Mass General Brigham

Institutional Review Board
Intervention/Interaction Detailed Protocol

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Project Title: Development of a dyadic mind-body program for cardiac arrest survivors and their caregivers: *Recovering Together after Cardiac Arrest (RT-CA).* Phase 2 – Open Pilot

Version Date: 07/30/2024

Version Name/Number: 1

1. Background and Significance

Cardiac arrest (CA) is a heart AND brain problem that produces cognitive, physical, and emotional challenges. Because the whole brain is deprived of oxygen from the heart stopping, cardiac arrest (CA) survivors with "good neurologic recovery" (i.e., cognitively intact) still experience broad cognitive sequelae (e.g., changes in memory, attention, visuospatial abilities, language, and executive functions) and physical sequelae (e.g., loss of motor functions, fatigue, weakness, and chronic pain from the rescue compressions).[1-7] Little attention is paid to these "extracardiac" sequelae,[3] which become chronic and distressing.[7] Unsurprisingly, up to 61% of CA survivors and 40% of caregivers develop clinically significant emotional distress (posttraumatic stress, anxiety, and depression).[8,9]

CA is a complete mind-body-heart disruption that is continuously traumatic. Through qualitative interviews, we have shown that CA survivors experience *enduring somatic threats* (recurring, somatic traumatic reminders of their event),[10] including the sensation of their implantable cardioverter defibrillator (ICD) inside their chest, invasive electrical shocks discharged from the ICD, and the cognitive and physical sequelae listed above.[7] These enduring somatic threats remind survivors of their mind-body-heart disruption and prevent them from living fully in the present. Furthermore, lingering memory and cognitive changes contribute to confusion, fear, and self-doubt.[5-7] Other daily stressors include hyperarousal of future cardiac events, emotional numbing, and existential distress.[7,11-13] Informal caregivers witness (and remember) the CA event, graphic rescue interventions, intensive care unit (ICU) stay, and lengthy, variable recovery.[3,7,9] Because reminders of the event are recurring, the emotional symptoms can linger for up to 10 years.[7,14,15]

Emotional distress post-CA undermines QoL and leads to premature morbidity and mortality. In CA survivors and caregivers, we have shown that 1) emotional distress is the strongest predictor of QoL and subjective recovery[1,2,14,15] and 2) in survivors, elevated emotional distress is linked to a greater likelihood of adverse events and mortality at 1-year post-discharge.[16] In short, emotional distress compromises both the quality and length of CA survivorship.

CA survivors and caregivers lack resources to navigate survivorship, which exacerbates emotional distress. Unlike other critical illnesses such as stroke or myocardial infarction, there is no "standardized pathway" for follow-up care post-CA.[3,7] Further, there is no reliable provision of resources to survivors and caregivers needed to manage survivorship.[3,7,17] Consequently, CA survivors and caregivers are left without

direction, unable to manage the broad post-CA sequelae.[3,7,17] In a recent survey of ours, only ~8% of CA survivors reported receiving appropriate cognitive or emotional support resources.[17] As a result, survivors and caregivers are unprepared to navigate the health system, which exacerbates their emotional distress.[7]

There are currently no psychosocial interventions for CA survivors or caregivers in the United States. In 2020 the AHA called for the development of psychosocial interventions and reliable resource provision for CA survivors and caregivers.[3] However, there are still no psychosocial interventions for the CA population. Developing a psychosocial intervention that also provides resources for CA survivors and caregivers is innovative and necessary. CA survival continues to improve,[18] meaning there is a growing population of survivors and caregivers in need of services.[3]

A dyadic mind-body intervention is best suited to address emotional distress in CA survivors and caregivers. CA survivors often depend on a caregiver for emotional and functional support.[3,4,7,12] Caring for both survivors and caregivers leads to overall better adjustment for both dyad members.[19,20] Caregivers cannot fully care for the survivor if they themselves are distressed.[21] Mind-body skills (e.g., mindfulness, meditation, relaxation, progressive muscle relaxation, body scanning) are effective in reducing the emotional symptoms experienced by CA survivors and their caregivers (i.e., hyperarousal, numbing, existential distress).[22-26] These symptoms actively or passively remove one from the present, whereas mind-body skills keep one fully in the present.[26] Our preliminary data supports the application of these skills post-CA: 1) greater use of mindfulness skills was associated with less emotional distress in long-term CA survivors[27] 2) CA survivors reported that mindfulness and meditation were amongst their most important coping strategies.[7]

