

# Consistency between AP Spine and Hip T-score assessments in a clinical population

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## Introduction

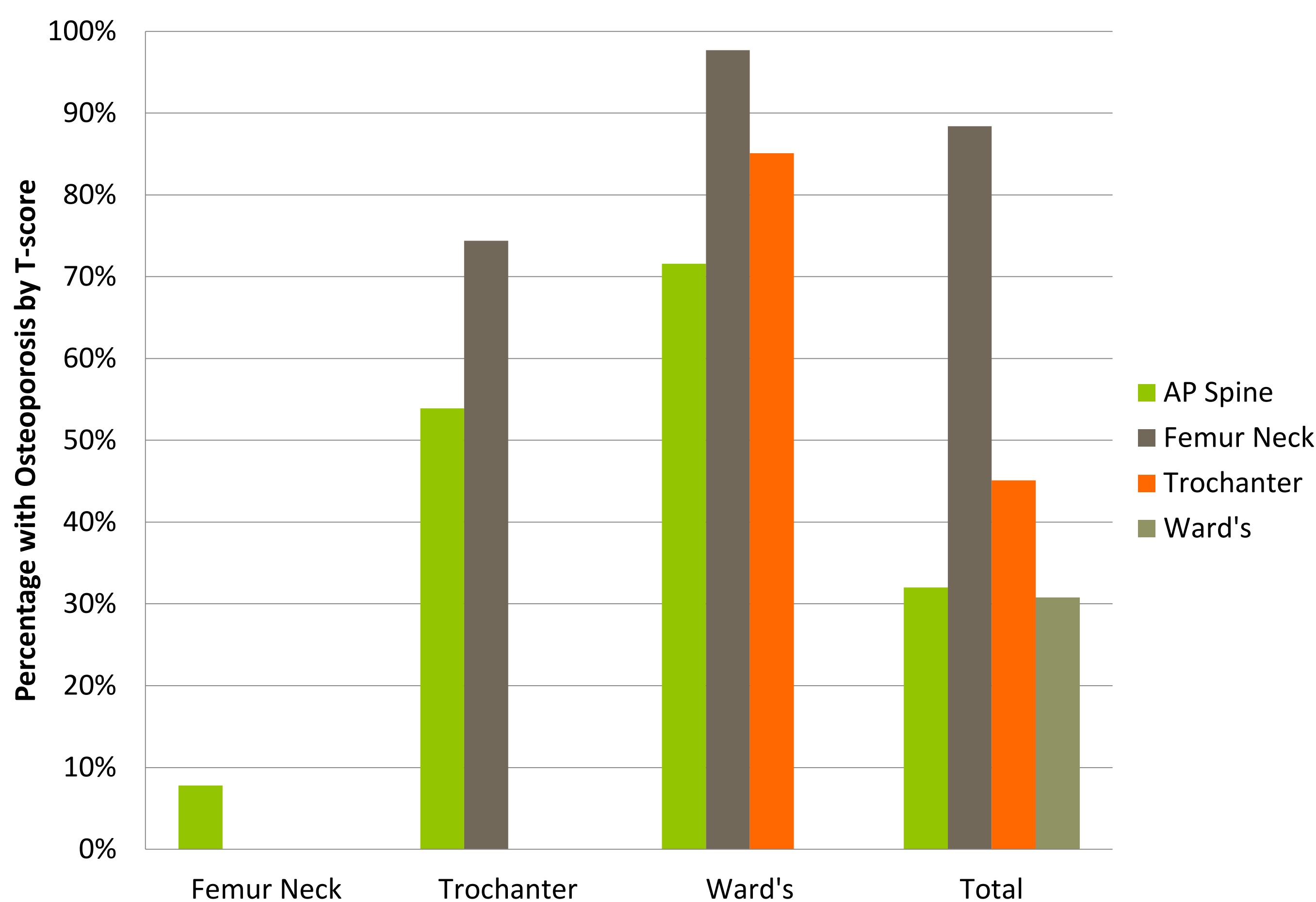
Densitometrist routinely find inconsistent T-score assessments when studies are completed on AP Spine and Hip regions. This study investigated T-score assessments of AP Spine and Hip studies in a clinical population to assess expectations and tendencies in regional T-score values..

## Methods

T-score assessments in AP Spine (L2-L4) and Hip (FN, Troc, Wards and Total) were obtained from 1,163 clinical subjects between 21 and 88 years of age using a Norland XR-800. All studies were audited to confirm good methodology. The frequency with which one region identified t-score determined osteoporosis or osteopenia in another region was computed for the various regions.

