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Sensory Loss After Hamstring Graft Harvest In ACL Reconstruction: A Prospective Comparative Study Of Anterior Vs. Posterior Harvest Techniques

Dr Samundeeswari Saseendar

Dr Saseendar Shanmugasundaram

Division of Arthroscopy and Sports Medicine,
Sri Lakshmi Narayana Institute of Medical Sciences,
Puducherry, INDIA



Faculty Disclosure Information

- Vice Chair of Shoulder and Elbow Committee ,SICOT
- EC Orthopedic Rehabilitation, Finance Committee of SICOT
- FOUNDING MEMBER – TNOA VOICE
- ICRS – EC member of the Next Gen committee of ICRS
- IOA – EC member of women's wing VOICE
- IODA – Audit and Risk Committee
- NO FINANCIAL DISCLOSURE



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Introduction

- **Background:** Hamstring grafts are commonly used in ACLR.
- **Issue:** Sensory loss around the anterior leg is a frequent complication, often causing patient distress.
- **Focus:** This study compares the incidence and severity of sensory loss between anterior and posterior graft harvest techniques.



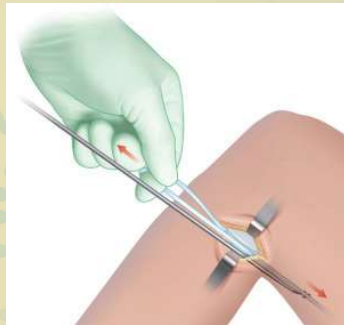
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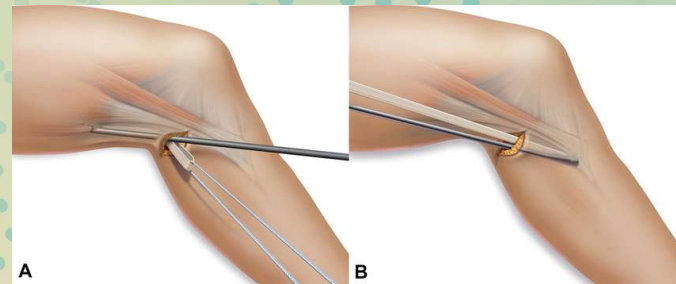
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Study Objective

- To **evaluate and compare** the **frequency, distribution, and resolution** of sensory loss following:
 - Anterior (anteromedial longitudinal) graft harvest
 - Posterior (popliteal fossa) graft harvest
- Hypothesis: **Posterior harvest causes significantly less sensory loss.**

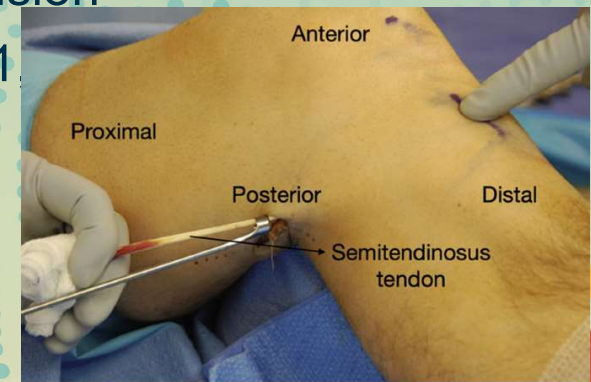
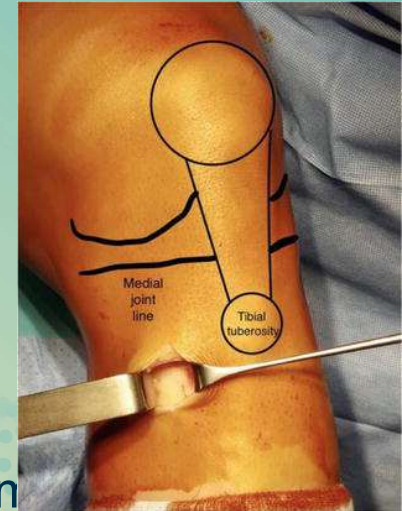


VS



Study Design & Methodology

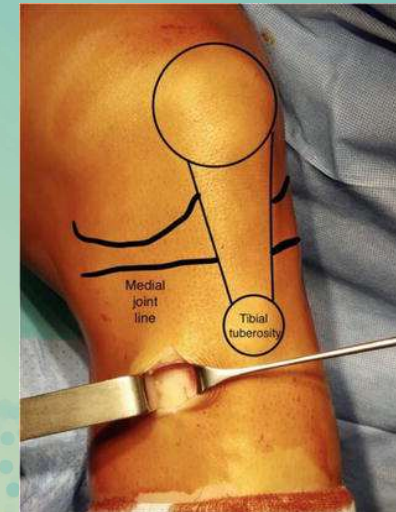
- **Design:** Prospective comparative study
- **Participants:** 60 patients undergoing ACLR
- **Groups:**
 - **Group A (n=30):** Anteromedial longitudinal incision (3 cm)
 - **Group B (n=30):** Small posterior popliteal fossa incision
- **Follow-up:** Sensory mapping and area calculation at 1 and 12 months



