### Definition

A radiology technologist must be continuously available, either in-house or on-call.

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#### Measures of Compliance

The following must be submitted with the designation application:

- A description of radiology technologist coverage
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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

The radiology technologist response time expectations should be outlined in the TTA policy, protocol, or guideline (see Criterion 4.1)

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## Level 4

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### Radiology - Criterion 9.2

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#### Definition

If the hospital admits trauma patients as described in Section 10, a computed tomography (CT) technologist must be continuously available, either in-house or on-call.

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#### Measures of Compliance

The following must be submitted with the designation application:

- A description of CT technologist coverage
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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

If the hospital admits any trauma patients under criteria 10.1 and/or 10.2, answer YES in the designation application to populate the CT question.

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## Level 4

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### Radiology - Criterion 9.3

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#### Definition

A radiologist must be continuously available, either in-house or off-site.

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#### Measures of Compliance

The following must be submitted with the designation application:

- A description of radiologist coverage

This will be validated at site visit.

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#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

None

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## Level 4

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### Admission- Criterion 10.1

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#### Definition

Trauma patients with the following injury patterns may be admitted to a level 4 trauma hospital. The trauma hospital should determine which of these conditions may be admitted following an initial evaluation.

- Concussion
- Subarachnoid hemorrhage involving one hemisphere no more than 3mm thick, subdural or intraparenchymal hemorrhage < 8 mm thick, GCS > 13, in a patient not taking anticoagulant or antiplatelet agents (aspirin and NSAIDs are allowed) \*
- Diminished level of consciousness attributed to a non-traumatic cause
- Thoracic or lumbar transverse or spinous process fracture
- Other acute spinal fracture without neurological deficit with spine surgeon consultation
- Orthopedic injuries in the absence of injury to another major organ system (i.e., circulatory, nervous, or respiratory)
- One or two rib fractures with a Practice Management Guideline (PMG) in place
- Three or more acute rib fractures with a Practice Management Guideline in place after consultation\*\* with a trauma-trained general surgeon. This consultation must be documented in the medical record
- Pneumothorax that does not require a thoracostomy
- Those who refuse to be transferred

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#### Measures of Compliance

The following must be submitted with the designation application:

- Admission policy
- Practice Management Guideline (PMG) for rib fractures

Validated through case reviews at site visit.

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#### Resources / Sample Documents

10.1 Level 4 Admission Policy - Sample

10.1 Level 4 Rib Fracture Practice Management Guideline

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## References

Criterion 16.3 (PI Process)

Criterion 17.1 (PI Measures)

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## Helpful Tips

The hospital admitting under 10.1 may include (but not exceed) the conditions listed in criteria.

Initial evaluation is conducted in accordance with current trauma guidelines such as ATLS and/or CALS.

Trauma-trained general surgeon refers to a surgeon who meets State Trauma criteria as defined in Criterion 12.1.

Patients admitted for pain control in the absence of an injury listed in Section 10, to care for a medical condition, for comfort care, for physical or occupational therapy, or while awaiting evaluation or placement for a living situation are not considered to be trauma patients.

PMG must be approved by the hospital Medical Executive Committee or equivalent and monitored by the trauma PI program.

Epidural hemorrhages are not eligible for admission under this criterion.

\*Based on the mBIG (Brain Injury Guidelines) criteria (2022)

\*\*Consultation can be remote.

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## Level 4

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### Admission- Criterion 10.2

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#### Definition

If a trauma trained general surgeon is continuously on-call for trauma, patients with the following injuries may also be considered for admission:

- Pneumothorax requiring a thoracostomy
- Unilateral pulmonary contusion without the need for oxygen to maintain SpO<sub>2</sub> > 90%
- Sternum fracture or scapula fracture without any acute rib fractures
- Those who have undergone an emergent surgical procedure as part of the resuscitation that definitively treats the traumatic condition

The general surgeon must respond to the hospital and assess the patient within 18 hours of discovery.

- The consultation/admission may be accomplished by the surgeon's appointed Nurse Practitioner (NP)/Physician's Assistant (PA) on behalf of the surgeon

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#### Measures of Compliance

The following must be submitted with the designation application:

- Current General surgeon on-call schedule (Up to 12 months may be requested)
- Admission policy

Validated through case reviews and review of PI documents at site visit.

