

Created: February 2022
Reviewed: February 2026
Revised: February 2026



Trauma Team Activations – Under/Over Triage

Purpose:

As a level III trauma center, it is important to Deaconess Memorial Medical Center (DMMC) to improve our trauma patient outcomes while optimizing the use of staff and hospital resources. Over and under triage rates for trauma activations must be evaluated to help determine appropriate resource utilization in the context of providing optimal trauma care. Under-triage (not activating a trauma alert when needed or activating a lower trauma alert for high acuity patients) must be tracked to ensure that patients are not receiving suboptimal care. Conversely, over-triage (activating a trauma alert at a higher level than is needed) results in over utilization of staff and resources when not really needed.

The Cribari matrix was designed to help determine the potential for over and under-triage rate of a trauma activation system that includes two levels of activation. DMMC utilizes a basic two-tier approach with the highest level as a Trauma Team Activation (TTA) Category I (Red) and the lower level as a TTA Category II (Yellow). Per the American College of Surgeons, an acceptable range of under-triage would be <5% and an over-triage rate should be <35%.

In addition to the use of a matrix, the TTA criteria for each level of activation is reviewed to determine if the patient met the established criteria for trauma activation. Including this step also helps to determine if the activation criteria need to be adjusted with additional physiological parameters, mechanisms of injury, or other events that are more prevalent to the local communities.

Equipment:

Under/Over TTA Triage Matrix; NFTI - Need for Trauma Intervention tool (see Cribari & NIFTI Criteria and flowsheet below)

A. All TTA CAT I (Red) or TTA CAT II (Yellow) will be evaluated utilizing the Under/Over TTA Triage Matrix. For CAT I (Red) activation with an over-triage result, complete the Need for Trauma Intervention (NFTI) criteria. If the patient meets any of the NFTI criteria, the activation is deemed appropriate. For CAT II (Yellow) activations with under-triage Matrix results, the NFTI criteria is again reviewed. Patients that do not meet the NFTI criteria are considered an appropriate activation; NOTE: If a full exam for all injuries is deferred due to need for emergent transfer to a higher Level of trauma care, the TTA activation will be considered appropriate as an accurate ISS score is unavailable. NFTI Criteria is as follows:

1. Received PRBCs within 4 hours of arrival

2. DC from ED to OR within 90 min of arrival
 3. DC from ED to IR
 4. DC from ED to ICU and ICU LOS \geq 3 days
 5. Mechanical ventilation within 3 days (not for procedures)
 6. Death within 60 hours of arrival
- B. A final review of the TTA will include comparing the actual level of activation to the trauma activation criteria flowsheet. If the activation is correctly called based on the activation criteria, then it is an appropriate activation. If it did not follow activation criteria then it is an inappropriate activation. Consider potential need to review activation criteria.
- C. The over/under activation evaluation should be retained in the trauma registry along with the patient Process Improvement documents. Cases of over and under triage should be reviewed with EMS or ED staff as necessary.
- D. Each month the over/under activation data shall be placed in the Trauma Scorecard with the results disseminated at the Trauma Outcomes Process Improvement committee (TOPI) and Peer & Mortality Review meetings.
- E. Any indicated or potential changes to the Trauma Activation Criteria, based off TTA reviews, should be taken to the Trauma Medical Director, the Trauma Program Director and the TOPI Committee for consideration of process changes.

