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Original Article

Height and Leg Length Can Predict Quadruple Hamstring Tendon Thickness for ACL Reconstruction

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ABSTRACT

Objective: Accurate preoperative estimation of hamstring tendon graft thickness is crucial for improving the success rates of anterior cruciate ligament (ACL) reconstruction surgeries. Although several imaging methods have been proposed, simple anthropometric measurements may provide a practical and cost-effective alternative. This study aimed to investigate the predictive value of leg length, total body height, and the leg length-to-body height ratio for estimating hamstring graft thickness preoperatively.

Materials and Methods: This retrospective cohort study included 120 patients who underwent ACL reconstruction with quadruple hamstring tendon autografts. Anthropometric measurements, including leg length (measured from the anterior superior iliac spine to the medial malleolus) and total body height, were collected prospectively during follow-up. The correlation between these parameters and intraoperative graft thickness was analyzed using Pearson correlation. Simple and multivariate linear regression analyses were performed to determine predictive factors. Receiver operating characteristic (ROC) curve analysis was conducted to evaluate the diagnostic performance of each parameter for predicting graft thickness ≥8 mm.

Results: Total body height demonstrated the strongest correlation with graft thickness (r=0.52, p<0.001), followed by leg length (r=0.48, p<0.001). Although the leg length-to-body height ratio showed a weak correlation (r=0.40, p=0.003), it was not a statistically significant predictor in the multivariate analysis. ROC analysis showed that total body height had the highest diagnostic accuracy (AUC=0.82, 95% CI: 0.70–0.94) for predicting graft thickness ≥8 mm, with 82.4% sensitivity and 75.0% specificity at a cut-off value of ≥174.0 cm.

Conclusion: Total body height and leg length are reliable preoperative predictors of hamstring tendon graft thickness in ACL reconstruction. Simple anthropometric measurements may help optimize graft selection, reduce the risk of graft failure, and improve surgical outcomes.

Keywords: Anthropometry, anterior cruciate ligament, graft diameter, hamstring autograft, height, leg length, predictive model, ROC analysis.

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INTRODUCTION

The anterior cruciate ligament (ACL) is a principal stabilizer of the knee, limiting anterior tibial translation and controlling rotatory laxity relative to the femur. It is intra-articular yet extrasynovial, invested by synovial membrane, and is vascularized predominantly by the middle genicular artery with contributions from inferior genicular branches. Structurally, the ACL comprises two functional bundles (anteromedial and posterolateral bundles) that are tensioned differentially across the knee flexion–extension arc. In addition to its mechanical role, the ligament contains mechanoreceptors that subserve proprioception and contribute to neuromuscular control of the joint [1,2].

ACL injuries are prevalent in athletic participation and after trauma, constituting a frequent orthopedic problem. Although primary repair may be considered for acute, select tear patterns in carefully chosen patients, contemporary management in routine practice predominantly favors reconstruction [3,4]. Multiple graft sources are available for ACLR, including allografts and autografts. Among autografts, the quadrupled hamstring tendon, typically consisting of the semitendinosus and gracilis tendons, is one of the most frequently utilized constructs [5–8]. Additional graft options include bone-patellar tendon-bone, quadriceps tendon, tibialis anterior, tibialis posterior, peroneal tendons, and Achilles tendons. Surgical techniques may involve single-bundle or double-bundle reconstructions [9–14].

Graft diameter is a key determinant of long-term outcomes after ACLR. In hamstring autografts, diameters <8 mm are associated with greater postoperative instability and higher graft failure rates [15,16]. Consequently, accurate preoperative estimation of graft thickness is clinically important for planning tunnel size, potential augmentation, and selecting the appropriate graft. Reported preoperative approaches include MRI-based assessments (13) and ultrasonography [17–19]. In addition, several anthropometric variables, including age, weight, height, body mass index (BMI), and thigh circumference, have been investigated for their predictive value for graft thickness [20–22].

The growing volume of ACLR has heightened the clinical importance of selecting an appropriate graft and ensuring adequate graft diameter. Insufficient graft diameter is a recognized mechanism of failure, predisposing to residual laxity, patient dissatisfaction, revision surgery, and secondary chondral injury with downstream implications for earlier arthroplasty. Consequently, developing reliable methods to estimate graft diameter (thickness) preoperatively remains a priority to optimize graft selection, surgical plan, and improve outcomes.

This study aims to evaluate the clinical applicability and predictive value of previously under-investigated anthropometric parameters, specifically leg length, height, and the ratio of leg length to height, in estimating hamstring tendon autograft thickness preoperatively. We hypothesize that these anthropometric measures will demonstrate acceptable discriminative performance in identifying patients at risk of a graft diameter below 8 mm, supporting their use as simple and cost-effective preoperative screening tools. Ultimately, the study seeks to facilitate improved graft selection, minimize revision surgery rates, and enhance long-term surgical success.

MATERIALS AND METHODS

Patients and Study Design

This retrospective cohort study was approved by the Orthopedics, Hatay Mustafa Kemal University Local Ethics Committee (Approval No: 04/58; date: 19 March 2025) and conducted in accordance with the Declaration of Helsinki. Patients who underwent ACLR with a quadrupled autologous hamstring tendon graft (semitendinosus and gracilis) at the Department of Orthopedics, Hatay Mustafa Kemal University Hospital, between 1 June 2017 and 1 June 2019 were retrospectively identified from institutional medical records and surgical notes.