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#### Resources / Sample Documents

10.1 Level 4 Admission Policy - Sample

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#### References

None

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#### Helpful Tips

"Continuously" means seamless coverage at least 350 days of the calendar year. The surgeon must be available during the acute phase of care.

When indicated, a thoracostomy should be performed immediately; it should not be delayed while awaiting the arrival of a surgeon.

Admission policy should reflect expectations for surgeon involvement in the admitted patient with 3 or more rib fractures (Criterion 10.1).

Trauma-trained general surgeon refers to a surgeon who meets state trauma criteria as defined in criterion 12.1.

A resident can respond and perform any role in the resuscitation that the surgeon deems fit. However, the trauma system response requirements refer to the attending surgeon. The resident cannot respond in his/her place or supplant his/her role.

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## Level 4

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### Admission- Criterion 10.3

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#### Definition

The hospital must have a policy describing:

10.3.1 The types of trauma patients considered for admission

10.3.2 The specialties responsible for admitting and providing consults

10.3.3 The expectations for monitoring patients for deterioration. Elements should include:

10.3.3.1 Fluctuating or increasing heart rate

10.3.3.2 Fluctuating or decreasing blood pressure

10.3.3.3 Fluctuating or worsening level of consciousness or mental status

10.3.3.4 Increasing work of breathing, shortness of breath, or tachypnea

10.3.3.5 Increasing agitation or anxiety

10.3.3.6 Diaphoresis or pallor

10.3.3.7 Indications for provider notification

10.3.4 The considerations of the admission decisions, in the event of patient deterioration, must include:

10.3.4.1 Weather

10.3.4.2 Distance

10.3.4.3 Transport resource availability

10.3.4.4 Timeliness of specialty resources/definitive interventions

10.3.5 The emergent transfer procedures in the inpatient setting

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#### Measures of Compliance

The following must be submitted with the designation application:

- Admission policy

Validated through case reviews at site visit.

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## **Resources / Sample Documents**

10.1 Level 4 Trauma Admission Policy - Sample

10.2 Level 4 Trauma Admission Policy - Sample

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## **References**

None

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## **Helpful Tips**

Provide education to staff with any trauma policy change.

The policy should reflect all provider types involved in the care of the admitted patient (i.e. hospitalists, internal medicine, family medicine, general surgeons, ortho, neuro, etc.).

Cross reference admission and transfer policies to ensure they do not contradict each other.

Encourage proactive considerations to limit the number of reactive responses needed.

The impact of delays in transfer, or increased time to arrival at definitive care could impact patient outcome and should be considered prior to admission.

The goal for patient arrival at definitive care is 120 minutes from the time deterioration is discovered.

The inpatient emergent transfer procedures can either be outlined in the admission policy or similar document.

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## Level 4

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### Transfer - Criterion 11.1

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#### Definition

The hospital must have a policy directing the internal processes to emergently implement the transfer of a trauma patient from the emergency department or an inpatient area to definitive care that lists:

11.1.1 The anatomic and physiologic criteria that, when present, must result in the decision to transfer.

11.1.2 The orthopedic surgical conditions that, when present, must result in the decision to transfer. The policy must specifically address how time-sensitive orthopedic conditions such as a threatened limb, compartment syndrome, dislocated knee, and dislocated native hip (i.e., not arthroplasty) will be managed while awaiting transport.

11.1.3 The primary ground and aeromedical transfer services to be used, with contact information for each.

11.1.4 A listing of the supplies, records, and personnel accompanying the patient.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Trauma Transfer policy

This will be validated through case reviews at site visit.

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#### Resources / Sample Documents

11.1 Level 4 Trauma Transfer Policy- Sample

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#### References

None

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#### Helpful Tips

Definitive care includes any designated trauma hospital with the resources to treat all injuries the patient has sustained. If all injuries can be definitively managed at this hospital, transfer is not needed. Anatomic criteria refer to specific injuries and injury patterns.

Physiologic criteria refer to disturbances in vital signs, such as low GCS, decreasing GCS, or hypothermia.

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## Level 4

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### Transfer - Criterion 11.2

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#### Definition

Designated trauma hospitals may not transfer adult or pediatric patients to undesignated hospitals.

