

Innovative Treatments in Disorders of Consciousness (ITDC) Grant Program

Spaulding Rehabilitation, in collaboration with the Curing Coma Campaign, announces the following funding opportunity to generate and initiate disruptive ideas in the treatment of patients with disorders of consciousness.

This award funds projects that create infrastructure to enable prospective multicenter RCTs and/or evaluate biologically plausible treatments. Acquisition of pilot data for larger multicenter studies is a key aim of this initiative.

Apply here once LOI window has opened: <https://cimitcolab.secure-platform.com/a/solicitations/96/home>

Timeline	LOI Open Date: June 3, 2024
	Letter of Intent Submission Date: July 22, 2024
	Letter of Intent Status Notification: September 2, 2024
	Full Application Deadline: November 18, 2024
	Full Application Notice of Awards: January 20, 2025
	Earliest Start Date: March 3, 2025
Funding	Total Costs: Award total costs may not exceed \$200,000 per year, \$400,000 total (inclusive of max 20% indirect costs)
	NIH Salary Cap applies
	Maximum Project Period: 2 years
	Applicants should lay out a strategy for funding the work beyond the grant period.
	Anticipated Number of Awards: 2
Background	Disorders of consciousness (DoC) – including coma, vegetative state, and minimally conscious state – are highly prevalent with estimates in the United States (2018) ¹ of: <ul style="list-style-type: none"> • up to 42,000 people in a coma and vegetative state • up to 280,000 in a minimally conscious state. <p>The landscape of DoC management is fraught with challenges. Diagnosis is difficult, with no laboratory nor imaging tests to detect consciousness. Published estimates of misdiagnosis among people with DoC are around 40%. No treatments are available to prevent secondary effects of primary brain injury. There is only one proven post-acute treatment available with narrow indications – Amantadine Hydrochloride.</p> <p>A 2020 Symposium from the Curing Coma Campaign² laid out research targets across six areas: defining endotypes/phenotypes, biomarkers, proof-of-concept clinical trials, prognostication, long-term recovery, and large data sets. Advances in our understanding of brain pathophysiology and biotechnology offer new avenues to improve diagnosis and treatment through research. The below table lists potential areas of exploration for</p>

applicants to consider. It is not an exhaustive list, and applicants are not limited to the below topics.

Knowledge Gap	Area of Exploration
Infrastructure for clinical trials and observational studies	Establish infrastructure such as a multicenter DoC network or Model System, designed to address a specific research question
Poor understanding of neurobiological mechanisms underlying consciousness/DoC	Connectomics / Circuit mapping
Patient classification	Phenotyping / Endotyping
Long-term outcome	Trajectory modeling
Lack of biomarkers	Validation of diagnostic, prognostic, response biomarkers
Prognostication	Modeling, large datasets, machine learning
Effective treatments for neuroprotection & post-acute recovery	<i>Focus on innovative proposals</i> , from proof-of-concept to comparative effectiveness drug (re-purposed agents) and device (DBS, tDCS, TMS, VNS, LIFUP) studies

¹Giacino et al. "Comprehensive systematic review update summary: disorders of consciousness" *Neurology*, 2018 Sept. 4; 91(10:461–470)

²Claassen J, Akbari Y, Alexander S, et al. Proceedings of the First Curing Coma Campaign NIH Symposium: Challenging the Future of Research for Coma and Disorders of Consciousness. *Neurocrit Care*. 2021;35(Suppl 1):4-23. doi:10.1007/s12028-021-01260-x

Eligibility

Domestic, non-profit organizations are eligible to receive this grant, including Higher Education Institutions, Nonprofits with 501(c)(3) IRS Status, and Nonprofits without 501(c)(3) IRS Status. Non-domestic (non-U.S.) Entities (Foreign Institutions) may participate in projects as members of consortia or as subcontractors only but **are not** eligible to apply as primary applicants.

Applications **must** include at least one team member at Mass General Brigham (MGB). Preference will be given to interprofessional, multi-institutional projects, and to teams that include at least one member from Spaulding Rehabilitation.

