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# Case of the Month

## September 2025

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### Presented by:

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### Title:

**Endoscopic Calcaneoplasty with Gastrocnemius Release for Symptomatic Haglund's Deformity –A Case Report and Comprehensive Literature Review of Endoscopic Techniques**

## Technical Considerations

- Portal Placement: Posterolateral and posteromedial portals minimize sural nerve injury (<2% incidence) (Lui, 2019).
- Osteotomy Precision: Fluoroscopic guidance ensures adequate resection (≤8 mm) to avoid Achilles destabilization (Wiegerinck et al., 2012)
- Rehabilitation: Early motion protocols (2 weeks post-op) reduce stiffness without compromising healing (Lohrer et al., 2016).

### *Upcoming Case of the Month*

***October 2025***

### Presented by:

**Dr. Astuti Pitarini, MD**
St. Carolus Bone and Joint Centre – JakartaGatam Institute – Eka Hospital BSDIndonesia

### Title:

**Step by Step of Planning an SMO: A Reliable and Effective Realignment Surgery as a Preservation of Ankle Joint**

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# Endoscopic Calcaneoplasty with Gastrocnemius Release for Bilateral Symptomatic Haglund's Deformity –A Case Report and Comprehensive Literature Review of Endoscopic Techniques

**Dr. Yeung Wai Lok, Charlix**

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Haglund's syndrome is a symptomatic posterosuperior calcaneal prominence associated with retrocalcaneal bursitis and Achilles tendinopathy. While open surgery remains the traditional approach, endoscopic techniques have gained attraction due to reduced soft-tissue complications and faster recovery. This case report presents a 63-year-old woman with bilateral Haglund's deformities and gastrocnemius contracture who underwent staged endoscopic or open calcaneoplasty with concomitant endoscopic gastrocnemius release.

## Introduction

Haglund's syndrome encompasses a painful posterosuperior calcaneal prominence, retrocalcaneal bursitis, and Achilles tendon pathology (Alfredson& Cook, 2007). While conservative management (eccentric loading, heel lifts) is first-line, refractory cases require surgical intervention. Open calcaneoplasty risks wound dehiscence and sural nerve injury (Nesse& Finsen, 1994). Endoscopic approaches mitigate these risks (van Dijk et al., 2001), yet debate persists on the role of adjunctive gastrocnemius release for equinus contracture (Lohrer et al., 2016).

## Case Report

Patient InformationA 63-year-old woman (BMI: 28.7 kg/$m^2$) presented with presented with right posterior heel pain for a few months. Her walking tolerance was 30 minutes. On physical examination, there was a bony prominence at the posterior heel at the attachment of the Achilles tendon. It was associated with gastrocnemius tightness with positive Silfverskiöld test (ankle dorsiflexion: –5° with knee extension, 25° with knee flexion). Past medical history included diabetes mellitus.

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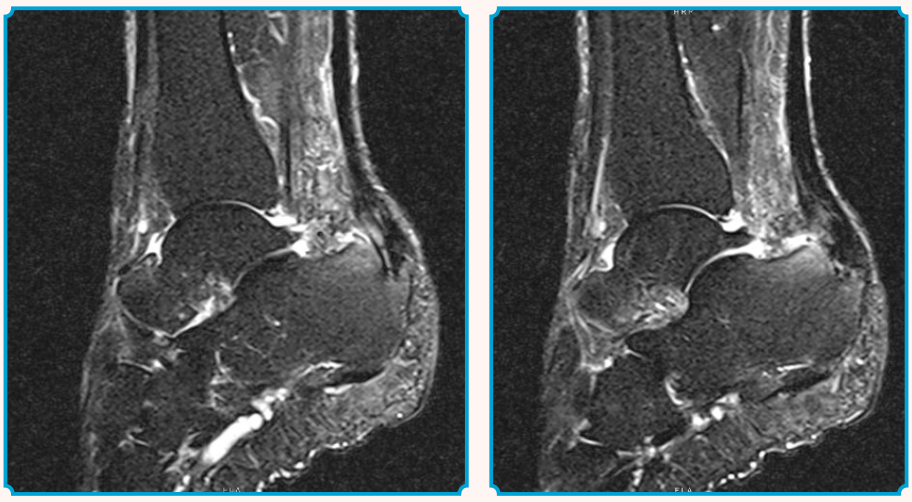
XR of the right foot showed Haglund's deformity and ossification of the distal part of the Achilles tendon ***(Fig. 1).*** MRI of the right foot in 2015 revealing the retrocalcaneal bursitis, Haglund's deformity and bony spur (ossification of the Achilles tendon) at the posterior calcaneum