We plan to develop a dyadic mind-body intervention for CA survivors with good neurologic recovery and their caregivers at-risk for chronic emotional distress. A dyadic-mind body intervention delivered early post-CA is ideal for four main reasons: **First,** untreated emotional distress post-CA becomes chronic, with detrimental impacts on QoL and disease burden.[1-4,14-16] **Second,** mind-body skills are interdependent (the skills of one dyad member influence the other member).[19,28-31] A successful dyadic intervention can lead to synergistic positive effects in both the survivor and caregiver.[19,20,31] **Third,** the specific emotional symptoms exhibited by survivors and caregivers can be effectively treated by mind-body techniques.[22-26] **Fourth**, our intervention will provide resources to help navigate survivorship, which is a major treatment gap in this population.[3,7]

2. Specific Aims and Objectives

Aim 1: Refine RT-CA. We will conduct a single-arm open pilot of RT-CA (N=5 dyads) to evaluate initial feasibility and acceptability using exit interviews and pre-post assessments.

Findings from Aim 1 will then inform the next iteration of the RT-CA manual and feasibility trial.

Aim 2: Conduct medical record review of all admitted cardiac arrest patients at MGH during the study period (N = 200-400). We will collect basic cardiac arrest clinical data on these patients to determine the representativeness of our sample in Aim 1 to all cardiac arrest admissions at MGH and the United States.

Findings from Aim will inform recruitment gaps, if any, and contextualize the recruitment pool at MGH relative to the United States.

3. General Description of Study Design

We are proposing an open pilot trial of RT-CA with 5 CA survivor-caregiver dyads. All dyads will undergo the 6-session intervention. The first session will be at the bedside (unless the survivor is discharged before session 1 takes place, at which point we will meet over Zoom or telephone (Doximity)). The remaining sessions will be conducted over Zoom or telephone (Doximity) depending on participant preference.

Parallel to our open pilot, we propose to conduct medical record of all admitted cardiac arrest patients at MGH during the study period and maintain them in a study log (N = 100-300). As part of our recruitment efforts (see sections 4 and 5), we wil pre-screen Epic ICU and stepdown floor rosters in order to identify all cardiac arrest patient admissions, who could be eligible for our open pilot. By including all admissions into a study log we will be able to 1) monitor cardiac arrest patients' mental status during their hospital stay to see if they will become eligible for our open pilot and 2) determine the representativeness of the open pilot sample's cardiac arrest clinical characteristics.

We will need to access the medical records of all cardiac arrest admissions to monitor them throughout their stay in the hospital. If the patient recovers good neurological status, they may be eligible for our study, at which point we will follow our recruitment and enrollment procedures as detailed below. There is no guarantee that a patient with cardiac arrest recovers neurological status, so we will need to conduct daily pre-screening of their neurological exam until they become potentially eligible or are discharged.

Additionally, we will need to collect basic cardiac arrest clinical data of all cardiac arrest admissions in order to contextualize our study sample in the context of cardiac arrest admissions at MGH and the US overall. This information is routinely collected and reported in cardiac arrest research. We will need to be able to identify if our enrolled sample is representative of the greater population, and if not, we will need to report the disparities that exist in our enrolled sample.

4. Subject Selection

We will recruit and enroll dyads from MGH ICUs and stepdown floors. The majority of cardiac arrest (CA) survivors are initially cared for in the Heart Center Intensive Care Units and stepdown floors, while a minority are also cared for in the Neuro-ICU, Medical Intensive Care Unit, and Cardiac Surgical Intensive Care Unit, and corresponding stepdown floors.

During phase 1 of this study, the PI presented to staff from theses ICUs and stepdown floors that care for CA survivors on the overall study aims, purpose, potential benefits to participants, and best ways to facilitate referrals.

Trained study staff will identify new CA survivors primarily through daily pre-screening of ICU and stepdown survivor rosters. We will also obtain referrals from the medical, nursing, or social work team members that are clinically caring for survivors and caregivers on service, whom the PI presented to during phase 1 of the overall study. A new CA survivor is defined as any survivor with a new diagnosis of "cardiac arrest" and documented loss of pulse in their medical record. Study staff will always confirm with a clinical team member about whether screened survivors might be appropriate study candidates before approaching to discuss our study.