Exception: Due to regulatory limitations, patients may be transferred to a Veterans Administration medical center when medically appropriate.

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#### Measures of Compliance

This will be validated through case reviews at site visit.

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#### Resources / Sample Documents

None

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#### References

Trauma System Hospitals website

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#### Helpful Tips

None

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## Level 4

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### Transfer - Criterion 11.3

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#### Definition

The hospital must have transfer agreements with trauma hospitals capable of providing definitive care for trauma patients, including:

11.3.1 At least one agreement with a primary referral hospital

11.3.2 At least two agreements with hospitals capable of caring for burn patients

11.3.3 At least one agreement with a designated Level 1 or Level 2 Pediatric Trauma Hospital

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#### Measures of Compliance

The following must be submitted with the designation application:

- Transfer Agreement with primary referral hospital
  - Transfer Agreement with two hospitals capable of caring for burn patients
  - Transfer Agreement with Level 1 or Level 2 Pediatric Trauma Hospital
- 

#### Resources / Sample Documents

None

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#### References

None

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#### Helpful Tips

One agreement can fulfill multiple categories.

Most transfer agreements renew automatically. If they do not, be sure to update before they expire.

Transfer agreements are required, even if the transferring and receiving hospitals are part of the same system.

The primary referral hospital may be within the hospital's own health system.

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## Level 4

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### General Surgeon Training - Criterion 12.1

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#### Definition

If the hospital admits trauma patients as described in Section 10.2, general surgeons must have successfully completed ATLS and/or CALS Trauma & Provider Course within the last four years. General surgeons must re-take their ATLS or CALS Trauma & Provider Course before or during the month in which it is due.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Clinician Roster
  - Current ATLS or CALS certification cards
- 

#### Resources / Sample Documents

Clinician Roster

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#### References

None

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#### Helpful Tips

Collaborate with the credentialing office.

There is no grace period for either ATLS or CALS training.

Dates of course completion should be documented on the Clinician Roster, not expiration dates.

If the general surgeon is using their instructor status to meet this requirement, current instructor status must be validated.

This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as a Mass Casualty Incident (MCI).

---

## Level 4

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### Emergency Physician Training - Criterion 13.1

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#### Definition

If the emergency department physician is currently board-certified or board-eligible with an American Board of Emergency Medicine (ABEM)-approved or American Osteopathic Board of Emergency Medicine (AOBEM) certification or is board-certified in Pediatric Emergency Medicine by the American Board of Pediatrics, then the physician is required to have successfully completed an ATLS or CALS Trauma & Provider Course once.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Clinician Roster
- 

#### Resources / Sample Documents

Clinician Roster

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#### References

None

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#### Helpful Tips

Physicians scheduled to work in the emergency department as a second provider must meet the training requirements of the trauma system.

Collaborate with the credentialing office.

This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as an MCI.

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## Level 4

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### Emergency Physician Training - Criterion 13.2

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#### Definition

If the emergency department physician is not board-certified or board-eligible with an ABEM-approved or AOBEM certification, the physician must have successfully completed ATLS and/or CALS Trauma & Provider Course within the last four years. Emergency physicians must re-take their ATLS or CALS Trauma & Provider Course before or during the month in which it is due.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Clinician Roster
  - Current ATLS or CALS certification cards
- 

#### Resources / Sample Documents

Clinician Roster

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#### References

None

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#### Helpful Tips

There is no grace period for either ATLS or CALS training.

Collaborate with the credentialing office.

Physicians scheduled to work in the emergency department as a second provider must meet the training requirements of the trauma system.

This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as an MCI.

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## Level 4

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### ED Nurse Practitioner (NP)/Physician Assistant (PA) Training - Criterion 14.1

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#### Definition

Emergency department Nurse Practitioners (NP)/Physician Assistants (PA) must have successfully completed ATLS and/or CALS Trauma & Provider Course within the last four years. Providers must re-take their ATLS or CALS Trauma & Provider Course before or during the month in which it is due. Other NP/PAs who respond to the ED may be required to complete ATLS and/or CALS Trauma & Provider Course at the discretion of the hospital's trauma leadership.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Clinician Roster
- Current ATLS or CALS certification cards

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#### Resources / Sample Documents

Clinician Roster

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#### References

None

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#### Helpful Tips

If the urgent care is co-located in the emergency department, the NP/PAs must meet this criterion.

