

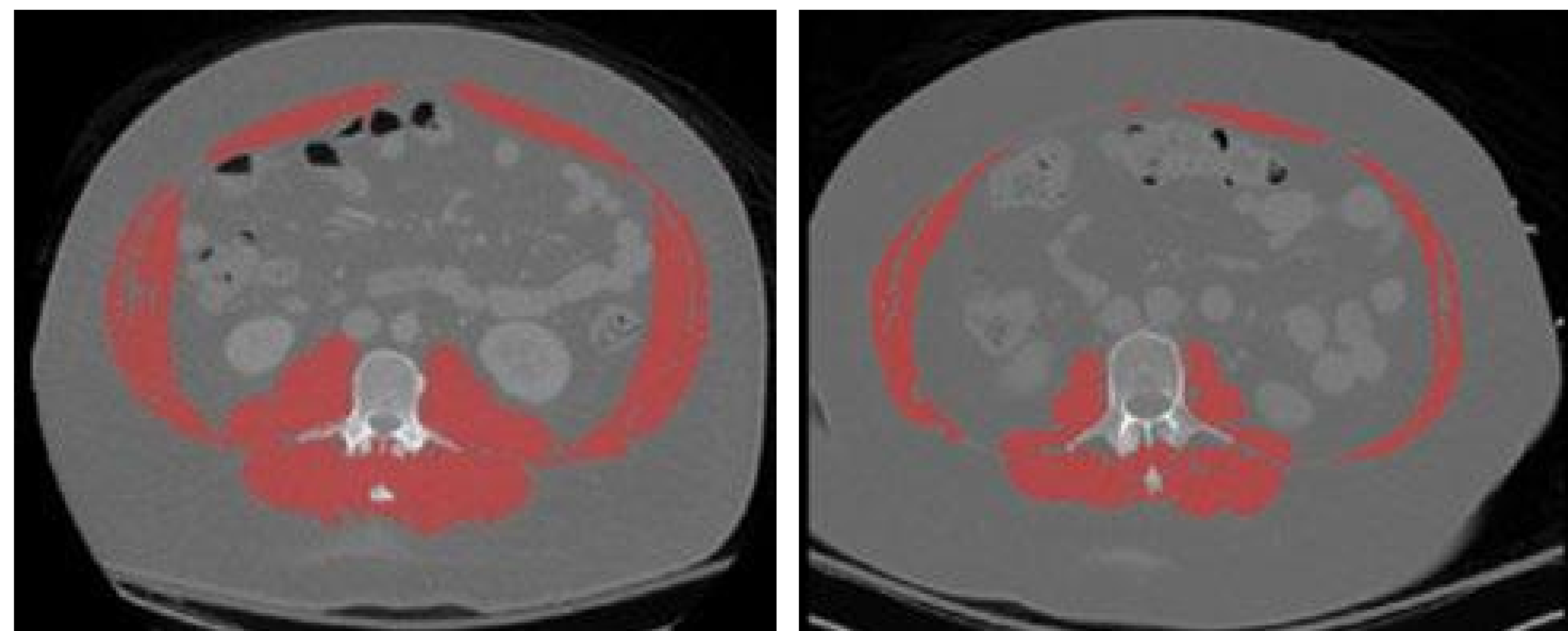
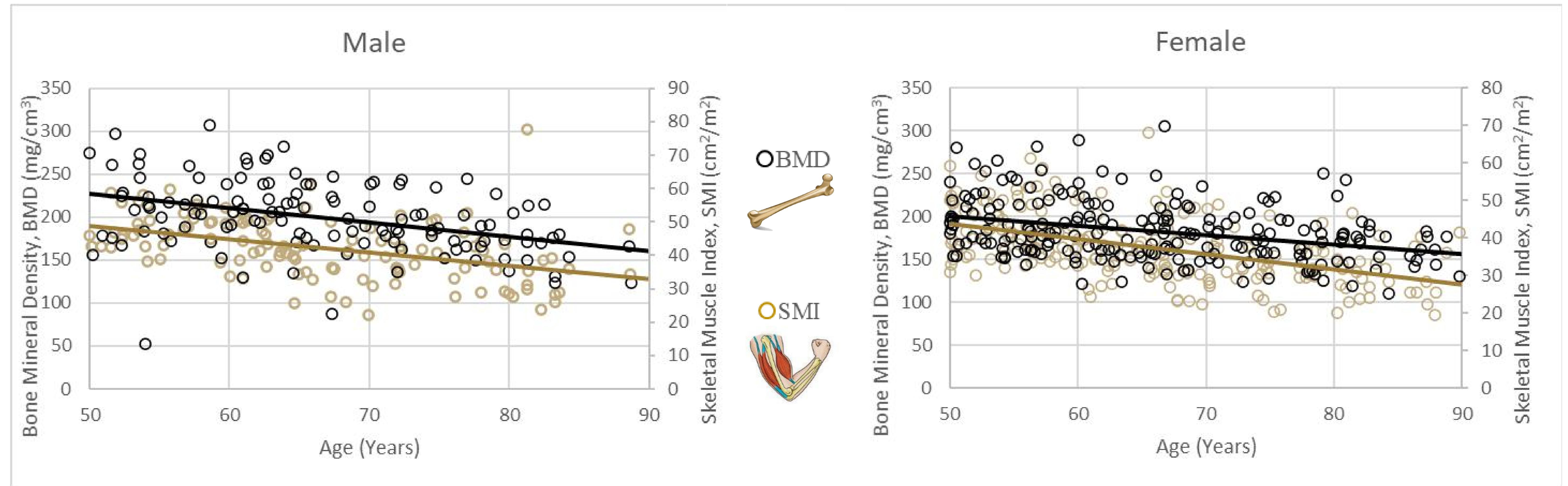
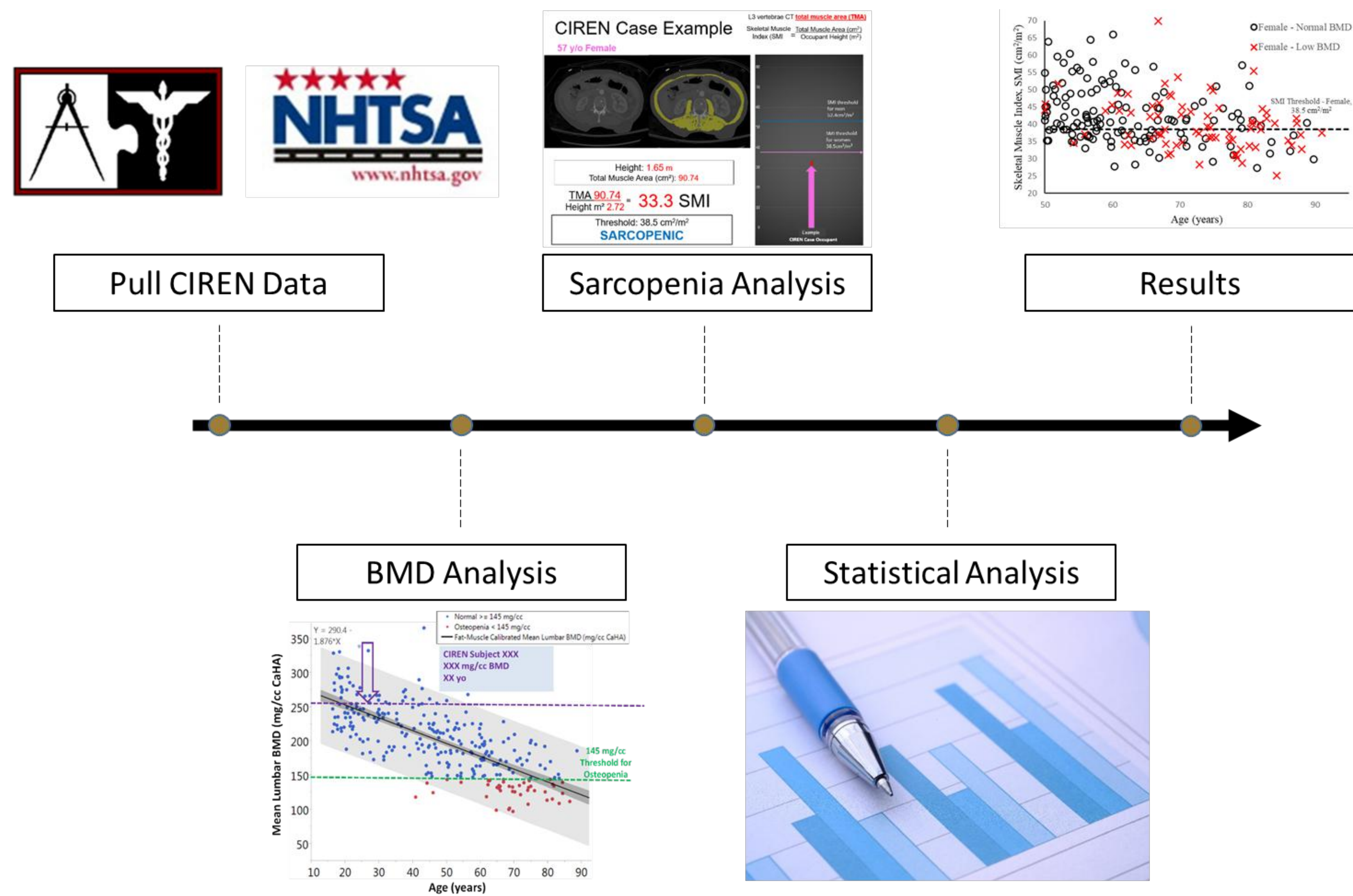
# Muscle Quantity and Bone Mineral Density Effects on Injury and Outcomes in Female versus Male Older Adult Motor Vehicle Crash Occupants



