A Novel Screening Technique for Carpometacarpal Dislocations

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Objectives
- Carpometacarpal (CMC) joint dislocations are uncommon
- More than half are missed on initial exam
- Multiple radiographic techniques available, but user- and radiograph-dependent
- Hypothesis: Angle between capitate & metacarpal can be reliable to diagnose CMC dislocations

Methods
- Retrospective review of radiographs and CT scans, 2003-2013
  - Study group: Patients who had operative treatment for CMC dislocations
  - Control: Patients with CT and radiographs without bony carpal pathology
- 2D analysis: Bony contours of capitate & 4th/5th metacarpals from x-rays were generated; capitate-MC angle established
- 3D analysis: 3D model from CT DICOM data representing the ‘true lateral’ was compared to 2D measurements

Conclusions
- Angle between the capitate & metacarpals (lateral view) is a reliable screening tool for CMC dislocations

Results

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<th>Capitate-5th Metacarpal Angle</th>
<th>Capitate-4th Metacarpal Angle</th>
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<tr>
<td></td>
<td>2D mean angle</td>
<td>Standard deviation</td>
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<td>Control</td>
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