Through pre-screening of ICU and stepdown floor patient rosters on Epic, our research assistant (RA) will identify CA survivors and add them to a "cardiac arrest admissions log" stored on REDCap of all CA survivors admitted to MGH during the study period. The cardiac arrest admissions log will serve to aid the RA in monitoring all currently admitted CA survivors' neurological exams to see if they will become eligible for the study. Specifically, the RA will conduct daily review of all currently admitted CA survivors' neurological exam daily as documented in the electronic medical record. The RA will specifically attend to the survivor's documented alertness, orientation, and speech output. The majority of cardiac arrest

admissions will not regain sufficient neurological function to participate in our open pilot, however, we will keep their basic clinical cardiac arrest characteristics in the admissions log for the duration of the study so that we can then compare our open pilot sample's characteristics to the characteristics of cardiac arrest admissions at MGH, and compare the cardiac arrest admissions at MGH to cardiac arrest patients in the United States. This information is routinely collected and reported in cardiac arrest research. We will need to be able to identify if our enrolled sample is representative of the greater population, and if not, we will need to report the disparities that exist in our enrolled sample.

Should the neurological exam demonstrate focal neurologic recovery (i.e., awake, alert and oriented), the RA will send a Voalte message to survivor's bedside nurse [or other clinician known to the survivor] to confirm recovery of focal neurological status and to ask the survivor for permission to be contacted by our team to explain the study (either in person or over phone if the survivor is discharged before we are able to approach).

Medical and/or social work partners caring for CA survivors that may benefit from our study have volunteered to provide basic information of our study (the same information listed on our study flyer, which they will give to such survivors) and ask the patients for their permission to refer them to us through the Voalte messaging system.

Once at the survivor's bedside the RA will explain the study and, if the survivor is interested in participating, will be asked to confirm that they have an informal caregiver (friend or family) that is primarily involved in their care and would be willing to participate. Once they confirm they have an informal caregiver, the RA will conduct emotional and cognitive screening with the survivor (Hospital Anxiety and Depression Scale for emotional distress and Short Form of Mini Mental State Exam for cognitive function). They will then ask permission to contact the survivor's informal caregiver and conduct the same emotional distress screening with the caregiver (either in person or over phone). Only one member of the survivor-caregiver dyad needs to screen in with emotional distress. If either dyad screens in with emotional distress, the RA will then proceed to obtain informed written consent either through paper form or via REDCap e-consent. Both participants that consent via REDCap will be emailed a copy of their signed consent form. The study team will keep track of all survivors and caregivers approached who refuse to participate and their reasons for refusal, as well as survivors that are not eligible to participate. We will also offer to provide survivors and/or caregivers that refuse to participate or screen out with a resource sheet for options to for emotional support should they feel they need it.

Inclusion/Exclusion Criteria: Out-of-hospital or in-hospital CA survivor (must have new diagnosis of "cardiac arrest" in electronic medical record from index hospitalization with documented loss of pulse) with an identified caregiver (identified by the survivor who is their primary source of emotional and functional support),[36] 2) survivor must score $\geq$4 on Short Form of the Mini Mental State Exam for sufficient cognitive function for meaningful participation,[37] 3) ability and willingness to participate in a hybrid in-person/live video or phone intervention, 4) English speaking adults (18 year or older), 5) at least one member of the dyad endorses clinically significant emotional distress during screening (>7 on Hospital Anxiety and Depression Scale[38] subscales). **Exclusion criteron**: 1) active psychosis, mania, substance dependence**,** or suicidal intent or plan.

We are excluding non-English speakers from our open pilot as our intervention development studies and the original Recovering Together intervention were conducted with fluent English speakers only. Delivering this intervention in a different language, using a translator, would be inappropriate as content may not be sensitive or relevant for non-English speakers. We do plan to conduct future cultural adaptation studies of our intervention, including conducting qualitative studies with end-users that are non-English speakers. Unfortunately, we have insufficient funds from the current grant to conduct such studies.

The following strategies will be used to recruit and retain ethnic/racial minorities:
As part of the recruitment protocol:

- We will prioritize recruiting racial and ethnic minorities with the goal of increasing inclusion of minorities. Our goal is to follow the race and ethnicity distribution of the USA and recruit at least 38% racial and ethnic minorities.
- Through our presentations to ICU and stepdown physicians, nurses and study staff, we will encourage engaging in trainings around cultural competence and internalized racism to ensure interactions with survivors are able to be rooted in trust and respect.
- We will be flexible in scheduling to address logistical barriers to participation.
- We will consult the "Community Access, Recruitment, & Engagement" Research MGH group to promote recruitment and retention of diverse families.

