

# Peroneus longus tendon autograft for anterior cruciate ligament reconstruction: Current evidence, donor-site complications and patient selection

## Abstract

The search for the ideal autograft for anterior cruciate ligament (ACL) reconstruction (ACLR) remains a longstanding challenge in orthopaedic surgery, as each available graft possesses distinct advantages and inherent limitations. The peroneus longus tendon (PLT) has emerged as an alternative autograft, expanding graft options without further compromising the injured knee. Initially regarded with caution because of concerns regarding its role in foot and ankle biomechanics, the PLT has evolved into an increasingly recognised alternative autograft option supported by a growing body of anatomical, biomechanical and clinical evidence. The accumulating evidence suggests that the PLT provides reliable graft characteristics, while available comparative studies report broadly similar short- to mid-term clinical outcomes to established autografts and generally favourable donor-site function. However, the predominantly retrospective and heterogeneous evidence base does not establish graft equivalence or noninferiority. Although important questions remain, particularly regarding sport-specific ankle performance in high-demand athletes, long-term donor-site consequences and optimal harvest techniques, the available evidence supports consideration of the PLT as an additional autograft option for ACLR. Rather than establishing graft superiority, this editorial synthesises the current evidence, highlights the strengths and limitations of the PLT, and provides a practical framework for individualised ACL graft selection.

## THE ORIGINS OF THE PERONEUS LONGUS TENDON (PLT) IN ANTERIOR CRUCIATE LIGAMENT RECONSTRUCTION (ACLR)

The search for the ideal graft remains a central objective in ACLR. Although bone–patellar tendon–bone, hamstring tendon and quadriceps tendon autografts are widely used,

each is associated with graft-specific advantages and problems such as donor-site morbidity [11]. To avoid further compromising tissues around the injured knee, alternative graft sources have therefore been explored.

The PLT emerged from this concept [12]. Its favourable biomechanical properties, predictable dimensions and straightforward harvesting technique made it an attractive graft candidate (Figure 1). Unlike many surgical innovations that rapidly gain popularity, however, the PLT was initially met with considerable scepticism [16]. Owing to its established role in foot and ankle biomechanics, concerns regarding donor-site morbidity and potential long-term functional consequences limited its early adoption. For clarity, the terminology used in this editorial distinguishes whole-tendon/full-thickness PLT harvest from anterior-half or split PLT harvest; either technique may be performed with or without distal PLT-to-peroneus brevis tenodesis. The anatomical term *fibularis longus* is synonymous with peroneus longus, although PLT is retained here because it remains the predominant terminology in the ACL literature.

Over the past decade, a growing body of anatomical, biomechanical and clinical evidence has progressively addressed these concerns. Consequently, the debate surrounding the PLT has shifted from whether it can be used for ACLR to defining its role within contemporary graft selection strategies.

This Editor's Note represents a narrative rather than a systematic synthesis. The literature was selected to prioritise recent systematic reviews and meta-analyses, comparative clinical studies, biomechanical investigations, donor-site studies and contemporary reports addressing harvest technique, revision ACLR and multiligament reconstruction, together with relevant foundational studies. Particular emphasis was placed on evidence published since the most recent systematic reviews. Rather than repeating existing pooled comparisons of PLT and hamstring autografts, the present editorial integrates more

**Abbreviations:** ACL, anterior cruciate ligament; ACLR, anterior cruciate ligament reconstruction; AOFAS, American Orthopaedic Foot & Ankle Society; BPTB, bone–patellar tendon–bone; FADI, foot and ankle disability index; PLT, peroneus longus tendon; RTS, return to sport.

