



Panoramic Versus Standard Arthroscopes : A cadaveric analysis of field of view

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Disclosure Information



serf*extremity*

Arthrex[®]



 **TROMA**



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Background

- Standard 30° and 70° scopes limit the ankle field of view.
- Small joint anatomy demands enhanced optics.
- The Pano™ scope allows digital switching between 30°, 70°, and ultrawide 45° views.



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Study Objective

To compare the field of view of the new Pano™ scope
vs.

conventional 30° and 70° arthroscopes
in cadaveric ankle arthroscopy.



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Methods Overview

- Fresh cadaveric ankle – no trauma/deformity
- 4 regions analyzed:
 - anterior
 - lateral
 - posterior
 - Achilles
- Each visualized using
 - 30°
 - 70°
 - Pano™ scope



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Methods - Devices (Comparison)

- Pano™ scope allows real-time switching between angles
- Wider field of view (140°)
- Enhanced ergonomics

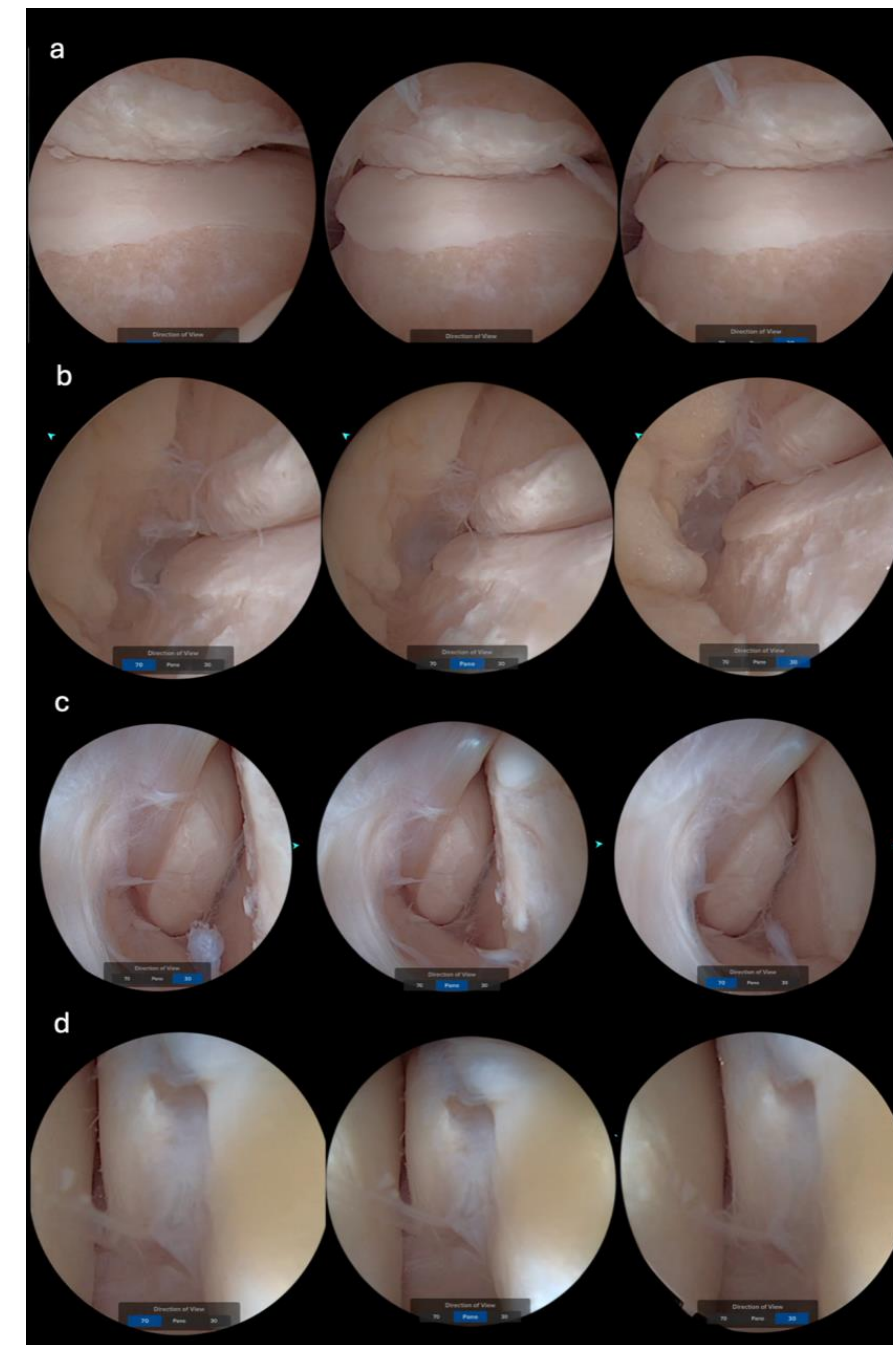
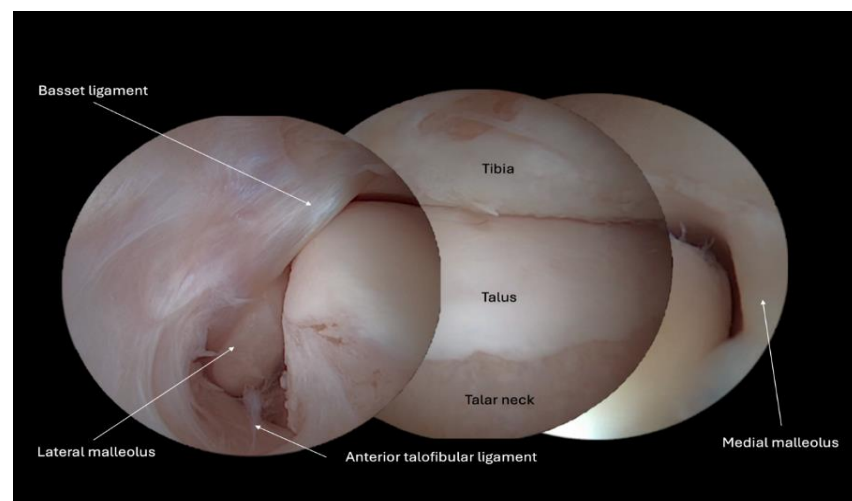
Table 1: Comparative technical characteristics of the arthroscope and Pano™scope