Projects should explicitly describe plans for engaging impacted constituency groups, with both 'patient partners' (inclusive of those with lived experience, family and caregivers, and organizations representative of the brain injury population) as well as professional partners such as clinicians, payers, administrators, and policy makers¹. Applicants should consider level of engagement, and opportunity to place those with lived personal experience in partnership and shared leadership roles with decision-making authority².

This award funds projects that create infrastructure to enable prospective multicenter RCTs (including adaptive platform trials) and/or evaluate biologically plausible treatments. Acquisition of pilot data for larger multicenter studies is a key aim of this initiative. Retrospective and meta-analyses **are not** eligible proposals.

Any individual(s) with the skills, knowledge, and resources necessary to carry out the proposed research as the Principal Investigator is invited to work with their organization to develop an application for support. Individuals from diverse backgrounds, including underrepresented racial and ethnic groups, individuals with disabilities, and women are especially encouraged to apply.

¹PCORI Engagement Rubric. PCORI (Patient-Centered Outcomes Research Institute) website. <http://www.pcori.org/sites/default/files/Engagement-Rubric.pdf>. Published February 4, 2014. Updated October 12, 2015. Accessed November 21, 2023.

²Carman KL, Dardess P, Maurer M, et al. Patient and family engagement: a framework for understanding the elements and developing interventions and policies. *Health Aff (Millwood)*. 2013;32(2):223-231. doi:10.1377/hlthaff.2012.1133

Application Process	Applying for this opportunity is a two-step process. Applicants must first submit a Letter of Intent (LOI). Applicants will then be advanced to the next round and invited to submit a full proposal.
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Round 1 Letter of Intent Instructions

Applicants are asked to submit a letter of intent through the CoLab on-line application system that includes the following information:

- Descriptive title of proposed activity
- Name(s), email address(es), and telephone number(s) of the Principal Investigator
- Names of other key personnel
- Participating institution(s)
- Project Narrative (3 sentences)
- Specific Aims
- Proposed activities
- Potential impact of proposed work

The online application is equivalent to approximately three pages.

Round 2 Full Application

Selected applicants will be asked to submit full proposals through the CoLab on-line application system that include the following information:

- Background & Significance
- Project personnel/expertise and institutional resources
- Research methods & study design
- Operational management

The on-line application is equivalent to approximately 12 pages.

Review Criteria & Scoring	<p>Round 1 Letter of Intent</p> <p><i>Includes a team member from Mass General Brigham? (Yes/No)</i></p> <p><i>Includes a team member from Spaulding Rehabilitation? (Yes/No)</i></p> <p><i>Project Narrative (20 points)</i></p> <ul style="list-style-type: none">• Clear and compelling project summary that effectively communicates the project's significance, objectives and rationale. <p><i>Specific Aims (20 points)</i></p> <ul style="list-style-type: none">• Clear, focused, precisely defined, and align well with the project's overall objectives. <p><i>Proposed Activities (30 points)</i></p> <ul style="list-style-type: none">• Comprehensive, well-structured, and logically sequenced, demonstrating a clear plan for execution. <p><i>Potential Impact of Proposed Work (30 points)</i></p>
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- Work demonstrates exceptional potential to generate transformative outcomes, with significant implications for the field.

Round 2 Full Application

Background & Significance (20 points)

- Includes a clear and detailed problem statement that is supported by evidence.
- Describes how this project will inform the next phase of the proposed research.
- Identifies potential obstacles and corresponding mitigation strategies.

Project personnel/expertise and institutional resources (10 points)

- Program Director, personnel, collaborators, and subcontractors are well suited to the project.
- Early career applicants have appropriate experience, training, and support for mentorship.
- Team is interprofessional with diverse backgrounds and training.
- Team includes advisory or core involvement of people / families of people with lived DoC experience.
- Project is feasible given the institutional support, equipment, and other physical resources.

Research methods & study design (60 points)

- Includes specific and detailed aims that are well-reasoned, innovative, and unique from existing body of knowledge.
- Defines a sufficient recruitment strategy.
- Outcome measures, analysis, and statistical approach are appropriate for proposed study design and methods.
- Outcome measures include input from persons served.

Operational management (10 points)

- Includes a well-defined timeline with deliverables.
- Includes a budget with realistic resources to meet the timeline.
- Defines a plan for data management.

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