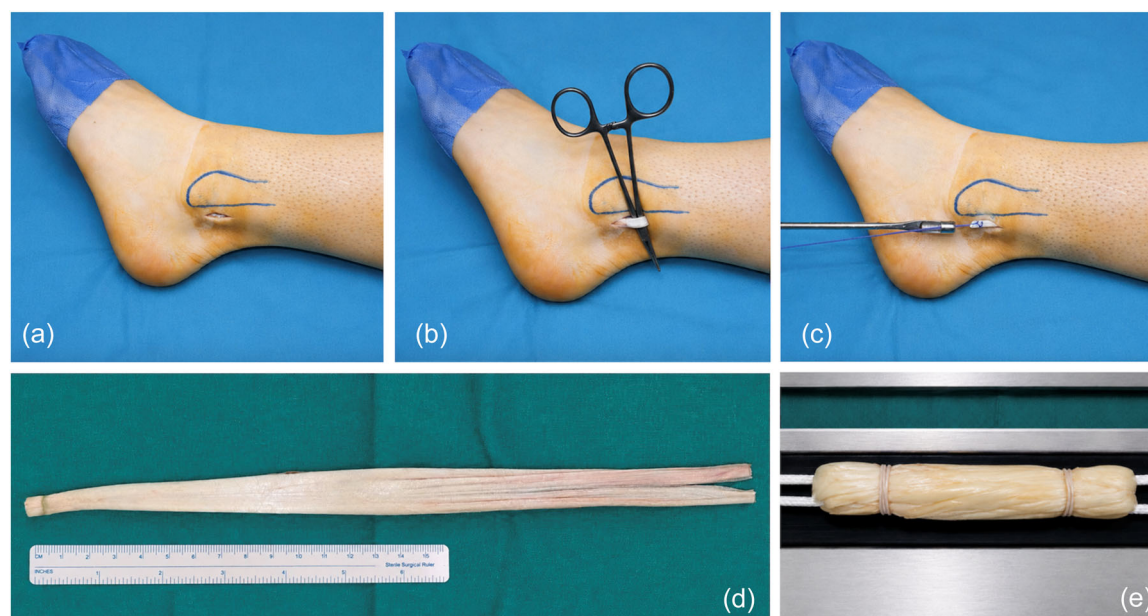


**FIGURE 1** Preparation of a full-thickness peroneus longus tendon (PLT) graft for anterior cruciate ligament reconstruction. (a) A 2-cm skin incision is made approximately 2 cm proximal to the tip of the lateral malleolus, just posterior to the fibula. (b) Identification and isolation of the PLT. (c) Harvesting of the full-thickness PLT using a tendon stripper. (d) Graft preparation and measurement after harvest, showing a typical graft length of 24–28 cm. (e) Final configuration of the quadrupled PLT graft with adjustable-loop sutures.

recent evidence on long-term donor-site structure, objective ankle strength, graft maturation, full-thickness versus partial harvest, tenodesis and revision ACLR into a clinically oriented graft-selection framework.

## What Have We Learned So Far?

Current evidence provides valuable insights into the characteristics and performance of the PLT as an autograft for ACLR. One of its most consistently reported features is its predictable graft size. Anatomical and clinical studies frequently report PLT graft diameters reaching or exceeding the commonly cited 8-mm threshold [18], and prospective comparative data have reported a larger mean PLT graft diameter than hamstring graft diameter [19]. However, the commonly cited 8-mm threshold originates predominantly from hamstring autograft cohorts and should not be assumed to represent a tissue-independent biological threshold. Graft diameter is a surrogate for the amount of load-bearing tissue within a particular graft type, and an 8-mm PLT construct has not been demonstrated to be biomechanically or clinically equivalent to an 8-mm hamstring construct. Accordingly, the principal potential advantage of PLT is its relatively predictable graft dimensions rather than the achievement of a universally validated diameter threshold.

Biomechanical studies provide evidence regarding the mechanical suitability of PLT tissue as a potential graft source, but should be distinguished from evidence of clinical graft performance. In a recent cadaveric study using standardised testing methods across 19

lower-limb tendons and ligaments, the peroneus longus demonstrated failure load, ultimate tensile strength, cross-sectional area and elastic modulus values broadly comparable to those of the semitendinosus and gracilis tendons, which are established ACL graft sources [2]. The peroneus longus also demonstrated greater ultimate tensile strength than the native ACL, although its failure load was not significantly greater. These findings support its baseline mechanical suitability as a potential graft source; however, they were derived from isolated cadaveric tendons rather than surgically prepared multistrand graft constructs and therefore cannot be directly extrapolated to clinical graft performance.

