Introduction:
Previous literature has suggested low Psoas Lumbar Vertebral Index (PLVI) scores are associated with worse morbidity following major trauma, possibly related to admission frailty[1].

Methods:
Retrospectively analysis of Derriford Hospital’s Major Trauma Network Database from April 2014- April 2016 was performed. Inclusion criteria were patients aged 65 and over with an injury severity score (ISS) >=9 who had an admission pan CT trauma series. All data was collected prospectively and included initial Glasgow Coma Score (GCS), mechanism of injury, and a comprehensive list of injuries. Robust follow up included Intensive Care Unit (ICU) Length of Stay (LOS), Hospital LOS, 30 Day Mortality, and Glasgow Outcome Score (GOS) on discharge from hospital. PLVI was calculated as the mean psoas area at level of L4 pedicles indexed to the vertebral body area on the presentation trauma CT.

Results:
302 patients met the inclusion criteria. Dichotomizing PLVI into a high (n=143) and low values (n=159) either side of the mean did not demonstrate that PLVI is an independent predictor of a bad outcome: Death at 30 days (OR 1.061 0.982-1.146 p 0.133), GOS 1/2/3 on discharge from acute hospital (OR 0.996 (0.895-1.108) p=0.939).

Conclusion:
Other factors are significant for worse prognosis on multivariate analysis: age, severity of injury and reduced GCS. More work is needed to identify sensitive and specific indicators of a poor outcome in elderly trauma patients to prevent inappropriate escalation of treatment and suffering.

References: