JOINT TRAUMA SYSTEM (JTS) CLINICAL PRACTICE GUIDELINE (CPG)

Guidance for JTS CPG Authors

Information, instructions, and resources for lead authors and contributors.

CONTRIBUTORS

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INTRODUCTION

The Joint Trauma System (JTS) and the DoD Trauma System are grateful for authors to take on the responsibility of either updating or authoring a Clinical Practice Guideline (CPG). This is huge undertaking that requires a lot of coordination, communication, and iteration. The CPG management team, which includes nurses, physicians and the JTS Chief, will assist and be involved with the process. The first author of the CPG will have the biggest responsibility and, along with the JTS Chief, will be the guarantor of the work. This document on author guidance is meant to serve as a roadmap for first authors and the author team. Like all CPGs, it is meant as a guideline, and individual CPGs will vary according to the specific clinical problem they are addressing. JTS CPGs are intended primarily for the deployed and expeditionary environments, but much of the evidence and best practices come from civilian care. JTS CPGs are peer reviewed by a CPG team of physicians.

RESPONSIBILITIES FOR NEW OR UPDATED CPGS

JTS RESPONSIBILITIES

The following list outlines the responsibilities of the JTS during the CPG creation process.

1. Identify and communicate with first author and other lead authors. Ensure first author has the appropriate credentials to be the lead author. Such credentials include experience with the topic, and ideally operational and/or deployed experience when appropriate.
2. Adjudicate the author list to ensure it represents the Services.
3. For CPGs requiring an update, reach out to previous CPG authors and determine whether they desire to lead or contribute to the update.
4. Gather and invite civilian leaders/authorities on the topic and ensure that they are in communication with the first author and know their responsibility as a Subject Matter Expert (SME).
5. When appropriate, invite international collaborators and authorities to contribute to the CPG and ensure that the first author is in contact with them.
6. Assign data pulls to data scientists and ensure the data pull is up to date and appropriately addresses the clinical questions of the CPG.
7. Keep Performance Improvement (PI), Data Science, Research and Registry Branches all informed on the CPG.
8. Ensure PI metrics are reviewed by the PI, Registry and Data Science Branches. Determine which PI metrics can be automated from the documentation.
9. Work closely with the Clinical Forms Work Group to ensure that the relevant clinical elements for the CPG are appropriately captured.
10. Conduct the following reviews:
    - Final review of CPG
    - Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, and Policy (DOTMLP-P) review
    - Clinical data element review
    - PI metric review
11. Review all the pertinent relevant literature and ensure CPG contains as much recent data as available.
12. Communicate with Medical Logistics Command (MEDLOG) on which CPG is being updated and ensure it initiates the creation of the JTS CPG MEDLOG Package.
13. Generate the infographic for the CPG.
14. Create Supplemental History and Physical (H&P) form when appropriate.

LEAD / FIRST AUTHOR RESPONSIBILITIES

The following list outlines the responsibilities of the lead author or first author for a new or updated CPG:

- Unify the product and team ("herd the cats"). This is the most challenging responsibility, especially for CPGs with many authors.
- Ensure that each author contributes to the CPG. There are two recommended approaches to this:
  - Break the CPG into sections and assign an author (or a team of authors) to draft each section.
  - Write the first draft of the CPG and send it out to all authors to contribute and edit.

  Either option is acceptable, and the division of the workload is ultimately at the first author's discretion, but **all authors must have substantial contribution**.
- Be inclusive. Communicate with all authors, the SMEs, and international authors who were recommended by the JTS CPG Branch.
- Ensure all authors contribute to reaching a consensus that the CPG meets academic standards.
- Include the most recent and relevant data. Communicate with the JTS CPG team to ensure that the most updated data from the Department of Defense Trauma Registry (DoDTR) are reviewed.
- Review references and update bibliography. Ensure up to date references are used to update CPG as appropriate.
- If materiel/MEDLOG products are identified (medications/ventilators/dressings/equipment/devices, etc.), meet with the CPG team early as possible once JTS has a partnership within MEDLOG who performs concurrent updates on the CPG. The authors will have a chance to review and adjudicate the MEDLOG list.
- Remember, a CPG is not a review article. The first author should put themselves in the point of view of being a forward deployed caregiver with little experience on the topic the CPG addresses, and that this inexperienced provider has the patient in front of them. Therefore, the CPG should be written in such a way that rapid clinical guidance highlighting key, salient, life-saving points can be easily identified while reviewing the CPG.