Available comparative studies and systematic reviews have generally found no clear differences between PLT and hamstring autografts in reported graft failure, knee stability, patient-reported outcomes or return-to-sport outcomes [9, 15, 20]. These findings support clinical comparability within the limitations of the available studies, but should not be interpreted as evidence of formal equivalence or noninferiority because most studies were not designed or powered for those hypotheses. Several investigations have also reported less thigh muscle atrophy and better preservation of knee flexion strength following PLT harvest than after hamstring harvest [15].

Recent prospective imaging evidence has added a biological perspective: diffusion tensor imaging and conventional MRI demonstrated substantial but incomplete PLT graft maturation at 1 year after all-inside ACLR, despite marked functional improvement and the absence of clinical instability or graft failure during follow-up [3].

However, 1 year represents a relatively early stage of graft remodelling, and similar evidence of incomplete maturation at this time point has been reported for other tendon autografts [23]. Accordingly, these findings should not be interpreted as a disadvantage specific to the PLT, but rather as further support for individualised, criterion-based return-to-sport decision-making.

## Preserving Ankle Function After PLT Harvest

The principal concern regarding the PLT has never been its suitability as an ACL graft, but rather the potential consequences of sacrificing a tendon that plays an important role in foot and ankle biomechanics. Given its contribution to first-ray plantarflexion, foot eversion and dynamic stabilisation of the medial longitudinal arch, concerns regarding donor-site morbidity have been both intuitive and justified.

Patient-reported donor-site outcomes following PLT harvest have generally been favourable [7, 18, 21]. Across available studies, American Orthopaedic Foot & Ankle Society, foot and ankle disability index and related ankle-specific scores are typically high during follow-up, and systematic review evidence similarly suggests limited patient-reported ankle disability [22]. Importantly, however, favourable patient-reported outcome measures (PROMs) do not exclude objective deficits in strength, dynamic control or sport-specific performance. Long-term evidence remains limited but is encouraging: in a 26-patient series with a mean follow-up of 19.5 years, patient-reported ankle function remained high and no significant side-to-side differences were identified across multiple weight-bearing radiographic parameters [24]. These findings are reassuring regarding structural consequences of full-thickness harvest, but should not be interpreted as proof of complete functional equivalence of the donor ankle.

Objective strength testing provides a more nuanced picture than ankle PROMs alone. In a recent isokinetic study, mean evtor peak torque at 60°/s was 18.1% lower on the donor side than on the contralateral side at 6 months (13.00 vs. 15.87 Nm), whereas the side-to-side deficit decreased to 6.5% at 1 year (14.35 vs. 15.35 Nm). At 120°/s, the corresponding side-to-side deficits were 7.4% and 6.2% at 6 months and 1 year, respectively [14]. Although 60°/s evtor torque remained 14.6% below the donor limb's preoperative value at 1 year, this residual reduction was not statistically significant. These findings suggest that PLT harvest may produce a substantial early evtor-strength deficit that largely recovers over time, while the implications of smaller residual deficits for elite athletic performance remain uncertain.

Harvest-related complications also warrant more explicit counselling. In a retrospective series of 82 PLT harvests, 18.3% of patients had dorsolateral-foot

hypoesthesia, 2.4% had scar hyperalgesia, 2.4% developed compartment syndrome, 1.2% demonstrated mild ankle instability and 1.2% experienced a transient peroneal nerve palsy with foot drop [4]. A separate prospective cohort similarly reported transient sural nerve-related hypoesthesia in 2 of 31 patients (6%), resolving within 3 months [14]. Although these findings derive from relatively small observational series and complication rates may vary with harvest technique and reporting, they demonstrate that donor-site morbidity cannot be considered negligible. With the retro-malleolar harvest incision, particular attention should be paid to the sural nerve and its distal branches, while more proximal tendon stripping may also place branches of the superficial peroneal nerve at risk [8, 26].

The discrepancy between generally favourable ankle PROMs and reported objective strength alterations may partly reflect limitations of existing outcome measures [16].

Most available outcome measures were developed to assess activities of daily living rather than sport-specific function or elite athletic performance [9, 22]. Consequently, their ability to detect subtle impairments affecting sprinting, cutting, jumping or rapid change-of-direction manoeuvres may be limited. Objective performance-based assessments and validated sport-specific outcome measures are therefore required to more clearly define the functional consequences of PLT harvest, particularly in highly active and elite athletic populations. Until such data are available, absence of impairment on conventional ankle PROMs should not be equated with preserved elite-level athletic performance.

