

**National Institutes of Health (NIH)  
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)  
Data and Safety Monitoring Board (DSMB) Charter**

[STUDY/TRIAL NAME]

Grant No: [GRANT NO]

Contract No: [CONTRACT NO]

Cooperative Agreement No: [COOPERATIVE AGREEMENT NO]

[PI NAME AND CREDENTIALS], Principal Investigator  
[INSTITUTION]

*Last Approved Date: TBD*

## INTRODUCTION

The Data and Safety Monitoring Board (DSMB) acts in an advisory capacity to the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), National Institutes of Health (NIH) to review participant safety and [study/trial] progress for “[STUDY/TRIAL NAME].” This [study/trial] is funded partially or in whole by the NIAMS. The purpose of this document is to outline the NIAMS charge to the DSMB regarding its responsibilities, composition, and processes for “[STUDY/TRIAL NAME].” The NIH mandate requires safety oversight and monitoring for all interventional studies to be commensurate with risks, nature, size, and complexity of the [study/trial]. The Charter is intended to be a living document to be modified at any time. Annual review, modification, and approval of the Charter are facilitated by the ES.

## DSMB RESPONSIBILITIES

Responsibilities of the DSMB are to:

- Review the research protocol, Data and Safety Monitoring Plan (DSMP), and informed consent documents, including all proposed revisions. The Manual of Operating Procedures (MOOP), which may contain the sections included above, is also reviewed.
- Evaluate the progress of the [study/trial] (s) on an ongoing basis, as needed, including periodic assessments of data quality, participant recruitment, accrual and retention, participant risk versus benefit, performance of [study/trial] site(s), and other factors that can affect the outcome.
- Evaluate proposals of new sites (that differ from the approved application) and make a recommendation to the NIAMS as to whether the enrollment at the site(s) is expected to enhance overall enrollment. Activities include evaluating the patient population pool, catchment area description, recruitment plan and target enrollment for any new clinical sites.

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- Consider the impact of factors external to the [study/trial] when new information, such as scientific or therapeutic developments, becomes available and may affect safety of participants, their willingness to participate in the [study/trial] or the ethics and conduct of the [study/trial].
- Review unanticipated problems, serious and non-serious adverse event reports and documentation and make recommendations to the NIAMS regarding protection of the [study/trial] participants.
- Assist the NIAMS by commenting on any problems with study conduct or performance.
- Ensure that the plan for maintaining the confidentiality of the [study/trial] data and the results by the investigative team is appropriate.
- Review and evaluate requests for protocol modifications.
- [Review data after completion of each cohort to approve dose escalation.]
- Review in advance of the [study/trial] initiation the [study/trial] specific stopping rules and plans for interim analyses as established by the PI and selected members of the study team. These plans outline the conditions under which a [study/trial] may be stopped (e.g., difficulties in recruitment, retention, obtaining outcome measures or other issues).
- Review the interim analyses and/or accumulating data at the specified interval(s), and as appropriate and make a recommendation to continue, terminate or modify the [study/trial] based on observed benefit or harm in accordance with the planned stopping rules.

The NIAMS may discharge one or all of the DSMB members from their duties when:

- a) “[STUDY/TRIAL NAME]” is complete;
- b) a member is not able to fulfill the DSMB responsibilities as outlined in the Charter;
- c) the NIAMS no longer has oversight responsibilities of the [study/trial] and/or;
- d) a member is found to have a Conflict of Interest (COI).

Additionally, a DSMB member may resign at any point during the [study/trial], when:

- a) a member is not able to fulfill the responsibilities, as outlined in the Charter;
- b) a member believes a Conflict of Interest (COI) exists.

## **DSMB MEMBERSHIP**

NIAMS staff have stewardship responsibilities for oversight of the data and safety monitoring of its [studies/trials], and to ensure that a monitoring system is in place and is appropriate for the [study/trial]. Additionally, the Institute is informed of recommendations emanating from monitoring activities. However, NIAMS staff are not, even in an informal capacity, considered DSMB “members” and does not have voting privileges. A limited, designated number of NIAMS staff attend the DSMB meetings and may not influence or provide input into the DSMB recommendations. The NIAMS serves as the decisional authority and may accept or reject the DSMB’s recommendations.