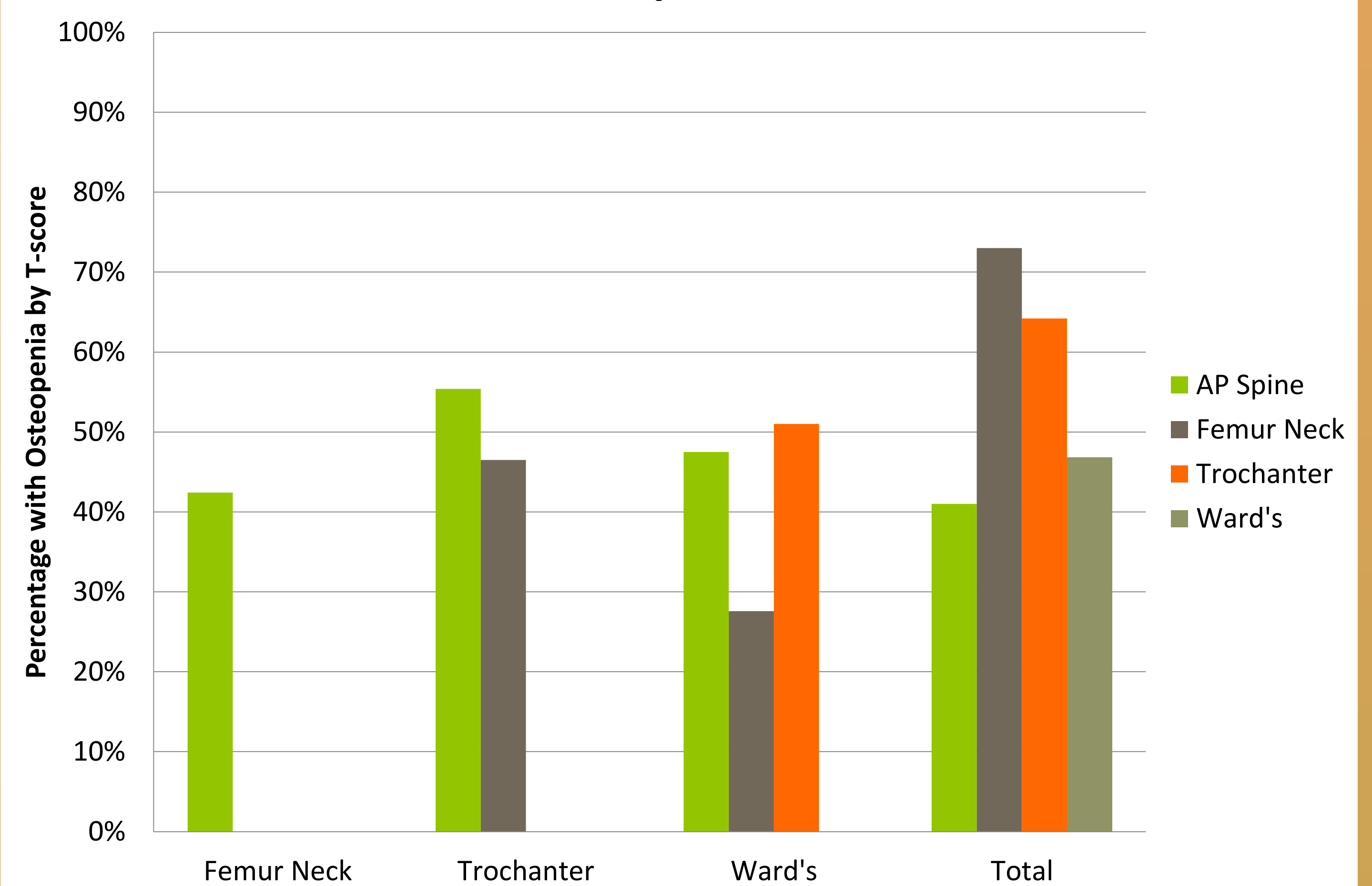
## Results

Subjects with Osteoporosis by T-score at one site that show Osteoporosis at other site.



In general, Osteoporosis by T-score at one site of the AP Spine or Hip Regional result is a poor reflector of Osteoporosis at most other sites. Interestingly, the most consistent reflector of Osteoporosis at all sites was a finding of Osteoporosis at the Ward's Region.

Subjects with Osteopenia by T-score at one site that show Osteopenia at other site.



In general, Osteopenia by T-score at one site of the AP Spine or Hip Regional results showed Osteopenia at the other site less than half the time. A determination of Osteopenia at one site is a poor indicator of Osteopenia at other sites.

## Conclusion

Our studies document inconsistent results in AP Spine and Hip Regional T-score results. The most consistent finding was that an osteoporosis at the Spine, Femur Neck or Trochanter was likely to be accompanied with low results in the Wards region. Inconsistent results can be expected given differences in mechanical forces and the trabecular and cortical contents of these sites. In conclusion, AP Spine and Hip assessments can be expected to reveal different results. We therefore suggest attention be paid to the spine and the individual hip regions.