SECTIONS - GUIDANCE

Refer to the guidance below for developing each section of a new or updated CPG.

***Note**: Authors should not spend time formatting the CPG! JTS technical writers are responsible for formatting the CPGs.*

CONTRIBUTOR LIST

- Please list contributors including rank, name, branch of service and corp. (MC, NC, etc.)
- Ensure first author has appropriate credentials:
  - First-hand experience with the topic(s)
  - Operational experience, while JTS recognizes that there are some topics that few people will have experience with.
  - Ensure first author has time/commitment for the CPG
- JTS will manage adjudication of contributor list.

PREVIOUS CONTRIBUTORS

- CPG manager will add previous authors.
- Previous authors who are still active duty will have the opportunity to contribute to the CPG update or revision.
- Communication with previous authors will be from JTS CPG team or first author.
- Previous authors from the last update will be acknowledged in this section. As the CPG gets updated, this list will change to the penultimate group of authors.

TABLE OF CONTENTS

***Note**: This is an example table of contents. The technical writer will format the CPG, including the table of contents which is a custom table of content based on custom style headings.*

Example Table of Contents

SUMMARY OF CHANGES

The Summary of Changes comes right after Table of Contents. The section is helpful for readers familiar with the previous CPG version; it provides them with a quick reference for what's new and improved in this new CPG version.

List any substantial changes and/or new material to the CPG in this section. Address issues such as:

- Why is the CPG being updated?
- What are the new additions and changes?
- Has the practice changed (i.e. TXA 1 gram vs 2 grams,) or has new information been learned?

INFOGRAPHIC

This is a JTS responsibility and will be developed by the JTS infographic team. Any of the authors who wish to assist/contribute to the creation of the CPG Infographic can do so. Contact the JTS CPG team (POC: Kathy Robbel) to be linked with the infographic team.

BACKGROUND

Most CPGs start with a Background and Relevance section. Consider what is the WHY of the CPG - include both military and clinical relevance (or future threat).

- Please include the CPG's importance to combat casualty care and any changes since the last CPG in this section. Be sure 'The Why' is clear.
- Review past references from previous versions. Remove old/irrelevant references and add/cite new or current literature. The references should include operationally/military relevant data. If there are none available, look to civilian sources. Cross reference with national and international guidelines (if available and appropriate).

- Describe current military experiences, scenarios, studies that support the CPG topic.
- Include relevant JTS data if appropriate (JTS CPG team will assist and the JTS data scientists will review).

EVALUATION AND TREATMENT

Add any other section headings as appropriate for the CPG topic.

If this portion of the CPG is substantial and contains multiple paragraphs of considerable length, please add key points in bullet format at the beginning of each section under this heading. Determine key points and highlight any sentences or key points that should be emphasized in the call out boxes or tables. If there are highly important points, communicate with the JTS CPG team to include them in the Infographic.

PERFORMANCE IMPROVEMENT (PI) MONITORING

Please use current PI metrics in the CPG and **highlight anything that should be added, updated, or removed**. Please ensure that the metrics enumerated in this section are addressed/mentioned/explained in the body of the CPG as appropriate.

The PI metrics play a crucial role in each CPG and should be carefully considered. If something is a PI metric, then it will be tracked by not only the JTS PI team, but also in the DoDTR. So, for example if the CPG states: "it is crucial to receive _____therapy within _____amount of time," then both the PI team (for compliance/variance reports) and the DoDTR team will need to track that metric. There should be no less than two and no more than 10 CPG compliance metrics.

REFERENCES

Conduct an updated literature review to determine if any new data has been published on the CPG topic and update all references accordingly.