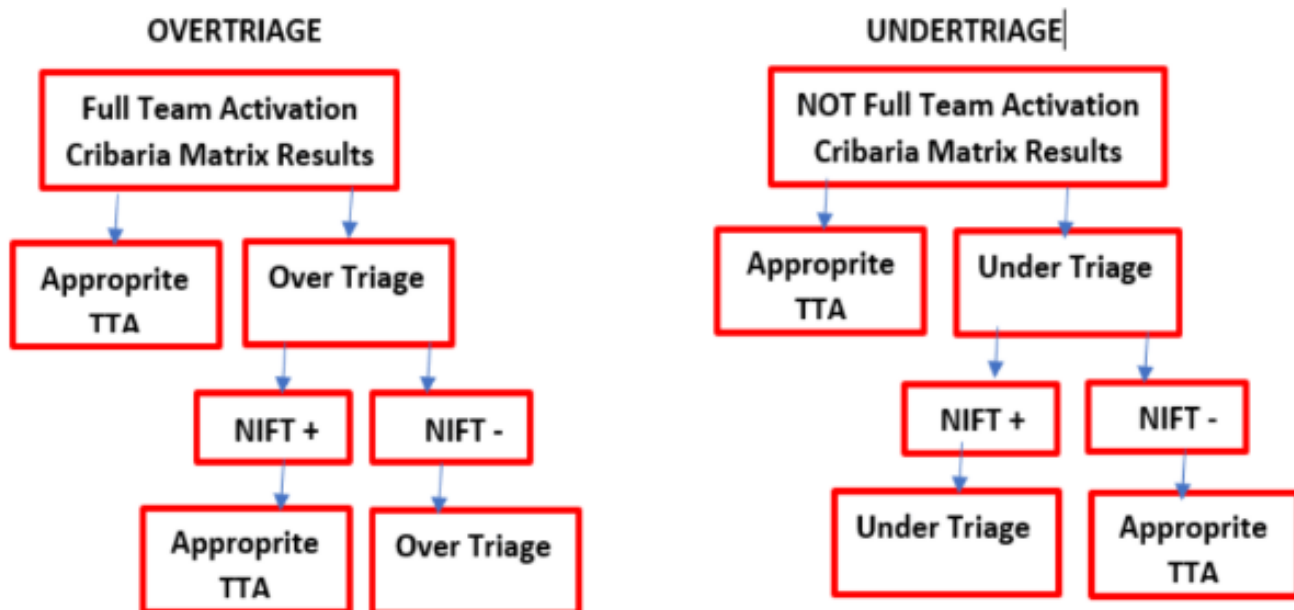
Reference:

American College of Surgeons: Resources for Optimal Care of the Injured Patient: 2022 Edition (Revised July 2025) Chicago, IL; Standard 7.2

TRAUMA TEAM ACTIVATION (TTA) - CRIBARI & NIFTI CRITERIA							
for Evaluating Over/Under Triage/Activation							
Over-triage Rate Ideally 25%-35% Under-triage Rate Ideally <5%							
Undertriage IS defined as the proportion of patients with an Injury Severity Score (ISS) of 16 or greater and overtriage as the proportion of patients with an ISS of less than 16							
#s in Green boxes are appropriately triaged by ISS per CRIBARI guidelines							
Over-Triage CAT I: ISS \leq 15 divided by TOTAL patients							
Divide White Box by the Totals							
TTA ACCURACY - UNDER & OVER ACTIVATIONS							
	TTA LEVEL	ISS \leq 15	ISS \geq 16	NIFTI	Totals	Triage	Triage %
JAN	TTA CAT I	2	0	1	3	OVER	66.67%
	TTA CAT II	1			1	UNDER	0.00%
TTA CAT I: Over TTA: 6142-N; 6144-N Accurate TTA: 6152 NIFTI TXF							
TTA CAT II: 61651-N (over triage - did not meet criteria)							
TTA ACCURACY - UNDER & OVER ACTIVATIONS							
	TTA LEVEL	ISS \leq 15	ISS \geq 16	NIFTI	Totals	Triage	Triage %
FEB	TTA CAT I				0	OVER	#DIV/0!
	TTA CAT II				0	UNDER	#DIV/0!
TTA CAT I: Over TTA: Accurate TTA:							
TTA CAT II: Under TTA: Accurate TTA:							

NFTI Criteria

Need for Trauma Intervention



NIFTI RULES

Received pRBCs within 4 hours of arrival

DC from ED to OR within 90 min of arrival

DC from ED to IR

DC from ED to ICU and ICU LOS \geq 3 days

Mechanical ventilation within 3 days (not for procedures)

Death within 60 hours of arrival

NOTE: If a full Injury Severity Scale (ISS) evaluation for a TTA RED is deferred for emergent transfer to a higher Level of trauma care, the TTA activation will be considered appropriate