Other NP/PA could include general surgery or other subspecialties.

Collaborate with the credentialing office.

There is no grace period for either ATLS or CALS.

This requirement does not apply to those who are called in to assist the attending provider during an unusual and rare event, such as a Mass Casualty Incident (MCI).

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## Level 4

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### Registered Nurse Training - Criterion 15.1

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#### Definition

Registered nurses scheduled or expected to cover the emergency department must:

15.1.1 Review the hospital's trauma team activation, trauma admission, and trauma transfer policies **and**

15.1.2 have successfully completed Trauma Nursing Core Course (TNCC), Comprehensive Advanced Life Support (CALS) Trauma & Provider Course, Advanced Trauma Care for Nurses (ATCN), or in-house training that meets the following objectives:

- Identify the common mechanisms of injury associated with blunt and penetrating injuries.
  - Describe and demonstrate nursing trauma assessment to identify typical injuries associated with common mechanisms of injury.
  - List appropriate interventions for injuries identified in the nursing assessment.
  - Associate signs and symptoms with physiological changes in the patient.
  - Describe the ongoing assessment to evaluate the effectiveness of interventions.
- 

#### Measures of Compliance

The following must be submitted with the designation application:

- Attestation
  - Job description or similar educational requirements document
  - Training documentation
- 

#### Resources / Sample Documents

MDH has created a series of 12 online eLearning modules for hospitals who wish to use them to satisfy part of the required learning objectives.

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#### References

Educational Resources website

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#### Helpful Tips

Job description or similar educational requirements document should include the trauma training requirement and timeline (e.g. required within 12 months of hire).

Identify which MDH eLearning modules are required by the hospital.

Explain how the hospital's trauma team activation, trauma admission, and trauma transfer policies are reviewed as part of this training.

This requirement does not apply to those who are called in to assist during an unusual and rare event, such as an MCI.

---

## Level 4

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### Registered Nurse Training - Criterion 15.2

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#### Definition

If the hospital admits patients as described in Section 10 to treat an injury or to monitor the patient for deterioration, registered nurses assigned to patient floors where those patients are admitted must

15.2.1 Review the hospital's trauma admission and trauma transfer policies **and**

15.2.2 Have successfully completed Trauma Nursing Core Course (TNCC), Comprehensive Advanced Life Support (CALS) Trauma & Provider Course, Advanced Trauma Care for Nurses (ATCN), Trauma Care After Resuscitation (TCAR), Course in Advanced Trauma Nursing (CATN), or in-house training relating to the conditions treated or monitored that meets the following objectives:

- Identify the common mechanisms of injury associated with blunt and penetrating injuries.
- Describe nursing trauma assessment to identify typical injuries associated with common mechanisms of injury
- List appropriate interventions for injuries identified in the nursing assessment.
- Associate signs and symptoms with physiological changes in the patient.
- Describe the ongoing assessment to evaluate the effectiveness of interventions.

---

#### Measures of Compliance

The following must be submitted with the designation application:

- Attestation
- Job description or similar educational requirements document
- Training documentation

---

#### Resources / Sample Documents

MDH has created a series of 12 online eLearning modules for hospitals who wish to use them to satisfy part of the required learning objectives.

---

#### References

Educational Resources website

---

#### Helpful Tips

Job description or similar educational requirements document should include the trauma training requirement and timeline (e.g. required within 12 months of hire)

Identify which MDH eLearning modules are required by the hospital

Explain how the hospital trauma admission and trauma transfer policies are reviewed as part of this training.

This requirement does not apply to those who are called in to assist during an unusual and rare event, such as an MCI.