DOTMLPF-P CONSIDERATIONS (IF APPROPRIATE)

This section has been added to all new and updated CPGs to ensure the JTS CPGs can be used as a guide for leaders/commanders so that clinical care in the operational environment has the appropriate attention and gaps are identified. This section is primarily for commanders, including non-medical commanders. It is to support medical units and can be used as a communication tool to list the resources needed to care for the patient addressed by the CPG. This section will not address clinical care, but rather the needs of the unit in order to perform the clinical care described in the CPG.

DOTMLPF-P is a tool which allows leaders to analyze organizational capabilities from the perspective of "Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities, and Policy" when making decisions and resource determinations. This section is meant as a communication tool for teams, units, and command surgeons to ground medical units, clinical care, and clinical standards in an operational framework. This will be challenging and require thought. Not every domain element will be relevant for a CPG and may be left blank. This framework as a CPG appendix is to initiate administrative, training, personnel, material, and acquisition efforts to support best practices for the specific combat casualty clinical scenario addressed in the CPG. DOPTMLPF-P is mission focused, whereas the mission of the CPG is to address the clinical needs of the combat casualty. This section is meant to support what is necessary and drive any changes for gaps that are identified in the clinical care that the CPG addresses.

In summary, this section is meant to define a 'capability need' or the 'capability gap' to accomplish the mission, which is the care of the casualty, and identify the needed capabilities to treat the casualty according to the clinical guidance described in the CPG.

See the DOTMF-P components descriptions on the next page.

DOTMLPF-P COMPONENTS	
Doctrine – The way things are done/the way the mission is achieved. 'The way we have always done it.' Is there existing doctrine that supports this CPG? Most CPGs will not have a doctrine element.	In this column place any doctrinal requirements for the CPG. What needs to be indoctrinated to use the CPG to improve the care of combat casualties.
Organization – How teams/units are organized to achieve the mission. This is relevant given that some deployed medical teams will not be able to care for certain casualties, emphasizing the need for early transport. For example, if a team does not have a surgical capability, but the CPG mainly addresses/emphasizes surgical treatment. It is defined as 'how military units organize to fight (e.g., divisions, air wings, Marine-Air Ground Task Forces). Combat casualty care (CCC) capabilities are organized by Role 1, 2, 3, 4. How does the CPG fit into the deployed continuum of care? Is it a Role 2/3 CPG? What are the prehospital implications? Where on the CCC continuum does the CPG get implemented? For example, the Traumatic Brain Injury and Neurosurgery CPG is a Role 3 CPG, with some Role 2 and prehospital considerations.	In this column place organizational requirement to execute the clinical care recommended in the CPG. Does there need to be an OR? A Blood Bank? See description.
Training – Most CPGs will have training implications. They should be listed here. Not all training will be a requirement, but if there is required training for the clinical entity that the CPG is addressing, it should be explained. This can be used to drive pre-deployment training requirements. It is defined as how units prepare to fight tactically (from basic training to advanced individual training, unit training, joint exercises, etc.). If training exercises should include what is being addressed in the CPG, mention it here (the Walking Blood Bank (WBB) is another example). This should drive elements of a joint curriculum based on battlefield care.	In this column place the training implications and training requirements to execute the mission outlined in the CPG. Is the training just CPG training or are there requirements that should be executed in the MHS?
Materiel – The JTS has a partnership with MEDLOG, who will assist with this section. MEDLOG is reviewing each CPG for the materiel requirements necessary to care for the patient addressed by the CPG. The lead author will get the list from MEDLOG and work with the CPG team and MEDLOG for updates. Most CPGs do have a materiel requirement (medications, devices, dressings, equipment, etc.). It is defined as all the "stuff" necessary to equip our forces (medical units/teams) that DOES NOT require a new development effort (it is what is available "off the shelf" both commercially and within the government).	This column could get unruly. In this column list the materiel requirements needed to execute the CPG. This will be mostly medication and stuff.
Leadership and Education – This is defined as: "how we prepare our leaders to lead the fight, from squad leader to 4-star general/admiral to professional development." Most of the JTS CPGS have some sort of educational component that should be delineated here. This links closely to training but is different. For example, the Emergency Life-Saving Cranial Procedures by Non-Neurosurgeons in the Deployed Setting CPG states that general surgeons should scrub on craniotomies prior to deploying if there is a possibility of performing this procedure at the Role 2. One of the leadership criteria is the Role 1-3 commanders should be familiar with the CPG so the unit can perform/manage the clinical entity the CPG is addressing. Another example is for the Dismounted Complex Blast Injury (DCBI) CPG. Leaders should be aware of this risk of DCBI and ensure teams are educated and trained on the unique aspects of management of these casualties and that there are always enough blood	In this column put the leadership qualities and support that is needed to manage the type of patients being discussed in the CPG.