Anatomical Techniques

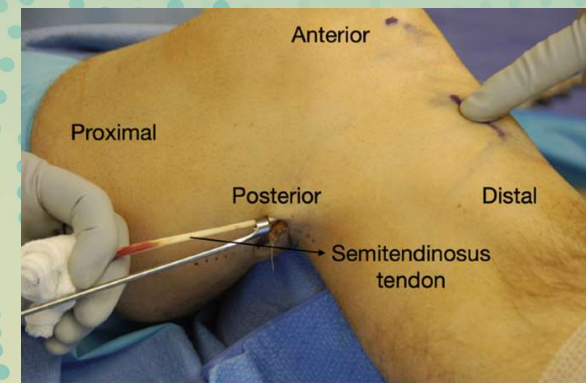
• Group A:

- Incision: 3 cm anteromedial over pes anserinus
- Grafts: Gracilis + Semitendinosus



• Group B:

- Incision: Small transverse in popliteal fossa
- Grafts: Same, via posterior approach



Results – Group A (Anterior Approach)

- **Incidence of Sensory Loss:**
 - 93.33% at 1 month
 - 42% at 6 & 9 months
 - 13.3% at 12 months
- **Area Affected:**
 - Avg. 150.97 cm² → 63.33 cm² over 6 months
- **Distribution:**
 - 85.7% over anterolateral leg
 - 14.2% near incision
 - None on medial leg



Results – Group B (Posterior Approach)

- **Incidence of Sensory Loss:** 13.3% (4/30 patients)
- **Avg. Affected Area:** 16 cm²
- **Resolution:** Complete by 6 months
- **Notable:** Minimal patient-reported discomfort or concern



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Summary

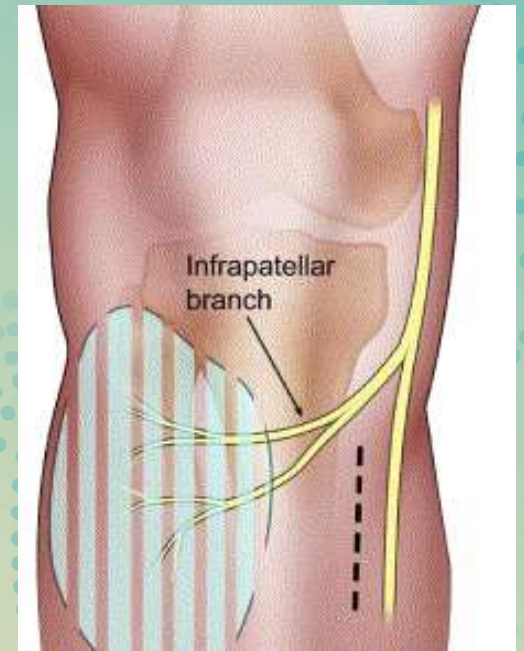
Parameter	Group A – Anterior Harvest	Group B – Posterior Harvest
Sample Size	30 patients	30 patients
Incidence at 1 Month	93.33% (28/30)	13.3% (4/30)
Incidence at 6 m	42%	0%
Incidence at 9m	42%	0%
Incidence at 12 m	13.3%	0%
Area of Sensory Loss (1m)	150.97 cm ²	16 cm ²
Primary Area Affected	Infrapatellar + Saphenous	Saphenous
Involvement Around Scar	14.2%	None reported

Patterns of Sensory loss



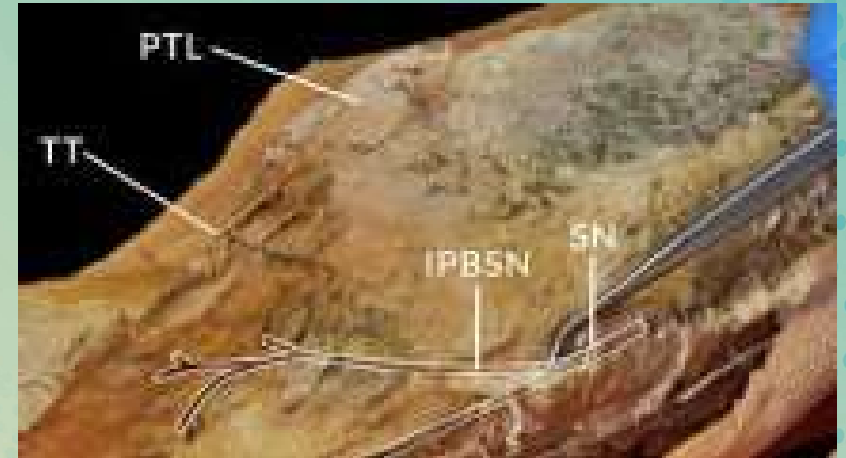
Clinical Interpretation

- **Anterior harvest** has a significantly higher rate and severity of sensory loss.
- **Posterior harvest** is associated with:
 - Lower incidence
 - Smaller affected area
 - Faster resolution
- Suggests higher incidence of **infrapatellar branch of saphenous nerve injury** in anterior approach.



Conclusion

- Posterior popliteal harvest is **superior in terms of sensory outcomes.**
- Strongly consider posterior approach for **enhanced patient comfort and satisfaction.**
- Recommend **further anatomical and long-term outcome studies.**



References

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