---

## Level 4

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### Performance Improvement Process – Criterion 16.1

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#### Definition

The performance improvement process must outline (in a written document), the following elements:

- 16.1.1 Case Finding: The steps to identify cases that meet the trauma registry inclusion criteria.
- 16.1.2 \*Primary Review: The process to provide critical nurse level review to identify potential clinical care issues and deviations from standards of care and/or practice.
- 16.1.3 \*Secondary Review: The process to provide critical provider level review to identify potential clinical care issues and deviations from standards of care and/or practice.
- 16.1.4 Tertiary Case Review: The established method for a provider level committee case review to identify potential clinical care issues that are identified by trauma program leaders.
  - 16.1.4.1 Define committee members and attendance expectations/requirements.
  - 16.1.4.2 Results of tertiary case reviews that identify opportunities to improve clinical care must be communicated with the medical providers.
- 16.1.5 Trauma Registry: The established steps for data entry into the trauma registry.
- 16.1.6 Performance Improvement: The method to identify and document performance related issues and steps for improvement.
- 16.1.7 Performance Measures: Identify where and how state and/or local measures are monitored and tracked.

\* The scope of primary and secondary case review includes care provided in the prehospital setting, emergency department, inpatient units, and all areas and departments of the hospital that provide or affect trauma care, as well as performance related information from a receiving hospital about transferred patients.

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#### Measures of Compliance

The following must be submitted with the designation application:

- Performance Improvement Process document

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#### Resources / Sample Documents

16.1 Level 4 Performance Improvement (PI) Process Flowchart- Sample

## 16.1 Level 4 Provider Case Review Attendance Guideline

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### **References**

None

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### **Helpful tips**

Primary Review: Outline who will review the TPM's cases.

Primary Review: If the TPM is not a RN, an RN must assist with the review of the trauma care and function as a liaison between the trauma program and the nursing staff (criterion 3.2).

Secondary Review: Outline who will review the TMD's cases.

Clearly outline who is responsible for reviewing each level of care (including EMS, inpatient, etc.).

Tertiary Case Review committee: Define which providers and other staff are expected and/or required to participate.

---

## Level 4

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### Performance Improvement Process – Criterion 16.2

---

#### Definition

The performance improvement process must demonstrate the following elements:

16.2.1 Case Finding:

16.2.1.1 must occur, within three weeks of patients' discharge

16.2.1.2 identify trauma cases that meet the trauma registry inclusion criteria

16.2.2 Primary Review:

16.2.2.1 must occur within three weeks of patients' discharge

16.2.2.2 identify potential clinical care issues and care issues that are inconsistent with Trauma Standards of Care (e.g. Comprehensive Advanced Life Support [CALs], Trauma Nursing Core Course [TNCC] and Rural Trauma Team Development Course [RTTDC] principles).

16.2.2.3 the scope of case review includes care provided in the pre-hospital setting, emergency department, inpatient units, and all areas and departments of the hospital that provide or affect trauma care, as well as performance related information from a receiving hospital about transferred patients

16.2.3 Secondary Review (if required):

16.2.3.1 must occur within six weeks of patients' discharge

16.2.3.2 identify potential clinical care issues and care issues that are inconsistent with Trauma Standards of Care (e.g. Advanced Trauma Life Support [ATLS], Comprehensive Advanced Life Support [CALs], and Rural Trauma Team Development Course [RTTDC] principles).

16.2.3.3 the scope of case review includes care provided in the pre-hospital setting, emergency department, inpatient units, and all areas and departments of the hospital that provide or affect trauma care, as well as performance related information from a receiving hospital about transferred patients.

16.2.4 Tertiary Case Review (if required):

16.2.4.1 tertiary case review is to be facilitated by the trauma medical director (TMD)/Co-TMD.

16.2.4.2 tertiary case review committee must include ED providers involved in the care of the injured patient.

16.2.4.3 learnings from tertiary case review must be provided to medical providers who are not in attendance at the meeting.

16.2.4.4 if the hospital admits trauma patients as described in Section 10.2, general surgeons and general surgery NP/PAs must attend at least 50% of the scheduled tertiary case review meetings.

16.2.5 Performance Improvement documentation will include:

16.2.5.1 Evaluation of performance measures

16.2.5.2 Findings from all levels of case reviews

16.2.5.3 Actions undertaken to correct clinical care and process issues identified during case reviews

16.2.5.4 Appropriate steps towards improvement or resolution of identified issues

16.2.6 Demonstrate resolution of at least two clinical care or care process issues

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### **Measures of Compliance**

Validated during site visit through PI and case reviews.