DOTMLPF-P COMPONENTS	
products available (or WBB prescreened and trained) should the unit encounter service members with DCBI.	
Personnel – This is defined as: "the availability of qualified people for peacetime, wartime, and various contingency operations." Does the CPG require specialized care? Urologic injuries, neurosurgeons, radiologists? Who are the qualified personnel necessary to care for the casualty the CPG addresses?	In this column state any necessary personnel to execute what you have written in the CPG (i.e. trained nurses, lab tech, radiology techs)
Facilities – This is defined as: "real property; land, buildings, installations, and industrial facilities (i.e. government owned ammunition production facilities) that support the forces – the property / buildings/ facilities needed to do the mission." Most CPGs will not have this requirement. The Frozen Red Blood Cells CPG requires facilities that can deglycerize blood. For the JTS CPGs, since the battlespace is dynamic, fixed facilities are not really ever required; however, elements of facilities may be necessary. Examples: facility can support a temperature regulated operating room; a facility that can support instrument sterilization; facility that has a covered area required for triage, etc. Most CPGs will not link to a facility requirement but characterize aspects needed in buildings, tents, and deployed military medical treatment facilities that will help medical units communicate these needs with base/deployed installation leadership.	In this column list any facility requirements to be able to implement the care discussed in the CPG. Examples: ORs, Burn ORs, pathology lab, instrument throughput.
Policy – The best example of this is the Golden Hour (GH) Policy that was signed by Sec Def Gates in 2009. Most CPGs will not impact all military policy – but there might be medical policies which should be considered. It is defined as: "any DoD, interagency, or foreign policy which affects the other seven (DOTMLPF) elements." The GH policy had impacts across the entire battlefield from doctrine, organization, person, etc. The WBB has also impacted policy with the WBB-Donor Screening Department of Defense Instruction and driven requirements for units to get prescreened prior to deployment. Most CPGs will not impact policy, but the authors should consider if it should and if policy is needed to save lives/decrease morbidity from the clinical entity the CPG addresses.	In this column state what policy is needed to implement best practices: - A PI policy - The Golden Hour Policy

SUPPLEMENTAL H&P (IF APPROPRIATE)

Creation of this form is the responsibility of JTS. Please identify specific items in the CPG that must be captured in this form for performance improvement/research of the clinical entity the CPG is addressing. The H&P Clinical Supplement is to help document the relevant care and ensure good PI can be done with the intent of improving battlefield care. This can simply be in an email to JTS CPG team or in the comments of the word document. The JTS adjudication team will cross reference with documentation tools (forms, EHRs, etc.) and assemble a form, if appropriate.

APPENDICES (AS NEEDED)

Include updated forms if they have changed. **If the CPG is verbose, move extra information to the appendix**. See First Author Responsibilities #8. The appendix section can contain extra background and information that is academically relevant but not needed to immediately care for the casualty. Appendices can be used liberally (for example, Burn Care CPG ID: 12) to add information that does not need to be in the 'guidance body' of the CPG.

NOTES TO THE AUTHORS

- Allow 2-4 weeks to review the CPG and then schedule a meeting with the adjudication team to review an outline of recommended changes. This will assist in improving team efficiency and cover expectations from both parties.
- Data requests can be collected at this time to expedite the process.
- If pictures, graphs, etc. are added, please cite the source and send the original.
- Please do not waste time formatting as the technical writer team will format the CPG.
- Timeframe: We strive to publish CPGs on the JTS website and JTS Deployed website within 4-6 months from the time the author team is assembled.