The DSMB consists of [NUMBER] members who have been appointed by the NIAMS. [NUMBER] members will constitute a quorum for voting. Membership consists of persons independent of the [study/trial] who have no financial, scientific, or other conflicts of interest with the Principal Investigator (PI) or any Co-Investigators.

The DSMB includes experts in or representatives from the fields of [e.g., Orthopedics, Dermatology, etc.]]:

Individuals with additional expertise may be invited by the NIAMS to participate as non-voting members in the DSMB meeting in certain situations. Non-voting members must also be independent of the [study/trial] and have no financial, scientific, or other conflicts of interest with the PI or any Co-Investigators.

### **DSMB Chairperson**

The DSMB Chairperson is appointed by the NIAMS, and confirmed by DSMB vote at the first meeting. The DSMB members must provide a full consensus vote when electing the DSMB Chairperson. The Chairperson is responsible for overseeing the meetings, working with the NIAMS and/or the Executive Secretary to develop the agenda, and summarizes all DSMB recommendations to Board, NIAMS and Executive Secretary with input from the DSMB in Executive Session. The Chairperson is the primary contact person for the DSMB.

Dr. [NAME] has been appointed as the DSMB Chairperson.

### **DSMB Safety Officer**

The DSMB Safety Officer is appointed by the NIAMS and confirmed by DSMB vote at the first DSMB Meeting. The DSMB must provide a full consensus vote when electing the DSMB Safety Officer. The Safety Officer is the DSMB contact person for expedited reports (e.g., SAEs, protocol violations and unanticipated problems). Expedited reports must be reported to the NIAMS DSMB Safety Officer, Executive Secretary and the NIAMS Program Officer within 48 hours of the study personnel receiving notification of the event. The Safety Officer provides an assessment of the action taken by the investigative team and makes a recommendation to the

NIAMS as to whether further action should be taken (e.g. collection of follow up information or a full DSMB discussion).

While the NIAMS requires expedited reporting of Serious Adverse Events (SAEs) through the Executive Secretary, the Safety Officer and NIAMS do not provide real time assessment of SAEs. It is the responsibility of the Investigator(s) to provide real time assessment and take the necessary, immediate action with regard to participant safety.

Dr. [NAME] has been appointed as the DSMB Safety Officer.

## **EXECUTIVE SECRETARY**

A NIAMS contractor, KAI Research, Inc., serves as the Executive Secretary (ES) and drafts meeting agendas in consultation with the PI, DSMB Chairperson, and the NIAMS Program staff. The agenda is sent to the full DSMB and the PI for input. The ES coordinates the DSMB meetings and telephone conference calls, and provides logistics support and meeting summaries. The ES will transcribe the meeting recommendations and minutes and will distribute them to the NIAMS, the DSMB Chairperson and members. The ES is the primary contact point for DSMB communication with the NIAMS and the PI.

## **CONFLICT OF INTEREST**

Individuals invited to serve on the DSMB as must disclose any potential conflicts of interest, whether real or perceived, to the NIAMS. Conflicts of interest can include, but are not limited to, professional, proprietary, and miscellaneous interests. Any real or potential conflicts that develop during a member's tenure on a DSMB must be disclosed for the NIAMS consideration at the time the potential conflict is realized. In addition, written documentation attesting to an absence of conflict of interest is required annually.

## **Confidentiality**

Each member of the DSMB must sign a statement of confidentiality annually. All materials, discussions and proceedings of the DSMB are completely confidential. Members and other participants in DSMB meetings are expected to maintain confidentiality.

## **BOARD PROCESSES**

Prior to commencement of recruitment, the study team drafts or revises [study/trial] materials (the MOOP, protocol, (DSMP) and report templates, and any other materials required for the DSMB's review). The study team delivers relevant materials to the ES, who facilitates the review process with the NIAMS and the DSMB through email and a secure website.

- Upon completion of the initial review, the DSMB members are to send KAI their comments for consideration by the NIAMS. Accepted comments and recommendations are sent to the PI for review and revision.
- KAI concurrently schedules an introductory teleconference between the PI, DSMB, and the NIAMS. All discussions are confidential.

