Poster: **Operational and Medical Procedures for a declared Contingency Shuttle Crew Support (CSCS) Shuttle mission due to a failure that precludes a safe return.**

Draft Abstract

Title: NASA Contingency Shuttle Crew Support (CSCS) Medical Operations

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Introduction: The genesis of the space shuttle began in the 1930's when Eugene Sanger came up with the idea of a recyclable rocket plane that could carry a crew of people. The very first Shuttle to enter space was the Shuttle "Columbia" which launched on April 12 of 1981. Not only was "Columbia" the first Shuttle to be launched, but was also the first to utilize solid fuel rockets for U.S. manned flight. The primary objectives given to "Columbia" were to check out the overall Shuttle system, accomplish a safe ascent into orbit, and to return back to earth for a safe landing. Subsequent to its first flight Columbia flew 27 more missions but on February 1st, 2003 after a highly successful 16 day mission, the Columbia, STS-107 mission, ended in tragedy. With all Shuttle flight successes come failures such as the fatal in-flight accident of STS 107.

As a result of the STS 107 accident, and other close-calls, the NASA Space Shuttle Program developed contingency procedures for a rescue mission by another Shuttle if an on-orbit repair was not possible. A rescue mission would be considered for a situation where a Shuttle and the crew were not in immediate danger, but, was unable to return to Earth or land safely. For Shuttle missions to the International Space Station (ISS), plans were developed so the Shuttle crew would remain on board ISS for an extended period of time until rescued by a "rescue" Shuttle. The damaged Shuttle would subsequently be de-orbited unmanned. During the period when the ISS Crew and Shuttle crew are on board simultaneously multiple issues would need to be worked including, but not limited to: crew diet, exercise, psychological support, workload, and ground contingency support.

This poster will address the NASA procedures for a rescue flight, Space Medicine medical contingency objectives, and potential issues that could arise subsequent to a rescue flight.

Educational Objectives: To provide a visual overview to understand the planned operational and medical support actions in the event a Contingency Shuttle Crew Support (CSCS) has been declared due to a failure that precludes a safe return.