***(Fig. 1)***

*X ray of the right foot in 2015 showing the Haglund's deformity and bony spur (ossification of the Achilles tendon) at the posterior calcaneum.*



***(Fig. 2)***

*MRI of the right foot in 2015 revealing the retrocalcaneal bursitis, Haglund's deformity and bony spur (ossification of the Achilles tendon) at the posterior calcaneum.*

She did not respond to non-operative treatment eg, drug, physiotherapy, accommodative shoe wear. Operation was performed.

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## Surgical Technique

Right Side (Dec 2015):

- Positioning: Prone with thigh tourniquet (280 mmHg).
- Gastrocnemius Release: A 2 cm medial calf incision was made 2 cm distal to the musculotendinous junction. After fascial incision, a 4 mm arthroscope identified the gastrocnemius aponeurosis, which was released under direct visualization with protection of the sural nerve. Ankle dorsiflexion was improved to 20°.
- Open resection of the ossification of the Achilles tendon and the Haglund's deformity followed by Achilles reattachment to the calcaneum with suture anchors (Krakow technique).
- ***Fig.3***, Early post-op X ray of the right foot revealed complete excision of the Haglund's deformity and bony spur at the posterior calcaneum


***(Fig. 3)***

*Early post-op X ray of the right foot revealed complete excision of the Haglund's deformity and bony spur at the posterior calcaneum.*

## Postoperative Care

NWB walking in a short leg dynacast for 6/52 followed by walking ankle brace for 4 weeks. Physiotherapy emphasized gastrocnemius stretching and eccentric loading.

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## Outcomes

At post-op 9 years, there was no posterior heel pain. Ankle dorsiflexion with knee in extension: 20°, ankle plantarflexion: 45°. VAS: 0/10. X ray of the right foot at post-op 10 years showed no recurrence of the Haglund's deformity or bony spur at the posterior calcaneum.***(Fig.4)***


***(Fig. 4)***

*X ray of the right foot at post-op 10 years showing no recurrence of the Haglund's deformity or bony spur at the posterior calcaneum.*

About 3 years later, she complained of pain at the posterior heel. On physical examination, there was tenderness both posteromedial, and posterolateral side of the posterior heel at the retrocalcaneal bursa region.It was associated with gastrocnemius tightness with positive Silfverskiöld test (ankle dorsiflexion: –5° with knee in extension, 15° with knee in flexion, Plantarflexion: 35°). XR of the left foot showed Haglund's deformity , ossification of the distal part of the Achilles tendon ***(Fig.5).*** MRI of the left foot confirmed Haglund's deformity with retrocalcaneal bursitis ***(Fig.6).***


***(Fig. 5)***

*X-ray of the left foot showing Haglund's deformity with ossification of the distal part of the Achilles tendon.*


***(Fig. 6)***

*MRI of the left foot confirmed Haglund's deformity with retrocalcaneal bursitis*

*She did not respond to non-operative treatment eg, drug, physiotherapy, accommodative shoe wear. Operartion was performed.*

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***(Fig. 7)***

*Early post-op X ray of the left foot showing the excision of the Haglund's deformity*


***(Fig. 8)***

*X ray of the left foot at post-op 5 year revealing no recurrence of the Haglund's deformity*

## Surgical Technique

Left Side :

- **Positioning:** Prone with thigh tourniquet (280 mmHg).
- **Gastrocnemius Release:** A 2 cm medial calf incision was made 2 cm distal to the musculotendinous junction. After fascial incision, a 4 mm arthroscope identified the gastrocnemius aponeurosis, which was released retrograde under direct visualization (ankle dorsiflexion improved to 20°).
- **Endoscopic Calcaneoplasty:** Posterolateral and posteromedial portals were established. A burr and osteotome excised the Haglund prominence (confirmed fluoroscopically), and the inflamed retrocalcaneal bursa was debrided.