## Where Does the PLT Fit Today?

Contemporary graft selection has largely shifted away from the search for a universally superior graft towards an individualised, patient-specific approach. Patient characteristics, athletic demands, concomitant injuries, previous procedures, graft availability and surgeon experience all influence graft selection [6]. The need for additional autograft options has become increasingly relevant as contemporary multiligament knee reconstruction frequently requires several grafts during the same procedure, particularly when ACL reconstruction is combined with medial-sided or other ligament reconstructions. This need may be even greater in healthcare systems where allograft tissue is unavailable, financially restricted or not accepted for cultural or regulatory reasons (Table 1). Within this framework, the PLT may be considered as an additional autograft option rather than a universal alternative. Its predictable dimensions, mechanical characteristics, preservation of periarticular knee structures and generally favourable reported donor-site outcomes provide a rationale for consideration in selected patients. However, the following patient-selection considerations

should be understood as evidence-informed clinical guidance rather than established indications. PLT may be a reasonable option in selected recreational or moderate-demand patients and when additional autologous graft tissue is required, whereas greater caution is appropriate in elite pivoting athletes because high-level sport-specific ankle performance after PLT harvest remains insufficiently studied. Symptomatic peroneal tendon disease, clinically relevant ankle instability and significant foot or hindfoot malalignment should prompt consideration of alternative graft sources [16].

The potential role of the PLT extends beyond primary ACLR. Owing to its favourable length and diameter, it may provide an additional graft option in selected revision ACLR and multiligament knee injury cases, where graft availability is often limited and previously harvested hamstring, patellar tendon or quadriceps tendon autografts may preclude the use of conventional graft options [7, 21]. In a recent comparative study of single-stage revision ACLR, PLT autografts had a larger mean graft diameter than contralateral hamstring autografts, while no significant between-group differences were identified in functional outcomes, postoperative stability, graft re-rupture or return to sport [1]. Importantly, graft diameter rather than graft type was associated with postoperative stability, graft survival and return to sport, suggesting that the principal advantage of the PLT in revision surgery may lie in its ability to provide an appropriately sized graft rather than in inherent graft superiority [1]. The PLT may also be considered when preservation of the ipsilateral hamstrings is desirable, including in selected patients with medial-sided laxity, provided that the ankle and peroneal tendons are clinically suitable. In these

situations, the PLT provides an additional autologous graft source without further compromising periarticular structures around the knee [10]. Harvest laterality may also influence postoperative functional assessment. An ipsilateral PLT harvest adds donor-site impairment to the reconstructed limb, whereas contralateral harvest introduces a second operated limb that may no longer provide an unaffected reference. Because criterion-based return-to-sport testing frequently relies on limb-symmetry indices, donor-site impairment of the index limb may exaggerate apparent asymmetry, whereas impairment of the reference limb may mask residual deficits and artificially inflate limb-symmetry indices. Harvest laterality may also influence early weight-bearing tolerance and rehabilitation sequencing, although PLT-specific comparative data addressing these effects are currently lacking. This represents a methodological and rehabilitation consideration rather than a demonstrated PLT-specific effect; absolute performance measures, preinjury or normative benchmarks and donor-ankle recovery should therefore complement symmetry-based testing when PLT is harvested.

Harvest technique represents another area in which biomechanical and clinical evidence should be distinguished. Partial or anterior-half PLT harvest has been proposed to preserve native peroneal function [17, 25]. From a biomechanical perspective, however, a recent cadaveric study demonstrated that short four-strand half-PLT constructs had smaller diameters and lower failure loads than similarly prepared full semitendinosus constructs [13]. These data apply to the tested graft configuration and should not be extrapolated to all partial-PLT