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### **Resources/ Sample Documents**

Minnesota Trauma Registry Inclusion Criteria

Trauma Performance Improvement Case Review Guide

Trauma Standards of Care

16.2 Level 4 Case Review PI Worksheet

16.2 Level 4 Case Review PI Spreadsheet

16.2 Level 4 Inpatient Review form

16.2 Level 4 PI Tracking Form

16.1 Level 4 Provider Case Review Attendance Guideline

16.2 Level 4 Provider Case Review Attendance Spreadsheet

16.2 Level 4 Provider Case Review Meeting Minutes

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### **References**

None

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### **Helpful tips**

Timely (concurrent) primary and secondary review yields the most effective PI results.

“All medical providers” include any provider who may give care to an injured patient in the emergency department (16.2.4.3):

- ED physicians
- ED NP/PAs
- General surgeons

- Surgical NP/PAs
- Other facility specific providers who respond to the ED for trauma care

Learnings can be shared in a variety of forms, including but not limited to meeting minutes, newsletter, feedback document, and/or case review summary (16.2.4.3).

Investigative follow up, from primary and secondary review, should be included in PI documentation (16.2.5.2).

Tertiary Case Review meeting attendance: formal leave of absences are allowed, document on attendance sheet (military or medical leave).

Document evidence of event identification, effective use of audit filters, demonstrated loop closure attempts at corrective actions, and strategies for sustained improvement measured over time (16.2.6).

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## Level 4

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### Performance Improvement Process - Criterion 16.3

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#### Definition

The hospital must establish and monitor performance improvement filters that include:

- 16.3.1 Case category: TTA, Transfer, Admit, Death
  - 16.3.2 Delay in decision to transfer (> 30 min.) once the immediate transfer criteria/policy is met
  - 16.3.3 Patient exceeds admission criteria and admitted locally
  - 16.3.4 Admitted and then transferred
  - 16.3.5 Delays in care
  - 16.3.6 Deviation from trauma standards of care
  - 16.3.7 Deviation from Practice Management Guidelines
  - 16.3.8 At least one hospital-specific filter that focuses on improving clinical care or care process
  - 16.3.9 Patient admitted with 10.2 condition; general surgeon did not arrive at bedside within 18 hours
- 

#### Measures of Compliance

The following must be submitted with the designation application:

- Performance Improvement filters
- 

#### Resources / Sample Documents

- 16.2 Level 4 Case Review PI Worksheet
  - 16.2 Level 4 Case Review PI Spreadsheet
- 

#### References

PI Filter example

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#### Helpful Tips

Any filter that yields a “yes” answer, requires further investigation.

If trauma leadership identifies trends with the monitored filters, consider implementing formal PI project.

Any deviation from hospital trauma policies (TTA, Transfer, Admission) should undergo PI review.

Any deviation in standards of care should lead to further PI review.

Any patient being taken from the ED to the OR will be considered an admission.

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## Level 4

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### Performance Improvement Process - Criterion 16.4

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#### Definition

The Emergency Department must:

16.4.1 Perform a Pediatric Readiness Assessment within each designation cycle

16.4.2 Have a plan to address at least one of the identified gaps

16.4.3 Identify a pediatric point of contact

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#### Measures of Compliance

The following must be submitted with the designation application:

- Pediatric Readiness Assessment Score
- Pediatric point of contact name and email

Validated through PI discussion at site visit

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#### Resources / Sample Documents

Resources to address deficiencies:

<https://emscimprovement.center/domains/pediatric-readiness-project/readiness-toolkit/>

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#### References

Pediatric readiness assessment:

<https://www.pedsready.org/>

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#### Helpful Tips

Incorporate findings into the PI process.

Pediatric point of contact is a person to receive communication related to pediatric care.

“Pediatric Readiness” refers to infrastructure, administration and coordination of care, personnel, pediatric-specific policies, equipment, and other resources that ensure the hospital is prepared to provide care to the injured child.