In collaborations with providers and staff:

- We will explain underrepresentation of minority participants in research and collaborate on how to address this issue.
- Research indicates that participants are more likely to enroll if the study is presented to them by a previously trusted individual such as their care providers. We will encourage attending physicians, bedside nurses, and social workers to recommend our study when they are treating emotionally distressed survivors and/or their informal caregivers.

In interactions with participants:

- We focus on trust-building with potential participants during recruitment because mistrust of research/health care establishments can be a barrier to minority participation. We will clearly explain the research study and ensure that families have all information they need to decide whether to participate in the study.
- We will prioritize the safety and personal health of dyads, clearly explaining the measures taken in study protocol to protect them and explaining the supports available to them during study participation.
- We will ask about participant concerns and answer any questions that may have.
- We will emphasize how research participation benefits the broader good, including their own communities.

5. Subject Enrollment

We are requesting a waiver of consent for logging the clinical cardiac arrest variables for all cardiac arrest admissions. These variables are already listed in their electronic medical record, and the review of such records is for very limited information. Further, the variables are not sensitive in nature. We will collect such variables and log them on a hospital-based, secured data capture software (REDCap).

For survivors that meet criteria for our open pilot as discussed in section 4, once a potential survivor has been identified and approved by the clinical team, and has granted permission for us to contact them, a member of the study team will approach the survivor as soon as possible.

Survivors and caregivers that wish to participate will complete written informed consent. All potential participants will be given a paper informed consent form, a tablet to complete e-consent through REDCap, or will be emailed the consent form via REDCap depending on their preference. All participants will be given the opportunity to ask any questions. These discussions will cover the potential risks and benefits of participation, as well as information regarding who participants can contact for further questions. Potential participants will also be informed that participation is voluntary, that they can refuse to answer any

questions, and they can withdraw from the study at any time. They will be informed that refusal to participate in the study will in no way impact their own or their loved one's medical care.

Participants will be given the option to receive text messages with reminders to practice skills (active intervention only) as well as survey invitations, and study contact information (including that of the IRB) in case questions arise at a later time. The text messages will be sent via Twilio, a third party, Partners-approved, web service that integrates with REDCap to send survey invitations over SMS text messaging.

Once all questions have been answered, participants interested in participating will return a physical signed consent form or will sign virtually via e-consent. Study staff will keep all informed physical consent forms in a cabinet under lock and key.

If the caregiver subject is unable to be at the bedside in person for consent for their own participation, then a study staff member will telephone call the caregiver and explain consent procedures over the phone. In this case, we will email the consent form to the caregiver subject through REDCap secure data collection system while on the telephone with them, and if they agree to participate, the caregiver subject will e-sign consent for their own participation.

All subjects will be given baseline psychological and behavioral assessments that will assess depression, anxiety, PTSD symptoms, and other psychological constructs. All assessments will be administered using the REDCap secure data collection system or via paper and pencil to be entered into REDCap later by study staff.

6. STUDY PROCEDURES

See below for the complete open pilot schedule.

Study Intake (1/2 hour)

After completing informed consent, participants will fill out several questionnaires online or in person, through REDCap.

Weekly Sessions 1-6

The intervention will have 6 sessions, delivered either at bedside or over Zoom/telephone, depending on participant preference. Zoom is a free and secure online videoconferencing software program that is currently used to provide care for patients at MGH.

All sessions will be audio-recorded to use in clinical supervision (e.g., problem-solving challenging cases) and to check study therapist competency and fidelity. Dyads will receive a Home Practice reminder text 24 hours after their previous session each day until their next session.

Sessions focus on developing skills to cope with and manage CA-related stressors. The sessions were adapted from an existing MGH trial (Recovering Together) and from MGH CA survivor-caregiver feedback. Specifically, we conducted qualitative interviews with survivor-caregiver dyads based on their needs for emotional support. We further queried them on feedback of proposed intervention content.

