# **MESA Radiation Exposure Policy**

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**MESA CT Committee Recommendation and Policy Statement**

The MESA CT Committee recommends the **maximum cumulative MESA specific exposure to be 2.0 milliSieverts/year of participation in MESA**. This would account for the longitudinal nature of the study,

and the background radiation (2.5-3.0 mSev per year). Thus, for any participant, the maximum would

be a rolling exposure limit (2.0 mSv/year \* number of years in MESA). This does not prohibit proposals with a greater than 2 mSv exposure in any single year, but rather total cumulative exposure would increase by 2 mSv each year of MESA participation.

This is more conservative than guidelines previously published regarding radiation safety limits including

BIER VII1 (<100 mSev lifetime exposure) or annual doses for radiation workers (<50 mSev/year).

Further, **anyone within the lesser of the following two limits of the current total exposure would be excluded** from studies exposing them to significant radiation, thus avoiding anyone exceeding our limits

set for the study.

* **Within twice the median anticipated exposure for the procedures of current total exposure threshold**
* **Within 10 mSv of current total exposure threshold**

**Non-MESA radiation exposure sources**

**It was felt to be implausible to measure non-MESA radiation exposure (such as mammography, chest xrays, nuclear imaging or CT scans)**, however consent language could be developed to warn patients that had recent significant exposure (recent CT scan or nuclear test), to consider that when consenting for a study that will expose them to further ionizing radiation.

**Ancillary Study Proposals that involve radiation exposure to participants**

Ancillary Study Investigators who are contemplating procedures that would expose MESA participants to radiation must:

1. Obtain and document estimates of cumulative radiation exposure and exposure thresholds.
2. Submit estimated radiation exposure levels to the MESA Radiation Safety Committee for review/assessment of the accuracy of the proposed exposure.
3. Justify the dose, the scientific merit, the exact population studied, and steps taken to minimize the number of participants. This is especially important for any proposal involving >5 mSv of exposure, as this represents at least double the background annual radiation exposure for that participant.