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## Level 4

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### Performance Improvement Measures - Criterion 17.1

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#### Definition

The following performance measures must be maintained or exceeded:

17.1.1 Trauma team activated when criteria met: 80%

17.1.2 Less than 30 min. decision to transfer once the patient is recognized as meeting the hospital's immediate transfer criteria: 80%

17.1.3 At least one hospital-specific measure that focuses on improving clinical care and meeting the hospital's set goal

If the hospital admits trauma patients as described in Section 10.2, the following performance measure must also be maintained or exceeded:

17.1.4 General surgeon arrival at bedside within 18 hours as required in Section 10.2: 80%

*Compliance with performance measures are calculated based on the most recent 12 months of data.*

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#### Measures of Compliance

The following must be submitted with the designation application:

- Level 4 Trauma PI Measures spreadsheet or similar document that includes required performance measures (submit previous full calendar year and current year to date data).

Validated through case reviews at site visit.

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#### Resources / Sample Documents

17.1 Level 4 Trauma PI Measures Spreadsheet

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#### References

Criterion 10.2

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#### Helpful Tips

Previous 12 months of data are typically requested with the application, however additional months may be requested.

For each measure, provide the monthly raw data, including the numerator and denominator.

The hospital must submit documentation of PI for any metric that is below goal to demonstrate activities to improve the measure.

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## Level 4

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### Trauma Registry - Criterion 18.1

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#### Definition

The hospital must submit data as defined by the State Trauma Advisory Council within 60 days of the patients' discharge or transfer.

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#### Measures of Compliance

Validated through review of registry data

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#### Resources / Sample Documents

None

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#### References

Minnesota Trauma Registry Inclusion Criteria

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#### Helpful Tips

Confirm validation scores are within acceptable range.

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## Level 4

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### Trauma Registry - Criterion 18.2

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#### Definition

Data imported from other sources must be submitted in a manner and format that is acceptable to MDH.

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#### Measures of Compliance

Validated through review of registry data

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#### Resources / Sample Documents

None

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#### References

ImageTrend Data Schema

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#### Helpful Tips

If trauma data is uploaded from a third party registry, cases must be uploaded to MNTrauma registry within 60 days.

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## Level 4

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### Regional Trauma Advisory Committee - Criterion 19.1

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#### Definition

The hospital must actively participate in at least one Minnesota Regional Trauma Advisory Committee (RTAC) or subcommittee of a Minnesota RTAC.

Active participation is defined as attending at least 50% of the scheduled meetings.

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#### Measures of Compliance

The following must be submitted in the designation application:

- Attestation
- 

#### Resources / Sample Documents

None

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#### References

Regional Trauma Advisory Committee website

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#### Helpful Tips

None

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## Level 4

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### Required Equipment - Criterion 20.1

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#### Definition

Emergency Department:

- Airway control and ventilation equipment
- Arterial tourniquet
- Pulse oximetry
- Suction device and supplies
- EKG monitor and defibrillator
- Crystalloid IV fluids and administration sets
- IV catheters from 14-22 Ga.
- Drugs necessary for emergency trauma care
- Nasal gastric & oral gastric tubes
- Cervical collars
- Pediatric length-based resuscitation tape or reference manual
- Blanket warmer or overhead radiant heater
- Warming cabinet for IV fluids or inline IV fluid warmer
- Rapid IV fluid infuser system (may use pressure bag)
- End-tidal CO2 detector (may be disposable)
- Method to communicate with EMS
- Mechanism for IV flow-rate control
- Intraosseous needles and administration sets
- Supplies for surgical airway & thoracostomy
- Mechanism for pelvic stabilization

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#### Measures of Compliance

The following must be submitted with the designation application:

- Required Equipment Checklist and Attestation form

Validated during tour at site visit

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**Resources / Sample Documents**

- Required Equipment Checklist and Attestation form

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**References**

None

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**Helpful Tips**

For pediatric sizes, ensure that there is at least one size for each age/size category of the length-based resuscitation tape or reference manual.

Ensure that all resources (i.e. pediatric tape) are the most current.

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## Level 4

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### Required Equipment - Criterion 20.2

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#### Definition

Imaging Department:

- Airway control and ventilation equipment
  - Suction device and suction supplies
- 

#### Measures of Compliance

The following must be submitted with the designation application:

- Required Equipment Checklist and Attestation form

Validated during tour at site visit.

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#### Resources / Sample Documents

- Required Equipment Checklist and Attestation form
- 

#### References

None

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#### Helpful Tips

Emergency airway equipment must be stocked in the CT room(s) to ensure airway management occurs without delay when patient respiratory status changes.

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