**TABLE 1** Evidence-informed clinical framework for considering PLT autograft.

| Domain                                                     | Consideration                                                                                                                                                                                                                                                               |
|------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Situations potentially favouring PLT                       | Need to preserve ipsilateral hamstrings; limited conventional autograft availability; selected revision ACLR; multiligament reconstruction requiring additional autologous tissue; settings with restricted allograft availability                                          |
| Situations requiring greater caution                       | Elite/high-demand pivoting athlete; high reliance on cutting, push-off or repetitive ankle eversion; uncertain sport-specific donor-ankle consequences                                                                                                                      |
| Relative contraindications/reasons to select another graft | Symptomatic peroneal tendon pathology; chronic ankle instability; clinically relevant hindfoot/foot malalignment; previous significant lateral ankle surgery or dysfunction                                                                                                 |
| Preoperative ankle assessment                              | History of ankle instability or peroneal symptoms; inspection of hindfoot alignment; peroneal tendon palpation/provocation; ankle anterior drawer and talar tilt; single-leg heel rise; first-ray mobility; weight-bearing foot/ankle radiographs when clinically indicated |
| Harvest considerations                                     | Decide full-thickness versus partial harvest; document whether PLT-to-PB tenodesis is performed; avoid extrapolating biomechanical data between different graft constructs                                                                                                  |
| Specific consent points                                    | Additional extra-articular donor site; sensory disturbance/nerve injury; transient or persistent eversion weakness; scar symptoms; rare compartment syndrome; uncertain high-level sport-specific ankle performance                                                         |
| Evidence caveat                                            | These are evidence-informed considerations rather than validated indications or contraindications                                                                                                                                                                           |

Abbreviations: ACLR, anterior cruciate ligament reconstruction; PLT, peroneus longus tendon.

techniques, but they caution against assuming that preservation of tendon tissue necessarily produces an adequate ACL graft construct.

Clinically, distal PLT-to-peroneus brevis tenodesis has been proposed to preserve continuity of the peroneal complex. Available comparative evidence has not demonstrated a clear advantage of tenodesis over nontenodesis in patient-reported donor-ankle function or weight-bearing radiographic alignment [5]. Thus, current biomechanical evidence provides stronger support for adequately sized full-thickness constructs than for short four-strand half-PLT constructs, whereas clinical evidence remains insufficient to establish the superiority of one harvest strategy or of routine tenodesis.

## CONCLUSION

Despite encouraging clinical results, enthusiasm for the PLT should remain tempered by the limitations of the current evidence. Most available studies are retrospective, include relatively small samples, apply heterogeneous surgical techniques and use outcome measures that may not identify subtle sport-specific ankle impairment. The evidence base is also geographically concentrated, with a substantial proportion of published cohorts originating from a relatively limited number of centres and regions, potentially limiting generalisability across populations, athletic demands, rehabilitation environments and patterns of daily activity. Furthermore, unlike established ACL autografts, PLT-specific outcomes have not yet been meaningfully evaluated in large national ACL registry datasets. Registry-level surveillance will be important for determining uncommon complications, revision risk and graft survivorship at the population scale. Consequently, definitive conclusions regarding graft equivalence, superiority, optimal indications and preferred harvest technique cannot yet be drawn.

Current evidence nevertheless supports the PLT as a viable additional autograft that may be considered in carefully selected patients, particularly when preservation of periarticular knee structures or access to additional autologous graft tissue is clinically valuable. Its use should remain individualised, with caution in elite pivoting athletes and in patients with ankle instability, symptomatic peroneal tendon pathology or clinically relevant foot malalignment. Because PLT harvest introduces a donor site outside the knee, the anticipated reconstructive benefit should clearly outweigh the potential risk of ankle-related morbidity. Future studies should prioritise adequately powered prospective comparative designs, objective and sport-specific donor-ankle performance testing, standardised reporting of harvest-related complications, evaluation of harvest laterality, direct comparison of full-thickness and partial-harvest constructs, and registry-level assessment of graft survival and revision risk.

## ACKNOWLEDGEMENTS

Use of artificial intelligence (AI): Artificial intelligence was used solely for syntax and grammar optimisation.

## FUNDING INFORMATION

The authors have no funding to report.

## CONFLICT OF INTEREST STATEMENT

Ahmet Emin Okutan, Nicolaas Budhiparama, Mirco Herbort, Guido Wierer, Tunay Erden: none, Mahmut Enes Kayaalp: Deputy Editor-in-Chief of KSSTA, Michael T. Hirschmann: Editor-in-Chief of KSSTA, Özkan Köse: Editor-in-Chief of STArt Journal, Wolf Petersen: Consultancy fees from OPED, lecture fees from Plasmaconcept.