The 6 sessions are listed below. We will make adjustments to the program and sessions as needed based on dyads' post-program feedback:

Sessions:

1. Coping with uncertainty part 1 – deep breathing, mindfulness, anticipatory guidance on common post-CA challenges, provision of informational CA resources
2. Coping with uncertainty part 2 – dealing with anxiety and contradictory emotions
3. Adjusting to CA – acceptance and change coping skills
4. Navigating relationships – effective communication within the dyad and with social supports
5. Meaning, purpose, and gratitude – identifying sources of meaning, purpose, and gratitude
6. Cope ahead after CA – develop individual and dyadic coping plans beyond RT-CA intervention

Post Program Assessment (30 - 45 minutes)

This portion of the study will occur after participants have completed the 6-week program. Participants will have the option to complete these questionnaires on a personal computer at home or over the phone with a member of our study staff team. Participants will also complete a 10-30 minute "exit interview" during this time where they can provide feedback for how to improve the program. After the exit interview, we will email the dyad a resource sheet (the same one provided to dyads that screen out) in the event they would like to pursue further emotional support options.

All measures will be administered at both timepoints unless otherwise stated:

- Demographics (baseline only)
- Charlson Comorbidity Index (baseline only)
- Barthel Index (survivor only)
- Modified Rankin Scale (survivor only)
- Mini Mental State Exam (survivor only; baseline only)
- Cerebral Performance Category Scale (survivor only)
- Telephone Interview for Cognitive Status (survivor only)
- Clinical Covariates Pre-test (survivor only)
- Clinical Covariates Post-test (survivor only)
- Hospital Depression and Anxiety Scale (HADS)
- Post-Traumatic Stress Disorder Checklist – 5
- The Cognitive and Affective Mindfulness Scale-Revised (CAMS-R)
- ENRICHD Social Support Inventory
- Measure of Current Status Part A (MOCS-A)
- Mental Health Resource Usage
- Credibility and Expectancy Questionnaire (CEQ) (original measure administered at pre-test; measure was also adapted to be administered post-test to examine credibility and expectancy after having completed the program).
- Client Satisfaction Questionnaire (CSQ-3; post-test only)
- WHO Quality of Life-Brief
- Dyadic Relationship Scale
- Dyadic Coping Inventory
- Applied Mindfulness Scale
- Preparedness for Caregiving Scale (cargiver only)
- Meaning in Life Questionnaire
- 4 cardiac items from the Anxiety Sensitivity Index
- Gratitude Questionnaire Six Item Form

To understand the CA clinical characteristics of all admitted CA patients at MGH, we also request a waiver of consent to collect the following from the electronic medical record of all logged patients. These characteristics will also be logged for the open pilot patients:

- Cardiac arrest location
- Time until return of spontaneous circulation (ROSC)
- Initial cardiac arrest rhythm
- Age, sex

Each member of the dyad will receive up to $60 in compensation ($20 for baseline assessments and $40 for post-test assessments). Payment will be made as gift cards.

7. Risks and Discomforts

Participants may feel uncomfortable when discussing emotions related to CA. As in any research study, there is a small risk that confidentiality may be breached; all efforts to minimize this risk will be taken. In the unlikely event that participants will become suicidal during the duration of the study, the research assistant will contact the PI and appropriate clinical intervention will be executed.

8. Benefits

Participants may not benefit from the study directly. However, knowledge from this research study may benefit others by enhancing our understanding of the role of psychosocial skills-based interventions in treating CA survivor-caregiver dyads. Participants may also improve their ability to cope with CA and become more resilient.

9. Statistical Analysis

For open pilot quantitative data, we will assess the feasibility benchmarks (recruitment, assessments, adherence, therapist fidelity) and acceptability benchmarks (satisfaction, credibility) (see **Table 1)** through frequencies and proportions**.** For qualitative data, we will examine exit interviews using thematic analysis. We will then conduct mixed methods analysis using an explanatory-sequential design, which allow us to integrate quantitative and qualitative data to refine the RT-CA manual and study procedures. We will use the exit interviews to explain the open pilot quantitative findings.

Table 41 Feasibility and Acceptability Benchmarks.

