

**Table S2.** Predicted BMD loss in the femoral neck of crewmembers of different ages and ethnicities in an opposition-class mission to Mars with a total duration of 600 days.

|                       | Male               |               |                    |               |                  |               | Female             |               |                    |               |                  |               |
|-----------------------|--------------------|---------------|--------------------|---------------|------------------|---------------|--------------------|---------------|--------------------|---------------|------------------|---------------|
| Astronauts age (year) | Non-Hispanic white |               | Non-Hispanic black |               | Mexican American |               | Non-Hispanic white |               | Non-Hispanic black |               | Mexican American |               |
|                       | Before mission     | After mission | Before mission     | After mission | Before mission   | After mission | Before mission     | After mission | Before mission     | After mission | Before mission   | After mission |
| 30-39                 | 0.887±0.134        | 0.692         | 1.005±0.158        | 0.784         | 0.922±0.127      | 0.719         | 0.825±0.120        | 0.643         | 0.913±0.130        | 0.712         | 0.867±0.125      | 0.676         |
| 40-49                 | 0.839±0.124        | 0.654         | 0.935±0.145        | 0.729         | 0.870±0.121      | 0.679         | 0.791±0.125        | 0.617         | 0.915±0.153        | 0.714         | 0.848±0.127      | 0.661         |