The first meeting is held either by teleconference or in-person before initiation of the [study/trial] to discuss the materials and whether the [study/trial] is ready to commence, establish guidelines for monitoring and determine the format for future meetings. The NIAMS, PI, and ES prepare the agenda to 1) review the study materials, 2) appoint the DSMB Chairperson and Safety Officer, 3) discuss the plan and timing for safety monitoring 4) make recommendations to initiate the [study/trial] and/or modify the [study/trial] materials and 5) review the charter. During the initial DSMB meeting, a NIAMS representative provides a training session outlining the board process and DSMB procedures for all meeting participants (DSMB members, study staff and NIAMS staff).

Reports for both the open and closed sessions and plans for interim analyses (if applicable) should be established at the initial DSMB meeting, although changes throughout the [study/trial] may be requested by the DSMB. In addition, the DSMB members will vote to recommend commencement of the [study/trial].

Routine meetings of the DSMB are generally held two times a year (or at other intervals determined by the DSMB), in-person or via conference call. Attendance at all meetings, both in-person and by teleconference, is highly critical for all DSMB members. Each DSMB member is specifically selected for his/her expertise and thus the member's consistent participation ensures rigorous monitoring throughout the course of the [study/trial]. To facilitate its role as the decisional authority, NIAMS staff attends all DSMB meetings and meeting sessions (i.e., open, closed, and executive sessions) as an objective observer, not a DSMB member. The NIAMS ES also attends all DSMB meetings and meeting sessions in order to provide logistical support and transcribe meeting summaries. Meetings are to be closed to the public because of participant confidentiality considerations.

All DSMB discussions are confidential. An ad hoc meeting of the DSMB may be called at any time by the Chairperson or by the NIAMS should ethical or patient safety issues arise. The suggestion to convene an ad-hoc meeting should be transmitted to the ES, who will notify the NIAMS and the Chairperson. Depending on the situation, this meeting may include the Chairperson alone, a quorum of the DSMB, or the full DSMB.

Safety data are reviewed regularly by the DSMB. The DSMB decides how frequently it needs to review safety data and the level of details to be provided.

## Meeting Format

DSMB meetings consist of open, closed and executive sessions. Discussion held in all sessions is confidential. All invited meeting participants, including the investigators, institution staff, the NIAMS staff, and the ES, may attend the **open sessions**. All sessions are normally attended by a minimum of [quorum #] voting DSMB members. The PI and the study statistician must be present. The number of NIAMS staff attending DSMB meetings should be minimized and only include experienced and trained Program Officials, Medical Officers, and Clinical Coordination staff. Other NIAMS staff may be invited to attend only when appropriate. Open session discussion focuses on the conduct and progress of the [study/trial], including patient accrual, protocol compliance, and problems encountered. **Unmasked data are not presented in the open session.**

The **closed session** is normally attended by the DSMB members, the NIAMS staff, the ES, and the unmasked study statistician or unmasked study team designee. **If necessary, all unmasked safety data and efficacy data by treatment group may be presented during the closed session.** The DSMB determines in advance in what format it wishes to see the data during the closed session. The discussion during the closed session is completely confidential, and thus attendance is limited to the particular members listed in this section, based on their safety monitoring and oversight roles and responsibilities.

The **executive session** will be held after the closed session to identify and discuss the DSMB's recommendations to the NIAMS. It is attended by DSMB members, the NIAMS staff and the ES.

If necessary, a second **open session** to clarify any questions that arise from the DSMB may be held with the study staff. A second **closed or executive session** may also be held, if needed.

Ad-hoc meetings may be held at any time should ethical or safety issues arise. The suggestion to convene an ad-hoc meeting should be transmitted to the ES, who will notify the NIAMS and the Chairperson.

Each meeting, whether routine or ad-hoc, must include a recommendation made by a formal DSMB majority or unanimous vote in the Executive Session to initiate, continue, place on hold or to terminate the [study/trial]. The decision is ultimately made by the NIAMS, taking into consideration the recommendation of the DSMB. The vote may be postponed until further information is acquired. Should the DSMB decide to issue a termination recommendation, the full DSMB must vote. In the event of a mixed vote, majority vote will rule and a minority report will be appended. The NIAMS Institute Director provides the final decision. The ES will transmit the NIAMS's decision to the PI as soon as possible. Specific recommendations will be transmitted in writing at a later date.