	Arthroscope	Pano™scope
Weight	428 g	423g
Diameter without a cannula	4 mm	4.25 mm
Diameter with a cannula (high flow sheath)	5.93 mm	6.1 mm
Working length	153 mm	161 mm
Total length	223 mm	238 mm
Distal cover glass	Flat	Fisheye (dome window shaped)
Fields of vision	105 degrees	140 degrees
Viewing Angle	30 degrees	45 ultrawide degrees Digital modes : 30 / 70 / 45
Image resolution supported	3840 x 2160 pixel	3840 x 2160 pixel



Results - Anterior Ankle

- All landmarks reached by all scopes.
- Only Pano™ captured tibia, talar neck, both gutters within the same field of view



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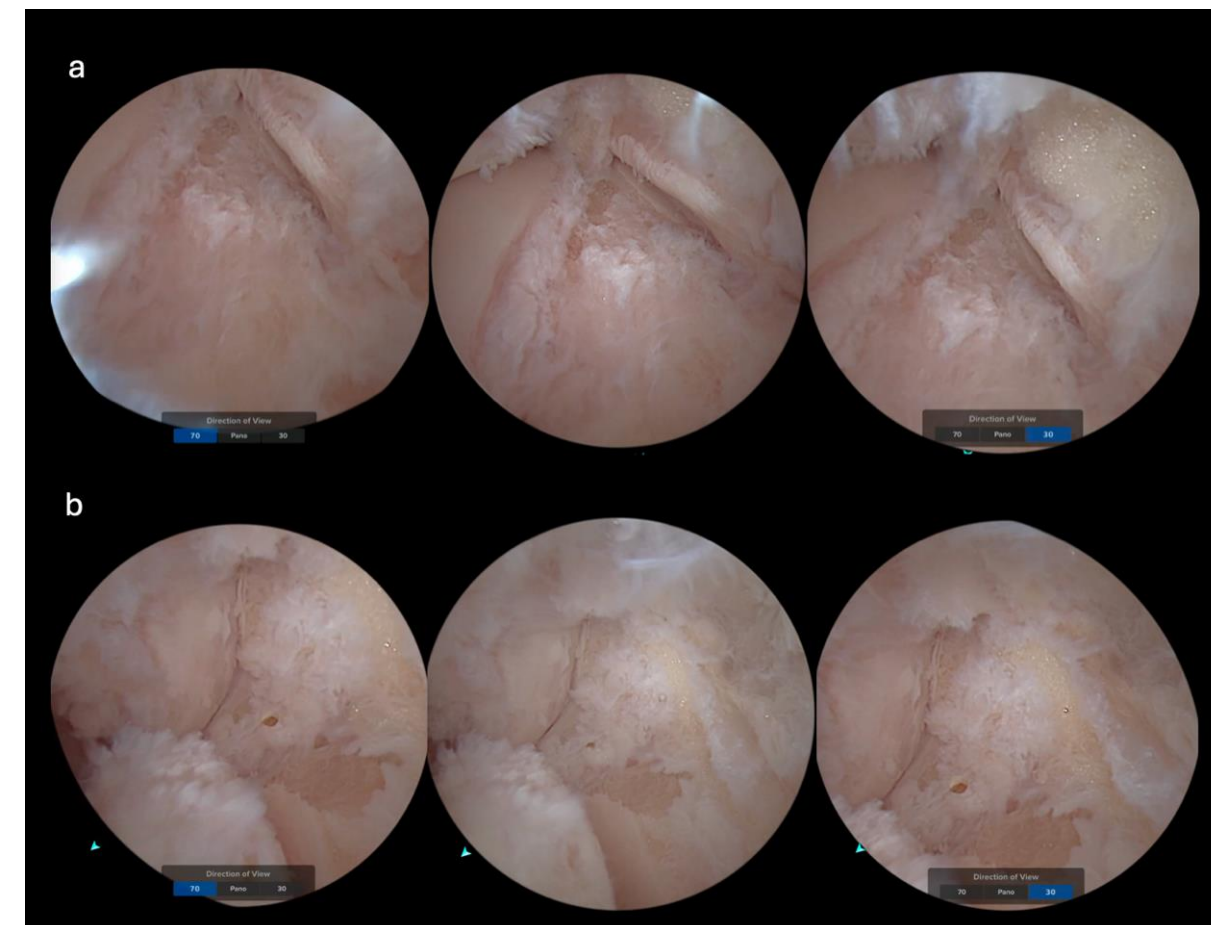
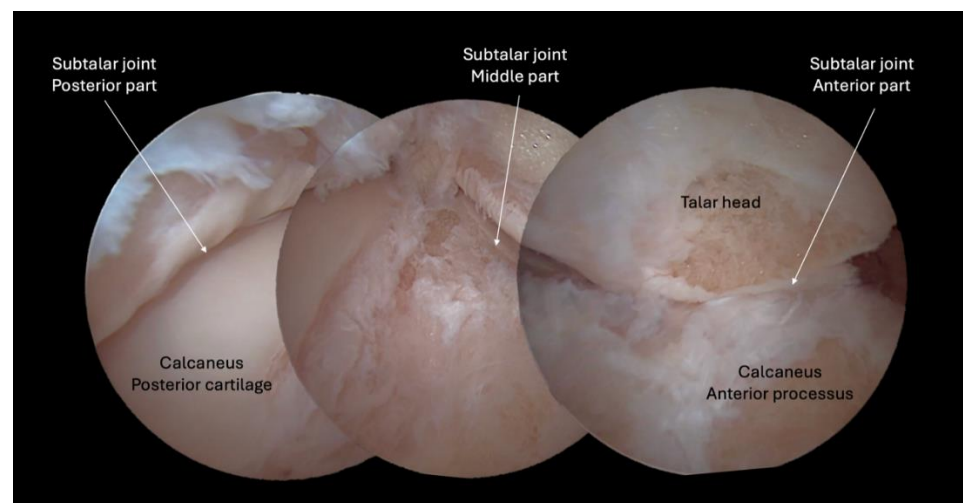
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Results - Lateral Ankle

- Pano™ scope allowed simultaneous visualization of all 4 bones in the subtalar region.
- Improved panoramic imaging from a single portal.