## ETHICS STATEMENT

The authors have nothing to report.

Ahmet Emin Okutan<sup>1</sup>   
 Nicolaas Budhiparama<sup>2,3</sup>   
 Mirco Herbort<sup>4</sup>  
 Özkan Köse<sup>5</sup>  
 Wolf Petersen<sup>6</sup>  
 Guido Wierer<sup>7,8</sup>  
 Tunay Erden<sup>9,10</sup>  
 Elmar Herbst<sup>11</sup>  
 Thomas Tischer<sup>12,13</sup>  
 Michael T. Hirschmann<sup>14,15</sup>  
 Romain Seil<sup>16,17</sup>  
 Ahmet Uğur Turhan<sup>18</sup>  
 Mahmut Enes Kayaalp<sup>19,20,21</sup> 

<sup>1</sup>Department of Orthopaedics and Traumatology, Samsun University, Samsun, Türkiye

<sup>2</sup>Department of Orthopaedic and Traumatology, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia

<sup>3</sup>Department of Orthopaedics, Leiden University Medical Centre, Leiden, The Netherlands

<sup>4</sup>OCM Clinic Munich, University of Muenster, Münster, Germany

<sup>5</sup>Department of Orthopaedics and Traumatology, Antalya Training and Research Hospital, University of Health Sciences, Antalya, Türkiye

<sup>6</sup>Department of Orthopaedics and Traumatology, Martin Luther Hospital Berlin, Germany

<sup>7</sup>Department of Orthopaedics and Traumatology, Paracelsus Medical University, Salzburg, Austria

<sup>8</sup>Research Unit for Orthopaedic Sports Medicine and Injury Prevention, Private University for Health Sciences, Medical Informatics and Technology, Hall in Tirol, Austria

<sup>9</sup>Department of Orthopaedics and Traumatology, Acibadem Fulya Hospital Sports Medicine Center, Istanbul, Türkiye

<sup>10</sup>Department of Orthopaedics and Traumatology,  
Istanbul Health and Technology University,  
Istanbul, Türkiye

<sup>11</sup>Gelenkpunkt – Sports and Joint Surgery,  
Innsbruck, Austria

<sup>12</sup>Department of Orthopaedic and Trauma Surgery,  
Malteser Waldkrankenhaus Erlangen,  
Erlangen, Germany

<sup>13</sup>Department of Orthopaedic Surgery,  
University Medicine Rostock, Rostock, Germany

<sup>14</sup>University Department of Orthopedic Surgery and  
Traumatology, Kantonsspital Baselland,  
Bruderholz, Switzerland

<sup>15</sup>Department of Clinical Research, Research Group  
Michael T. Hirschmann, Regenerative Medicine &  
Biomechanics, University of Basel,  
Basel, Switzerland

<sup>16</sup>Department of Orthopaedic Surgery,  
Centre Hospitalier Luxembourg – Clinique d'Eich,  
Luxembourg, Luxembourg

<sup>17</sup>Luxembourg Institute of Research in Orthopaedics,  
Medicine and Science in Sports,  
Luxembourg, Luxembourg

<sup>18</sup>Department of Orthopaedics and Traumatology,  
School of Medicine, Karadeniz Technical  
University, Trabzon, Türkiye

<sup>19</sup>Department of Orthopaedics and Traumatology,  
Istanbul Fatih Sultan Mehmet Training and Research  
Hospital, University of Health Sciences,  
Istanbul, Türkiye

<sup>20</sup>Department of Orthopaedics and Traumatology,  
Brandenburg Medical School Theodor Fontane,  
University Hospital Brandenburg/Havel,  
Brandenburg, Germany

<sup>21</sup>Faculty of Health Sciences Brandenburg,  
Brandenburg Medical School Theodor  
Fontane, Brandenburg, Germany

### Correspondence

Mahmut Enes Kayaalp, Istanbul Fatih Sultan  
Mehmet Egitim ve Arastirma Hastanesi, Hastane  
Sokak No:1/9, 34752, Istanbul.  
Email: [mek@mek.md](mailto:mek@mek.md)

