Background
Obesity prevalence is high in persons with spinal cord injury (SCI). SCI-related changes in body composition (i.e., muscle atrophy, increase in fat mass, decrease in bone density, etc.) provide evidence to reduce body mass index (BMI) values that classify obesity for those at risk of obesity-related secondary health conditions. Clinicians may find it advantageous to examine BMI trajectories to better understand patient’s obesity risk.

Objective
Using the traditional and SCI-adjusted BMI classification systems, we determined obesity prevalence each year, and obesity trajectories two years pre-SCI through two years post-SCI.

Method
Retrospective clinical record review using “Advanced Text Explorer”

Results
The traditional BMI classification system shows one third of participants were obese pre-SCI. The shift from traditional to SCI-adjusted BMI classification system shows obesity prevalence post-SCI increasing two-fold for motor complete injuries, and three-fold for motor incomplete injuries, and increasing two-fold for tetraplegic injuries, and three-fold for paraplegic injuries. Overall, BMI values decreased slightly over the span of one year pre-SCI through two years post-SCI for all groups.

Conclusions
Following SCI, obesity prevalence increased to encompass nearly all participants two years after injury. The shift to SCI-adjusted BMI classification system may better identify obese individuals, but the numerical shift by the SCI adjusted BMI classification system dictates the high obesity prevalence in our participants.

Limitations
Our sample size was small for the analyses. Our sample distribution favored tetraplegic, motor complete injuries. Our analyses did not account for age or sex, which could be factors in sustained obesity after SCI.

Final Thoughts
Trajectory analysis could be applied throughout the first year following SCI onset to predict patients who are at higher risk of developing obesity or determine worsening BMI for those already classified as obese.

References

All data presented is currently under review in the Journal of Spinal Cord Medicine.