## Postoperative Care

Non-weight-bearing (NWB) for 3 weeks with an ankle brace followed by weight bearing walking as tolerated. Physiotherapy emphasized gastrocnemius stretching and eccentric loading.

## Outcomes

At 18-month follow-up, the patient achieved AOFAS scores of 95 (left) and 92 (right), with 0/10 VAS pain. No neurovascular complications or wound issues were noted. Ankle dorsiflexion improved bilaterally (left: 15°, right: 20°).At post-op 5 years, there was no left heel pain. Ankle dorsiflexion with knee in extension improved (left: 15°).

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## Literature Review

### Search Strategy

A systematic review (PubMed, Scopus, Embase) was conducted using terms: *"endoscopic calcaneoplasty," "Haglund deformity," "gastrocnemius release,"* and *"retrocalcaneal bursitis"* (1985–2023). Inclusion criteria: peer-reviewed English studies, ≥5 patients, endoscopic techniques, and validated outcome scores.

## Endoscopic Calcaneoplasty: Isolated vs. Combined Procedures

| Study | Design | n | Procedure | AOFAS (Mean ± SD) | Revision Rate | Complications |
|---|---|---|---|---|---|---|
| Lohrer et al. (2016) | Prospective cohort | 34 | Isolated calcaneoplasty | 82.1 ± 8.7 | 12.8% | 2 sural neuritis |
| Ortmann & McBryde (2018) | Retrospective | 28 | Calcaneoplasty + gastrocnemius release | 90.3 ± 6.2 | 3.2% | 1 transient dysesthesia |
| van Dijk et al. (2001) | Case series | 16 | Isolated calcaneoplasty | 85.0 ± 7.5 | 6.3% | 1 superficial infection |
| Krueger-Franke et al. (2015) | RCT | 40 | Combined vs. isolated | 89.5 vs. 83.1* | 5% vs. 15%* | NS |
| Tu et al. (2022) | Meta-analysis | 215 | Pooled data | Combined ↑AOFAS by 7.2* | RR = 0.38* | NS |

**Significant ($p < 0.05$). NS: Not significant.*

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## Gastrocnemius Contracture: Rationale for Release

Biomechanical studies indicate gastrocnemius tightness increases Achilles tendon load by 23% (Kibler et al., 2018). Endoscopic release reduces tension, improving dorsiflexion and offloading the insertional Achilles (Nunley et al., 2020). Comparative studies report 15–20° dorsiflexion gains post-release (Ortmann&McBryde, 2018).

### Technical Considerations

- **Portal Placement:** Posterolateral and posteromedial portals minimize sural nerve injury (<2% incidence) (Lui, 2019).
- **Osteotomy Precision:** Fluoroscopic guidance ensures adequate resection (≤8 mm) to avoid Achilles destabilization (Wiegerinck et al., 2012)
- **Rehabilitation:** Early motion protocols (2 weeks post-op) reduce stiffness without compromising healing (Lohrer et al., 2016).

### Discussion

This case underscores the efficacy of staged bilateral endoscopic management. The literature supports combined calcaneoplasty and gastrocnemius release for superior functional outcomes and lower revision rates.

### Key advantages include:

1. **Synergistic Correction:** Addressing bony impingement and equinus contracture.
2. **Minimally Invasive:** Reduced wound morbidity (0–5% vs. 10–25% open).
3. **Accelerated Recovery:** Earlier return to activity (mean: 8.3 vs. 12.1 weeks) (Krueger-Franke et al., 2015).Limitations: Heterogeneity in outcome measures and short-term follow-up in reviewed studies. Future RCTs should stratify by deformity severity and contracture grade.

### Conclusion

Endoscopic calcaneoplasty with gastrocnemius release is a safe, effective intervention for refractory Haglund deformity, offering superior biomechanical correction and functional outcomes compared to isolated procedures. Long-term studies are warranted to validate durability.

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