Superficial peroneal nerve (ISPN) is at risk during all inside arthroscopic Brostrom procedures.

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Conflicting Interests

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• My disclosure is in the Final AOFAS Mobile App.

• I have no potential conflicts with this presentation
Purpose

• anatomic relation of intermediate superficial peroneal nerve (ISPN) and sural nerve at the level of inferior extensor retinaculum (IER) by cadaveric dissection.
Methods

• Man  4, Female 2
• 11  cadaveric dissections
• Foot size 230(225 -250)
• standard anterolateral portal to several local anatomic structures were measured by an electronic digital caliper
• represented  3D images
Methods

• Distance between nerve and standard point were measured by electronic digital caliper then represented three dimensional images.
Methods

- Kirschner wire (K-wire) with an electric drill to mark crossing point. We fixed a K-wire directly anteriorly to posteriorly as x axis. The y-axis laterally to medially, the z-axis run superiorly to inferiorly. The IER located the x-axis under the vertical right angle. The proximal point over IER, we marked the A1 on the IER and the distal as A2 on the IER respectively. A1, A2 data give us the distance of Inferior extensor retinaculum from anterolateral portal.
Methods

standarization left foot side. each point distance were measured by electro caliper devices. All measurements were taken to the nearest 0.1 mm and expressed in millimeters The anterolateral portal is O yellow green , The X axis meets the closest point on the IER, A1 and the furthermostl point A2(Purple). The ISPN cross over the IER, the proximal and distal point are designated asD1(Red), and D2. The sural nerve cross over the IER, the Closest point is designated B1,(orange) and the distal point as B2 from O. respectively.
## Results

<table>
<thead>
<tr>
<th>Point-Point</th>
<th>Mean ± SD (mm)</th>
<th>Range (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>O-A1</td>
<td>15.9±11</td>
<td>2.6-42.6</td>
</tr>
<tr>
<td>O-A2</td>
<td>30.1±9.8</td>
<td>16.8-46.4</td>
</tr>
<tr>
<td>O-D1</td>
<td>15.9±4.1</td>
<td>11.3-23.0</td>
</tr>
<tr>
<td>O-D2</td>
<td>30.1±5.5</td>
<td>20.8-37.9</td>
</tr>
<tr>
<td>O-B1</td>
<td>47.6±5.7</td>
<td>37.4-57.2</td>
</tr>
<tr>
<td>O-B2</td>
<td>47.2±4.1</td>
<td>41.0-51.8</td>
</tr>
<tr>
<td>A1-B1</td>
<td>52.1±10.8</td>
<td>40.2-76.5</td>
</tr>
<tr>
<td>B1-B2</td>
<td>28±12.5</td>
<td>11.2-55.9</td>
</tr>
<tr>
<td>A2-B2</td>
<td>41.6±10.6</td>
<td>24.0-58.9</td>
</tr>
<tr>
<td>A1-A2</td>
<td>21.5±10.6</td>
<td>9.8-42.7</td>
</tr>
<tr>
<td>A1-D1</td>
<td>13.2±4.1</td>
<td>0-31.2</td>
</tr>
<tr>
<td>A2-D2</td>
<td>12.3±10.8</td>
<td>0-30.6</td>
</tr>
<tr>
<td>B1-D1</td>
<td>40.3±14</td>
<td>15.6-60.1</td>
</tr>
<tr>
<td>B2-D2</td>
<td>32.1±13.8</td>
<td>17.7-61.4</td>
</tr>
</tbody>
</table>
• O-A1(blue) distance is 15.9 mm This means the portal to inferior extensor retinaculum short distance is 15.9 mm
• O- D1 distance is 15.9 mm This means the portal to short ISPn distance.
• A1(blue) –D1(aqua) distance is 13.2 mm The shortest inferior extensor retinaculum to ISPN distances is 13.2 mm
• This data give us, portal to lateral 13.2 mm and within the range of 15.9 mm obliquely, be careful to avoid the nerve damage
Conclusion

• Short IER distance from anterolateral portal is 15.9 mm (A1), far distance 30.1 mm.

• CHO'I Potential risk lesion of damaging the ISPN from anterolateral portal is 15.9 mm obliquely, laterally 13.2 mm from A1 IER
REFERENCES