## Meeting Materials

DSMB report templates are prepared by the study staff, typically the statistician and/or the data coordinating center in consultation with the [study/trial] PI, to be reviewed by the DSMB members at the first meeting. Additions and modifications to the reports can be requested at any time throughout a [study/trial]. The reports list and summarize safety data, as relevant, and describe the status of the [study/trial]. All meeting materials must be sent to the ES at least two weeks prior to the meeting for distribution to the DSMB. The ES posts the materials on the NIAMS Safety Monitoring website for access by the DSMB members, study staff, and the NIAMS staff. Hard copies of the materials may be sent via express mail to DSMB members at their request. Materials are divided into two parts if requested: Part 1 contains open session materials, which may be shared with the study staff and meeting participants and referenced during any session of the meeting; and Part 2 contains closed session materials, which may contain sensitive or unmasked data and should be discussed in closed and executive sessions only.

**Part 1** – Open session materials include administrative reports by [study/trial] site that describe patients screened, enrolled, completed, and discontinued, as well as baseline characteristics of the [study/trial] population. Listings and summaries of adverse events and serious adverse events, along with any other information requested by the DSMB may also be in the open session report, but none of the data should be presented in an unmasked manner.

**Part 2** – Closed session materials may contain safety data in aggregate, by masked treatment group (A/B presentation), by unmasked treatment group, or in other formats as requested by the DSMB. The closed session reports are confidential. Printed copies of the closed reports should be destroyed immediately following the meeting. Hard copies distributed prior to and during an in-person meeting are collected by the study statistician or the ES at the conclusion of the meeting.

It is important that access to outcome data, when necessary, be limited to the study statistician and/or unmasked study team designee and the DSMB to protect the [study/trial] from bias in patient entry and/or evaluation. Any unmasked study personnel should be pre-designated and described in the MOOP.

## Meeting Recommendations

Meeting recommendations are drafted by the ES and are distributed for review by the DSMB Chairperson and the NIAMS within two working days after the meeting. Once the recommendations are accepted by the Chairperson and the NIAMS, the ES sends the recommendations to the full DSMB. Comments from DSMB members are obtained within two working days. The NIAMS carefully considers all DSMB recommendations, and accepts the recommendations at its discretion. The NIAMS is the decisional authority. Once finalized, the recommendations are posted to the NIAMS Safety Monitoring website and circulated to the DSMB and the PI for their review. The PI has 30 calendar days to submit a formal, written

response to the recommendations. If the DSMB and the NIAMS have any further questions or concerns, the ES will notify the PI for further clarification via email. It is the responsibility of the PI to distribute this report to all co-investigators and to assure copies are submitted to all the IRBs associated with the [study/trial]. The response will also be discussed at the following DSMB meeting.

## **Meeting Minutes**

The full meeting minutes are drafted by the ES and distributed for review and approval by the Chairperson and the NIAMS within 5 business days after the meeting. Any recommendations are inserted at the end of the minutes. Once approved by the Chairperson and the NIAMS, the ES sends the minutes to the full DSMB. Comments from DSMB members are generally obtained within 5 working days after the meeting and meeting minutes finalized no later than 45 calendar days after the meeting. Once approved by the DSMB and the NIAMS, the ES posts the approved minutes to the NIAMS Safety Monitoring website and notifies all participants. Each report concludes with a recommendation to continue, place on hold or to terminate the [study/trial]. A formal vote to approve the minutes is held at the next DSMB meeting.

## **Additional Reporting**

### *Monthly Status Reports (pre-enrollment)*

A status update regarding recruitment/enrollment start should be provided to the NIAMS through the ES on a monthly basis until the first participant is enrolled.

### *Monthly Status Reports (during active enrollment)*

All clinical trials must provide monthly enrollment reports by the 5th of each month once the first participant is enrolled into the study. These reports will contain an Actual versus Expected graph and a CONSORT diagram and should be submitted to the NIAMS through the ES. The reports will be shared with the DSMB for their reference.

### *Unanticipated Problems*

Unanticipated problems are 1) unexpected events that are 2) related or possibly related to participation in the research that 3) place subjects or others at greater risk of harm than was previously known or recognized. All three criteria above must be met to qualify the event as an unanticipated problem. The Office for Human Research Protections (OHRP), the Department of Health and Human Services (HHS), provides a complete definition and the following guidance for reporting unanticipated problems to the Institutional Review Board(s) (IRBs): *Guidance on Reviewing and Reporting Unanticipated Problems Involving Risks to Subjects or Others and Adverse Events.* (<http://www.hhs.gov/ohrp/policy/advevntguid.html>). Unanticipated problems must be reported to the NIAMS within 48 hours of the PI receiving notification of the event. The DSMB SO reviews the unanticipated problems to determine if further action is required.



