
2013 Decompression Sickness Risk Standing Review Panel Status Review

Statement of Task for:
The Risk of Decompression Sickness

Comments to the Human Research Program, Chief Scientist

2013 Decompression Sickness (DCS) Risk Standing Review Panel (SRP) Status Review
WebEx/teleconference Participants:

SRP Members:

Captain Richard Mahon, M.D. – Naval Medical Research Center (retired)
Stephen McGuire, M.D. – United States Air Force School of Aerospace Medicine
Captain David Regis, M.D. – Naval Medical Research Center

National Space Biomedical Research Institute (NSBRI):

Jeff Chancellor, Ph.D.
Graham Scott, Ph.D.

NASA Johnson Space Center (JSC):

Johnny Conkin, Ph.D.
Ronita Cromwell, Ph.D.
Jason Norcross
Peter Norsk, M.D.
Michele Perchonok, Ph.D.
LaRona Smith, MSN, RN
Susan Steinberg, Ph.D.
Jim Wessel

NASA Headquarters (HQ):

Victor Schneider, M.D.

NASA Research and Education Support Services (NRESS):

Tiffin Ross-Shepard

On December 10, 2013, the DCS Risk SRP, participants from the JSC, HQ, NSBRI, and NRESS participated in a WebEx/teleconference. The purpose of the call (as stated in the Statement of Task) was to allow the SRP members to:

1. Receive an update by the HRP Chief Scientist or Deputy Chief Scientist on the status of NASA's current and future exploration plans and the impact these will have on the HRP.
 2. Receive an update on any changes within the HRP since the 2012 SRP meeting.
 3. Receive an update by the Element or Project Scientist(s) on progress since the 2012 SRP meeting.
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4. Participate in a discussion with the HRP Chief Scientist, Deputy Chief Scientist, and the Element regarding possible topics to be addressed at the next SRP meeting.

Based on the presentations and the discussion during the WebEx/teleconference, the SRP would like to relay the following information to Dr. Shelhamer, the HRP Chief Scientist.

The SRP thought that the presentations were very informative and well done. The SRP was very impressed with the organization of the research plan and it appears to be very well thought out, even considering the uncertainty of future missions beyond Low Earth Orbit.

Progress has been made both as evidenced by publications in peer-reviewed literature, as well as technical reports and updates to the research plan.

The SRP was impressed with many aspects of the research plan, particularly progress in the nucleation mechanisms research. The SRP believes that this study is a very translational project that can help explore basic mechanisms of DCS. The SRP thinks this project is a model for how translational research should be pursued.

The SRP thinks that the modeling work in DCS therapy in space should also be commended. By leveraging existing data, some ideas about DCS resolution and residual symptom likelihood can be gathered. This will be valuable in planning, especially for those with residual symptoms.

The SRP hopes that the concern for "long-term" health effects has traction and that the DCS discipline can formalize a tracking mechanism for that possibility. The SRP thinks the DCS group should start adding long-term health monitoring into studies and consider looking at the current experience/research in U2 pilots (a possible link between altitude exposure and brain lesions in U2 pilots).