### ORCID

Ahmet Emin Okutan  <https://orcid.org/0000-0003-1818-9422>

Nicolaas Budhiparama  <https://orcid.org/0000-0002-0801-7400>

Mahmut Enes Kayaalp  <https://orcid.org/0000-0002-9545-7454>

### REFERENCES

- Altun O, Ergişi Y, Karabacak M, Özdemir E, Daşar U. Graft diameter, not graft type, predicts outcomes in single-stage revision ACL reconstruction: a comparison of peroneus longus and contralateral hamstring autografts. *Knee Surg Sports Traumatol Arthrosc.* 2026. In press.
- Ashton DM, Blaker CL, Hartnell N, Haubruck P, Liu Y, Hefferan SA, et al. The biomechanical, biochemical, and morphological properties of 19 human cadaveric lower limb tendons and ligaments: an open-access data set. *Am J Sports Med.* 2024;52(9):2391–401.
- Biswas A, Gaurav A, Chattopadhyay A, SriMadhusudan JP, Raja Bhaskar Venkata CH, Kanodia R, et al. Incomplete graft maturation at 1 year after all-inside anterior cruciate ligament reconstruction using peroneus longus autograft: a prospective diffusion tensor imaging study. *Knee Surg Sports Traumatol Arthrosc.* 2026. In press.
- Cakar A, Kose O, Selcuk H, Egerci OF, Tasatan E, Dogruoz F. Complications of peroneus longus tendon harvesting: a retrospective review of 82 cases. *Arch Orthop Trauma Surg.* 2023;143(11):6675–84.
- Dogruoz F, Sari MK, Ertan MB, Ergun A, Gurcan S, Kose O. Ankle function and donor-site morbidity following peroneus longus graft harvesting with or without tenodesis to peroneus brevis in anterior cruciate ligament reconstruction. *J Clin Med.* 2026;15(7):2577.
- Fu FH. Pearls: individualized approach to ACL reconstruction – one size does not fit all. *Clin Orthop Relat Res.* 2020;478(8):1735–7.
- Goyal T, Paul S, Choudhury AK, Sethy SS. Full-thickness peroneus longus tendon autograft for anterior cruciate reconstruction in multi-ligament injury and revision cases: outcomes and donor site morbidity. *Eur J Orthop Surg Traumatol orthopedie traumatologie.* 2023;33(1):21–7.
- He J, Byrne K, Ueki H, Kanto R, Linde MA, Smolinski P, et al. Low to moderate risk of nerve damage during peroneus longus tendon autograft harvest. *Knee Surg Sports Traumatol Arthrosc.* 2022;30:109–15.
- He J, Tang Q, Ernst S, Linde MA, Smolinski P, Wu S, et al. Peroneus longus tendon autograft has functional outcomes comparable to hamstring tendon autograft for anterior cruciate ligament reconstruction: a systematic review and meta-analysis. *Knee Surg Sports Traumatol Arthrosc.* 2021;29(9):2869–79.
- Herbert M, Michel P, Raschke MJ, Vogel N, Schulze M, Zoll A, et al. Should the ipsilateral hamstrings be used for anterior cruciate ligament reconstruction in the case of medial collateral ligament insufficiency? Biomechanical investigation regarding dynamic stabilization of the medial compartment by the hamstring muscles. *Am J Sports Med.* 2017;45(4):819–25.
- Kayaalp ME, Konstantinou E, Lucidi GA, Ak O, Mengis N, Nukuto K, et al. Advances in anterior cruciate ligament reconstruction: risk stratification, graft choices, and functional recovery in 2026. *J Exp Orthop.* 2026;13(2):e70766.
- Kerimoglu S, Aynaci O, Saracoğlu M, Aydin H, Ugrur Turhan A. Anterior cruciate ligament reconstruction with the peroneus longus tendon. *Acta Orthop Traumatol Turc.* 2008;42(1):38–43.
- Kleimayer C, Tye J, Brown C, Carter D, Gambero-Barrero E, Fraser D, et al. Four-strand short graft failure loads of half-peroneus longus tendon grafts compared with full semitendinosus tendon grafts. *Orthop J Sports Med.* 2026;14(6):23259671261450603.
- Kotian RN, Ajoy SM, Panduranga R, Visweswara RD, Kumar P, Galagali DA, et al. Decreased evertor strength following peroneus longus tendon harvest for anterior cruciate ligament reconstruction: an isokinetic muscle strength testing study. *Bone Jt J.* 2026;108–B(6):766–72.
- Kumar K, Rao V, Panda AK, Joshi D. Peroneus longus tendon versus hamstring tendon autograft for primary anterior cruciate ligament reconstruction: a systematic review and meta-analysis of comparative studies. *Orthop J Sports Med.* 2025;13(9):23259671251374313.
- Marín Fermín T, Hovsepian JM, Symeonidis PD, Terzidis I, Papakostas ET. Insufficient evidence to support peroneus longus

