



Trauma Association
of Canada
Association Canadienne
de Traumatologie

Winter 2020

Objective

The objective of the session was to review and improve Trauma Team Activation surveillance and compliance in Canadian trauma centers, with an opportunity of standardizing practices and completing the process of improvement cycle.

ITNC ZOOM

Interdisciplinary Trauma Network of Canada National Zoom Events

Trauma Team Activation

The ITNC hosted its second National Zoom Event on September 28th, 2020 for ITNC and Trauma Registry Specialists of Canada (TRISC) members to discuss various elements of Trauma Team Activation (TTA), including circumstances when the Trauma Team was not activated, so processes can be reviewed and improved. Reviewing TTA criteria and the process to activated the trauma team is an important task for Trauma Centres to undertake as it can lead to better outcomes for injured patients. As well, it can result in improved, more effective resource utilization by having the appropriate level of resources available for the evaluation and resuscitation of various injury mechanisms and severities of trauma patients.



Members of the Trauma Team



From Trauma Team Activation to data collection, audit filters and process review

The following ITNC and TRISC members from across the country discussed concepts related to TTA, quality improvement, data collection, along with some Canadian examples of projects:

- **Nasira Lakha** presented a case study and introduced the topic with some examples of TTA criteria from Canadian Trauma Centres;
- **Mélanie Bérubé** spoke about an international survey on TTA criteria, compliance rates and some reasons for non-compliance;
- **Tanya Charyk Stewart** presented results from a National Pediatric Quality Indicators from 9 participating Canadian Pediatric Trauma Centres (PTC), compliance, over and under triage, with recommendations for PTC;
- **Rachelle Saybel** presented a quality improvement approach to TTA from Edmonton, published in the *Can J Surg*, 62(5), 2019;
- **Jaimini Thakore** discussed the importance of ensuring clear criteria, interpretation and direction for data analysts for maintaining integrity and accuracy of data, as well as audit filter evaluation.

Note: ITNC Executive members **Lori Milton**, **Cathy Falconer** and **Theresa Pasquotti** were also integral to developing and presenting this TTA session.

The session concluded with a guided discussion of TTA issues. Results from these discussion are summarized below:

1. Does your site audit missed TTAs?

a) *Yes – For Trauma Inpatients*

- Process to audit or review missed TTAs includes looking at the patient’s clinical picture on arrival to see if the criteria was met.
- Questions remain such as how should TTA be captured in our respective registries: activated, missed vs acceptable missed? There can be cases where not activating the TT was appropriate
- If patient dies, more details are gathered

b) *No – Not for “ED only” patients*

- ER only encounters were deemed not valuable to pursue

c) *Data Element to Assist Audits*

- “TTA Criteria Met” custom data element put in the Trauma Registry at most sites to allow for calculation of compliance rate, under and over triage, as well as evaluating the TTA criteria.

2. What is your quality process for reviewing TTA compliance rate?

a) *Prospective Review/Data Collection*

- Clinical staff flag missed activations, look at clinical picture on patient arrival, then reasons for missed tracked





b) Retrospective Quality Review/Reports/Reasons for “miss”

- Reports are generated for met and missed cases, charts are then pulled, theme of missed activation noted, and then escalated to quality council
- Try to understand why activation was not called. What was the decision process not to call the activation and was that decision was appropriate or not?

c) Roles involved with Reviews

- All reviewed by Trauma Nurse Clinician (TNC) and then physician reviews. May go on to Quality Review or TTL committees for subsequent review
- Some centres, no analyst involved, others centres the data analyst does help with these Quality reviews – and track reasons for missed in the registry to provide for education

d) TTL Report Cards

- The TTL gets a report card – if seeing patients meeting TTA criteria or not, complying with TTA criteria, documentation, how TTL managing care
- Discussion around if ED physicians or triage RN also get a report card, as the TTL may not even be called/activated due to decisions and actions of the ED physician and the RN triaging the patient
- Some Ontario centres focus on TTL response time (telephone response), and arrival time, as they are Ontario Trauma Advisory Committee (OTAC) Performance Indicators
- Clinical review done, specifying why activated the TT or not; results of the clinical review are taken to the TTL Rounds to discuss what can be done differently/better

e) Review TTA Criteria and TTA Process

- Reviewing criteria elements, assessing if they are valid and tracking # of "clinically appropriate" or "stand down" TTAs to evaluate criteria
- Questions remain such as how often is it appropriate or required to review and revise the TTL criteria and TTA process?