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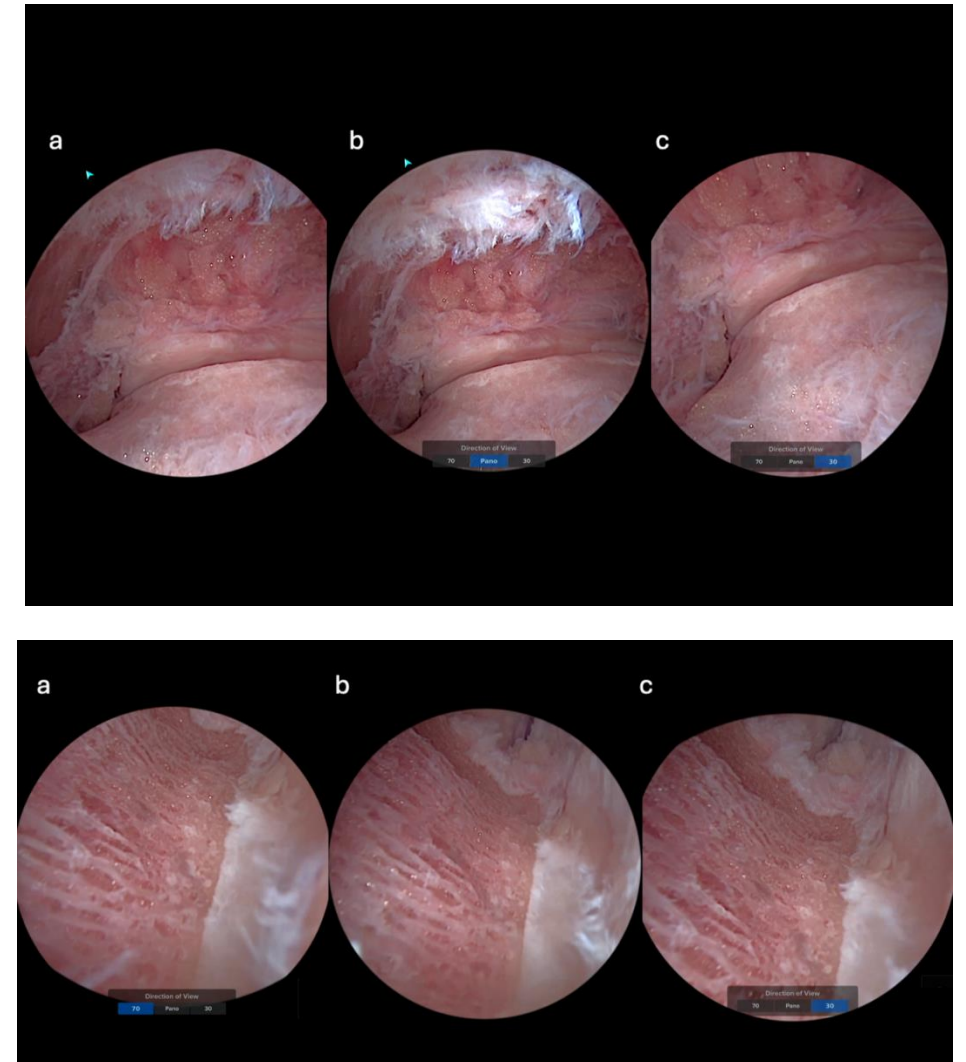
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Results - Posterior and Achilles

- No scope could visualize all posterior landmarks simultaneously.
- No clear advantage of Pano™ for Achilles insertion.
- All scopes reached the target zones.



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Discussion Highlights

- Pano™ scope enhances anterior/lateral field of view.
- May reduce number of portals and nerve risks
- Ideal for tight joint spaces and complex anatomy.

Advantages

- Possibility of avoiding accessory portals
- More ergonomic
- Three screenshots can recreate the whole joint anatomy for the anterior and lateral ankle joint.

Disadvantages

1.5 cm longer (not very adapted for smaller joints)



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Limitations

- Single cadaveric specimen
- Subjective image interpretation
- Pano™ ensures reproducibility without repositioning



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Conclusion / Clinical Implication

Pano™ scope improves visualization for anterior/lateral arthroscopy.

Maintains standard quality for posterior and Achilles.

May redefine ergonomic, minimally invasive ankle arthroscopy.



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