An Investigation of the Agreement Between Three-dimensional and Two-dimensional Measurements of Frontal Plane Knee Angles

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\[ y = mx + c \]
Bland and Altman (1983) *Lancet*

Difference between 2 measures

Average of 2 measures

Mean

-95%

+95%
<table>
<thead>
<tr>
<th>Landing Type</th>
<th>Spearman’s Rank Correlation</th>
<th>Mean Difference of Two Measures</th>
<th>Upper limit (+95%)</th>
<th>Lower Limit (-95%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-footed</td>
<td>0.632*</td>
<td>1.71</td>
<td>21.05</td>
<td>-18.17</td>
</tr>
<tr>
<td>1-footed</td>
<td>0.654*</td>
<td>5</td>
<td>21.81</td>
<td>-11.81</td>
</tr>
<tr>
<td>Run-on</td>
<td>0.467*</td>
<td>4.8</td>
<td>17.66</td>
<td>-8.06</td>
</tr>
</tbody>
</table>
Conclusions / Implications

- 2D and 3D measures correlate but do not give specific agreement
- Dynamic valgus includes abduction, flexion and rotation
- Difficult to locate joint centre/axis of rotation with 2D analysis
- 2D still useful as a screening tool