### *Serious Adverse Events*

All Serious Adverse Events (SAEs) (regardless of expectedness, relatedness, or if they meet the definition for unanticipated problems) must be reported to the DSMB SO, and the NIAMS through KAI within 48 hours of the PI receiving notification of the event. The report will include a description of the event, as well as the Investigator's assessment of expectedness, relatedness and other information, as relevant. Any action taken by the investigative team should be provided in the report. The DSMB SO will be provided with this information but will provide an independent assessment on attribution and expectedness, as well as whether further action is recommended (e.g. collection of follow up information).

### *Discrepancies with Assessments Concerning Unanticipated Problems*

On occasion, there may be disagreements between the investigator and the DSMB regarding the assessment and/ or management of an event that qualifies as an unanticipated problem. The following excerpt gives guidance for cases where there is a difference of opinion among the DSMB (referred to as the "monitoring entity" in the excerpt below) and the investigator <http://www.hhs.gov/ohrp/policy/advevntguid.html>.

*If the investigator determines that an adverse event is not an unanticipated problem, but the monitoring entity subsequently determines that the adverse event does in fact represent an unanticipated problem (for example, due to an unexpectedly higher frequency of the event), the monitoring entity should report this determination to the investigator, and such reports must be promptly submitted by the investigator to the IRB (45 CFR 46.103(b)(5)).*

*Please note: The DSMB and the Investigator may have iterative discussions regarding the assessment and may later come to agreement regarding the assessment and/or management of an AE. In cases where the DSMB and Investigator come to an agreement after discussions and the event is determined not to be an unanticipated problem, the Investigator is not required to report the event as an unanticipated problem to the IRB. Such discussions should take place promptly so as not to delay appropriate reporting to the IRB.*

*Please also note that additional reporting requirements [e.g., to the Food and Drug Administration (FDA) and the IRB] are not part of the NIAMS DSMB process and are the PI's responsibility.*

### *Protocol Deviation/Violations*

Protocol deviations/violations that impact participant safety should be reported to the NIAMS and the SO (through the ES) within 48 hours of the PI becoming aware of the event. Protocol deviations/violations that occur but do not affect participant safety are submitted with the routine DSMB meeting report. The Investigator must also adhere to the Institution's policy on reporting protocol deviations/violations to the IRB.

Please note: Additional reporting may be required if the violation meets the definition of an unanticipated problem as described in the OHRP, HHS guidance (<http://www.hhs.gov/ohrp/policy/advevtguid.html>).

### *Protocol Amendments*

Requests for protocol amendment approvals may be submitted by the PI for review by the NIAMS and the DSMB between regularly scheduled meetings. Approvals may be conducted via email correspondence, deferred until the next regularly scheduled meeting, or a call may be scheduled if immediate discussion is warranted. The PI is notified by the ES of the approved changes. IRB review of protocol amendments are separate from this process and are the PI's responsibility.

### **Communication with the DSMB**

To maintain the independent nature of the DSMB, the PI and study staff should only communicate DSMB-related requests, questions or concerns through the NIAMS or the ES. The DSMB members should only communicate with the PI through the ES and the NIAMS.

### **Release of [Study/Trial] Data**

Publications and abstracts containing primary [study/trial] results are the responsibility of the investigator(s), and prior review or approval by NIAMS or the DSMB is not required. However, the perspective of the DSMB and NIAMS staff can add value to such publications/abstracts, and their comments may be useful to the investigator(s). Therefore, the PI is encouraged to provide the NIAMS with a copy of all abstracts or manuscripts reporting primary [study/trial] results well in advance of submission to a journal or scientific meeting. The NIAMS will distribute the manuscript/abstract to the DSMB members and collect and provide their comments to the PI. The PI may then consider changes to the abstract or manuscript based on comments received from NIAMS.

### **NIAMS DSMB Ombudsman**

Any concerns related to the NIAMS staff attendance or participation in DSMB meetings may be directed to the NIAMS Deputy Director.