William Armstrong<sup>1</sup>, Casey Costa<sup>1</sup>, Luis Poveda<sup>1</sup>, Anna N. Miller<sup>2</sup>, Alexander Ambrosini<sup>1</sup>, Fang-Chi Hsu<sup>3</sup>, Bahram Kiani<sup>4</sup>, R. Shayn Martin<sup>4</sup>, Joel D. Stitzel<sup>1</sup>, Ashley A. Weaver<sup>1</sup>

<sup>1</sup> Department of Biomedical Engineering, Wake Forest School of Medicine; <sup>2</sup> Department of Orthopedic Surgery, Washington University School of Medicine;

<sup>3</sup> Department of Biostatistics and Data Science, Wake Forest School of Medicine; <sup>4</sup> Department of Radiology, Wake Forest School of Medicine; <sup>5</sup> Department of Surgery, Wake Forest School of Medicine



Healthy muscle mass vs. Low muscle mass

Male	Female
↑ Head/ Face Injuries	
↑ Gastrointestinal- complications	↑ Pelvis and/or lower extremity injuries
↑ Severe ISS	
↑ Infection	↑ Osteopenia
↑ ICU	

## Conclusions

- Significant results allow for both injury and outcome predictions between sexes.
- CT scans can be used opportunistically to screen musculoskeletal health of trauma patients & ultimately enhance rehabilitation.