3. What are some of the reasons for your institution’s under triage?

a) EMS

- Lack of pre-notification or recognition of extent of injuries based off EMS info
- Information from EHS not always accurate or complete

b) Lack of recognition of extent of injuries

- Underestimation of underlying injuries (i.e., penetrating). Burns. Challenges: trying to identify missed TTA’s (actually finding patients and charts) from EMS and/or transfers from another institution



c) Direct Transfer to Specialty Services

- Injured patients transferred from other hospital direct to other service such as Neurosurgery, Orthopedics, etc. One mitigating strategy was to have the trauma service see all injured patients in the ED on arrival either by consult or activation

d) Physician Discretion for TTA

- High volume of transfers to physicians who decide to activate or not activate the Trauma Team (TT)
- Physician discretion is one of the ACSCOT TT activation criteria to allow for physician to decide if TT needed, but often TT not activated due to physician “calling on” a TTA and handling the case themselves

e) Mechanisms of Injuries (overall, and with subgroups)

- Mechanism most missed are drowning, hanging, strangulation, older adults
- Occasionally: infrequent presentations (i.e., penetrating, children, underestimate injuries for mechanism)

f) Children

- Children from other sites, often Adult Trauma Centre, so Pediatric TT not activated on arrival (previous assessment & increased time from injury)

g) Geriatric

- Certain cohorts: older adults underestimated injury severity

h) Challenges with TT/Understanding Benefit of TT/TTA Criteria

- Organizational challenges. Takes too long to activate TT. Select few physicians
- Lack of understanding of benefit of TTA
- ED teams deciding not to activate for various reasons not always understood

i) Substance Use

- Substance use (drugs & alcohol) masking head injury

j) Extended time from injury

- Increased time from injury, especially if transferred from another Trauma Centre, increased time post injury

4. What are your challenges?

a) Data

- Getting data (i.e., meeting TTA criteria, only initial vitals collected)
- Not collecting all data to accurately calculate over and under triage, as well as data to evaluate TTA criteria (# stand downs, # clinically appropriate, # using physician judgement)

b) Full or Partial TTA/Two-Tiered System

- Challenge to decide exactly how do you measure compliance rates – only if full activation or any activation, including partial team activation



or even just the TTL involved? Do all centres enter this the same way, for comparing compliance rates?

- A two-tiered system for TTA recommended for Pediatric Trauma Centres (The Eastern Association for the Surgery of Trauma)

c) When ED physician is also a TTL

- Issue when an ED is a TTL, but not on the schedule, so even though acts in TTL capacity, entered at centres as TT not activated

d) Geriatric Population

- Issues with the geriatric population – maybe need specific TTA criteria for geriatric population, like with the pediatric population

5. Should we collaborate nationally to review our missed TTAs? What are your suggestions on how this could be achieved?

a) Unanimous YES!

- Share trends or themes to see what others are doing, but may be challenges
- Clarify purpose of TTA measure of TAC, is it activation of criteria only, or the success of the activation, i.e., was there a TTL or not, is that a TTA?

b) Subgroup analysis for Different Types of Trauma Centres

- Great to have **pediatric centres** to continue to collaborate together
- May need different TTA criteria between level 1 and 3 sites

c) Reduce Variations/Discrepancies between hospitals

- Reduce variations between hospitals
- Need to ensure that discrepancies in what is being measured is identified
- Identify the commonalities of what is being missed
- Important to look at the compliance with the established site criteria, recognizing that sites will have variance in their specific activation criteria elements

d) Clinically appropriate “Misses”

- Many “missed activations” may be clinically appropriate, i.e., an appropriate miss because all injuries not identified on arrival
- Rate care as:
 - Acceptable
 - Acceptable with reservations
 - Unacceptable

e) HOW? Plan-Do-Study-Act (PDSA) Cycles & Reports

- PDSA cycles (an iterative, four-stage problem-solving model used for improving a process or carrying out change), with loop closure
- Indicator reports/review should look at both compliance and clinical evaluation



Contact Us

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Q1. What topics would you like to see for future ITNC's National ZOOM Events?

Coming January 21st, 2021
@ 14:00-15:30 EST



Rapid Fire Presentations



Process Improvement



Networking



Performance Indicators



Research



Data



Injury Prevention



Pre-Hospital



Acute Care



Case Studies



Rehabilitation



Trauma Systems

Any topic relevant to the trauma interdisciplinary health care team can be discussed at the next ITNC ZOOM event. Please let us know your ideas.

Q2. Would you like to host or assist with an ITNC National ZOOM Event?



If you have an idea, project or area of expertise appropriate for the ITNC membership and want to present through an ITNC National ZOOM event, please let us know, for possible presentation in this forum.

*A **TTA Review Steering Committee** has been established with the goal of spearheading work on reviewing TTA processes for improvement with colleagues across Canada. If you are interested in being involved in further discussions, sharing of ideas and processes, with the possibility of research projects regarding TTA, for adult and pediatric patients, please contact **ITNC President Theresa Pasquotti** at Theresa.Pasquotti@ahs.ca*



Please put "ITNC TTA Interest Group" in the subject line.