Outcome	**Benchmark**
Feasibility (>70% Acceptable; >80% Excellent)	
Recruitment	% Eligible dyads who participate
Assessments	% Dyads with no measures missing
Adherence	% RT-CA dyads that complete 4/6 sessions
Therapist Fidelity	% RT-CA selected sessions (20%) (100% adherence on Fidelity Checklist)
Acceptability (>70% Acceptable; >80% Excellent)	
Treatment Acceptability	% RT-CA dyads score above midpoint on Client Satisfaction Questionnaire-3
Credibility and Expectancy	% RT-CA dyads score above midpoint on Credibility/Expectancy Questionnaire
Adverse Events	(Minimal/None)

For contextualizing the clinical cardiac arrest characteristics of our open pilot sample, we will conduct chi square and Wilcoxon rank sum tests for categorical and continuous variables to examine differences in our open pilot sample compared to all MGH cardiac arrest admissions, and all cardiac arrest admissions in the US as reported by the AHA.

10. Monitoring and Quality Assurance

Electronic information will be stored in REDCap, a secure, and HIPAA-compliant web-based application. De-identified data will be stored on password protected computers that will be stored in secure locations at all times. Paper data files (with coded subject identification) will be stored in a locked filing cabinet. Only research staff will have access to these data locations. A unique anonymous identifier will be assigned to each participant; subsequently, all data collected will be associated exclusively with this identifier. This includes all questionnaires administered over the course of the study. Data from this study will be stored for three years after the publication of all study results, at which time all paper data files will be shredded, and computer files will be deleted. The Principal Investigator will be responsible for ensuring compliance with IRB procedures.

11. Data and Research Material Sharing

A) Sending Data/Materials to Research Collaborators outside Mass General Brigham

No data (neither protected health information or de-identified data) will be shared with study collaborators outside of MGB. All data will be stored on password protected computers kept in secure locations at all times. Only research staff will have access to these data locations. We will not share any data in data repositories.

B) Receiving Data/Materials from Research Collaborators outside Mass General Brigham

Study procedures will not entail receiving of data or materials from outside collaborators.

12. Privacy and Confidentiality

- ☒ Study procedures will be conducted in a private setting
- ☒ Only data and/or specimens necessary for the conduct of the study will be collected
- ☒ Data collected (paper and/or electronic) will be maintained in a secure location with appropriate protections such as password protection, encryption, physical security measures (locked files/areas)
- ☐ Specimens collected will be maintained in a secure location with appropriate protections (e.g. locked storage spaces, laboratory areas)
- ☒ Data and specimens will only be shared with individuals who are members of the IRB-approved research team or approved for sharing as described in this IRB protocol

- ☒ Data and/or specimens requiring transportation from one location or electronic space to another will be transported only in a secure manner (e.g. encrypted files, password protection, using chain-of-custody procedures, etc.)
- ☒ All electronic communication with participants will comply with Mass General Brigham secure communication policies
- ☒ Identifiers will be coded or removed as soon as feasible and access to files linking identifiers with coded data or specimens will be limited to the minimal necessary members of the research team required to conduct the research
- ☒ All staff are trained on and will follow the Mass General Brigham policies and procedures for maintaining appropriate confidentiality of research data and specimens
- ☒ The PI will ensure that all staff implement and follow any Research Information Service Office (RISO) requirements for this research
- ☐ Additional privacy and/or confidentiality protections

13. References

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APPENDIX A

Data Monitoring Committee / Data and Safety Monitoring Board Appendix

- *To be completed for studies monitored by Data Monitoring Committee (DMC) or Data and Safety Monitoring Board (DSMB) if a full DMC/DSMB charter is not available at the time of initial IRB review.*
- *DMC/DSMB Charter and/or Roster can be submitted to the IRB later via Amendment, though these are not required* if this Appendix has been completed and approved by the IRB.

A Data Monitoring Committee (DMC) or Data and Safety Monitoring Board (DSMB) will be convened for safety monitoring of this research study. The following characteristics describe the DMC/DSMB convened for this study (Check all that apply):

☒ The DMC/DSMB is independent from the study team and study sponsor.

☒ A process has been implemented to ensure absence of conflicts of interest by DMC/DSMB members.

☒ The DMC/DSMB has the authority to intervene on study progress in the event of safety concerns, e.g., to suspend or terminate a study if new safety concerns have been identified or need to be investigated.

☒ Describe number and types of (i.e., qualifications of) members:
3 members, 2 PhDs and 1 MD

☒ Describe planned frequency of meetings:
2x per year

☒ DMC/DSMB reports with no findings (i.e., "continue without modifications") will be submitted to the IRB at the time of Continuing Review.

☒ DMC/DSMB reports with findings/modifications required will be submitted promptly (within 5 business days/7 calendar days of becoming aware) to the IRB as an Other Event.