- tendon over other autografts for primary anterior cruciate ligament reconstruction: a systematic review. *J ISAKOS*. 2021;6(3):161–9.
17. Petersen W, Schulze Borges J, Ge Y, Bockelmann C, Häner M. Entnahme der anterioren Hälfte der Peroneus-longus-Sehne [Harvesting the anterior half of the peroneus longus tendon]. *Oper Orthop Traumatol*. 2026 Jun 9. In press.
  18. Quinn M, Byrne RA, Albright JA, Testa E, Ahn B, Lemme N, et al. Peroneus longus tendon autograft may present a viable alternative for anterior cruciate ligament reconstruction: a systematic review. *Arthroscopy*. 2024;40(4):1366–76.e1.
  19. Rhatomy S, Asikin AlZ, Wardani AE, Rukmoyo T, Lumban-Gaol I, Budhiparama NC. Peroneus longus autograft can be recommended as a superior graft to hamstring tendon in single-bundle ACL reconstruction. *Knee Surg Sports Traumatol Arthrosc*. 2019; 27(11):3552–9.
  20. Sari MK, Kose O. Peroneus longus versus hamstring tendon graft for anterior cruciate ligament reconstruction: a retrospective matched comparison. *J Clin Med*. 2025;14(20):7319.
  21. Selcuk H, Baz AB, Egerci OF, Kose O. Peroneus longus tendon autograft versus allograft in revision ACLR: a retrospective comparison. *Orthop Traumatol Surg Res*. 2024;110(4):103775.
  22. Soleymanha M, Soleymani Nejad A, Keyhani S, Vosoughi F, LaPrade RF, Tollefson LV. Peroneus longus tendon harvest for ACL reconstruction yields good functional outcome of the ankle: a systematic review and meta-analysis. *Knee Surg Sports Traumatol Arthrosc*. 2026;34(9):3233–46.
  23. van Groningen B, van der Steen MC, Janssen DM, van Rhijn LW, van der Linden AN, Janssen RPA. Assessment of graft maturity after anterior cruciate ligament reconstruction using autografts: a systematic review of biopsy and magnetic resonance imaging studies. *Arthrosc Sports Med Rehabil*. 2020; 2(4):e377–88.
  24. Veliöğlu K, Öner K, Aslan FG, Okutan AE, Kerimoğlu S, Turhan AU. Harvesting the full thickness peroneus longus tendon is not associated with structural foot impairments: a 12- to 23-year follow-up study. *Orthop J Sports Med*. 2025; 13(4):23259671251320659.
  25. Wierer G, Gwinner C, Scheffler S. Peroneus longus split versus semitendinosus tendon autograft size: a cross-sectional study. *Am J Sports Med*. 2023;51(7):1743–51.
  26. Wu S, Rothrauff B, Li J, He J. Minimizing risk of iatrogenic nerve injury during peroneus longus tendon autograft harvest: a cadaveric study at different ankle or knee positions. *Knee Surg Sports Traumatol Arthrosc*. 2023;31:2454–60.

**How to cite this article:** Okutan AE, Budhiparama N, Herbort M, Köse Ö, Petersen W, Wierer G, et al. Peroneus longus tendon autograft for anterior cruciate ligament reconstruction: current evidence, donor-site complications and patient selection. *Knee Surg Sports Traumatol Arthrosc*. 2026;1–7. <https://doi.org/10.1002/ksa.70616>