Inter-examiner reliability in analysis of orthogonal radiographs


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BACKGROUND

An assessment for making important clinical decisions requires due diligence in investigation in reliability of its use. Little evidence appears in the indexed literature positively reporting examiner reliability of the orthogonal radiographic analysis.

The objective was determining inter-examiner reliability between two NUCCA-Board Certified practitioners analyzing orthogonal films.

METHODS

An assessment for making important clinical decisions requires due diligence in investigation in reliability of its use. Little evidence appears in the indexed literature positively reporting examiner reliability of the orthogonal radiographic analysis.

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DISCUSSION

- Demonstrated reliability does not indicate any clinical relevance or validity
- Convenience sample of radiographs may create possible bias in overestimating ICCs
- Excellent inter-examiner reliability was found between two NUCCA-Board Certified practitioners analyzing orthogonal films.

NASIUM – Atlas Laterality

- Percent agreement on side of atlas laterality = 96.1% (244/254)
- ICC for atlas laterality = 0.996
  - 95% CI (0.881, 0.926)
  - (agreement model)(n=254)
- 14 (5.9%) paired observations outside 95%-agreement limits for laterality

VERTEX – Atlas Rotation

- Percent agreement on side of atlas rotation = 94.5% (240/254)
- ICC for atlas rotation = 0.850
  - 95%CI (0.812, 0.881)
  - (agreement model)(n=254)
- 15 (6.2%) paired observations outside 95%-agreement limits for rotation

REFERENCES


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