

Call for Submissions: JACMP Special Issue

Advancing TBI, TMI, and TMLI in Clinical Practice

About the Special Issue

Total Body Irradiation (TBI), Total Marrow Irradiation (TMI), and Total Marrow and Lymphoid Irradiation (TMLI) are vital components of conditioning regimens for hematopoietic stem cell transplantation and related hematologic malignancy treatments. Advances in treatment planning, image guidance, delivery, and intensity modulation have expanded clinical use of these modalities while introducing complex technical, dosimetric, and workflow challenges — and substantial heterogeneity in methodologies across institutions underscores an urgent need for standardization, collaborative research, and shared clinical experience.

Proposed by **AAPM Task Group 379** (organizers of [The Grace Kim Memorial Grand Challenge: Advancing Total Body, Marrow, and Lymphoid Irradiation](#)) in collaboration with the **AAPM Working Group on Grand Challenges**, this Special Issue builds on TG-379's forthcoming report on conventional and intensity-modulated TBI, providing a dedicated forum for clinical implementation, institutional benchmarking, workflow optimization, and emerging innovations. Consistent with JACMP's mission, it prioritizes practical, data-driven contributions with immediate utility for day-to-day clinical practice.

Topics of Interest

We invite submissions addressing modern approaches to conventional TBI, intensity-modulated TBI, TMI, and TMLI, including but not limited to:

- **Clinical implementation:** multi- or single-institution experiences with generalizable lessons; practical barriers to adoption and strategies for safe dissemination across diverse clinical environments
- **Treatment planning:** strategies across platforms, planning systems, and delivery techniques, including automation, scripting, knowledge-based planning, and artificial intelligence
- **Quality, dosimetry, and delivery:** patient-specific QA and in vivo dosimetry, image guidance and delivery verification, robustness methods and evaluation at beam junctions
- **Outcomes and organ-sparing:** dose-rate and dose-toxicity studies, organ-sparing strategies, relapse pattern analyses, outcome modeling, and pediatric considerations
- **Programs and innovation:** resource requirements, staffing models, training, and program sustainability; emerging technologies, adaptive workflows, novel immobilization or delivery paradigms
- **Case reports:** rare and challenging real-world clinical scenarios

Scope and Suitability

Submissions that primarily restate general technical recommendations, commissioning procedures, or routine workflow guidance are discouraged unless they include novel data, comparative evaluation, or broadly applicable clinical insight. Studies from organized planning challenges, such as the **AAPM Grace Kim Memorial Grand Challenge**, are encouraged — particularly those based on shared datasets, standard evaluation criteria, or official challenge results that enable reproducibility and comparison across institutions.

Submission Information

- **Submission period:** opens September 1, 2026; **deadline April 30, 2027**
- **Article types:** Original Research, Technical Notes/Reports, Case Reports, Review Articles, Dataset/Software papers, educational and practical clinical implementation papers, and invited perspectives
- **How to submit:** prepare your manuscript per the JACMP [Author Guidelines](#); when asked “Is this submission for a special issue?” select “Advancing TBI, TMI, and TMLI in Clinical Practice” from the drop-down list
- **Publication:** accepted articles publish online immediately as Open Access, then are curated into a virtual special issue. Standard JACMP publication charges and peer review apply.
- **Keywords:** TBI, TMI, TMLI; treatment planning; clinical implementation; automation; artificial intelligence; target coverage; organ-at-risk sparing; in vivo dosimetry; workflow optimization; outcome-linked dosimetry
- **Inquiries:** questions on the suitability of a proposed manuscript may be directed to JACMPEditorial@wiley.com

Guest Editors

Xuejun Gu, PhD (Stanford University) • **Quan Chen, PhD** (Mayo Clinic, Arizona) • **Chunhui Han, PhD** (City of Hope National Medical Center) • **Prema Rassiah, PhD** (The University of Utah) • **Jay Burmeister, PhD** (Karmanos Cancer Center / Wayne State University)

Help us bridge the gap between innovation and clinical practice — we look forward to your contributions!