Eligible patients were those who underwent anterior cruciate ligament reconstruction using a quadrupled hamstring tendon autograft and for whom complete intraoperative documentation and follow-up anthropometric measurements were available; all participants provided informed consent. Patients were excluded if surgical records were incomplete or follow-up data were missing, if reconstruction was performed with any graft other than a quadrupled hamstring tendon autograft, or if prior knee surgery or concurrent knee pathology was present that could plausibly influence anthropometric measurements.

Data Collection

Data on intraoperative hamstring tendon graft thickness were abstracted from operative records for each eligible patient, reflecting the final diameter of the quadrupled construct as documented by the operating surgeon. The graft thickness was determined intraoperatively using a standard ACL graft sizing set with measurement holes in 0.5-mm increments (e.g., 8.0, 8.5, 9.0, 9.5 mm), and the final graft diameter was recorded as the largest size through which the quadrupled tendon could pass smoothly without resistance.

Thereafter, patients were prospectively invited to a standardized follow-up visit for anthropometric assessment. At this visit, leg length was measured on the operated limb using a predefined protocol from the anterior superior iliac spine to the medial malleolus with the patient supine and the lower extremities in neutral rotation. Total height was measured using a stadiometer, with patients standing barefoot and upright. For each patient, the ratio of leg length to height was then calculated. All variables, including graft diameter, leg length, height, and the leg length-to-height ratio, were entered into a data sheet, subjected to basic range and consistency checks, and reconciled against the source records when discrepancies were identified.

Statistical Analysis

All statistical analyses were performed using SPSS software (Statistical Package for the Social Sciences) version 27.0 (IBM Corp., Armonk, NY, USA). Descriptive statistics were presented as median (min -max) for normally distributed continuous variables and as median (minimum–maximum) for non-normally distributed variables. Categorical variables were summarized as frequencies (n) and percentages (%). The normality of continuous variables was assessed using the Shapiro-Wilk test. Correlation between anthropometric parameters (leg length, total body height, and leg length/ body height ratio) and hamstring tendon graft thickness was evaluated using Pearson correlation coefficients. Simple linear regression analysis was conducted to determine the individual predictive strength of each anthropometric parameter for graft thickness. Multivariate linear regression analysis was then performed to assess the combined effect of all anthropometric parameters on graft thickness. Receiver operating characteristic (ROC) curve analysis was used to evaluate the diagnostic performance of each anthropometric parameter in predicting a hamstring graft thickness of 8 mm or greater. The area under the curve (AUC), optimal cut-off values, sensitivity, and specificity were calculated. The optimal cut-off point was determined based on the Youden index. A p-value of less than 0.05 was considered statistically significant in all analyses.

A post-hoc sensitivity analysis for the Pearson correlation was performed using Fisher's z-transformation (two-sided $\alpha=0.05$). For the observed correlation between total body height and graft thickness (r=0.52), the achieved power exceeded 99.9%. With N=120, the study had ≥80% power to detect correlations. These calculations support the adequacy of the sample to detect clinically relevant effect sizes.

RESULTS

A total of 120 patients who met the inclusion criteria were included in the final analysis. The mean age of patients was 28.4±6.3 years, ranging from 18 to 42 years. Among these, 90 patients (75%) were male and 30 patients (25%) were female.

The mean intraoperative quadruple hamstring tendon graft thickness was 8.2±0.8 mm, with a range of 6.5 mm to 9.5 mm. The mean leg length measurement was 90.3±4.8 cm, while the average height was 175.5±7.6 cm. The mean leg length-to-height ratio was calculated as 0.51±0.02 (Table 1).

Correlation of anthropometric measurements with hamstring tendon graft thickness was shown in Table 2. Statistical analysis demonstrated a significant positive correlation between hamstring tendon graft thickness and leg length (r=0.48, p<0.001), height (r=0.52, p<0.001), and leg length-to-height ratio (r=0.40, p<0.05).

Linear regression analysis for predicting hamstring graft thickness is shown in Table 3. Height emerged as the strongest individual predictor of graft thickness (β=0.52, 95% CI: 0.35–0.69, R^2=0.27, p< 0.001), followed by leg length (β=0.48, 95% CI: 0.30–0.66, R^2=0.23, p< 0.001) and leg length/height ratio (β=0.40, 95% CI: 0.15–0.65, R^2 0.16, p=0.003).

Multivariate regression analysis for predicting hamstring graft thickness is shown in Table 4. According to the multivariate regression analysis, height remained the strongest independent predictor of hamstring graft thickness when all three anthropometric variables were included in the model (β=0.37, 95% CI: 0.20–0.54, p<0.001). Leg length also showed

Table 1. Demographic and anthropometric characteristics of the study population

Characteristics	Patients (n=120), n (%) or median (min-max)
Age (years)	28.5 (18-42)
Gender	
Male	90 (75%)
Female	30 (25%)
Height (cm)	175.5 (162-190)
Leg length (cm)	90.3 (82-98)
Leg length/height ratio	0.51 (0.47-0.55)
Hamstring tendon Thickness (mm)	8.2 (6.5-9.5)

Table 2. Correlation of anthropometric measurements with hamstring tendon graft thickness

Variables	Correlation coefficient (r)	p
Leg length (cm)	0.48	<0.001
Height (cm)	0.52	<0.001
Leg length/height ratio	0.40	<0.05

Table 3. Linear regression analysis for predicting hamstring graft thickness

Anthropometric parameter	β	95% CI	R^2	p
Leg length (cm)	0.48	0.30 - 0.66	0.23	<0.001
Height (cm)	0.52	0.35 - 0.69	0.27	<0.001
Leg length/body height ratio	0.40	0.15 - 0.65	0.16	0.003

CI: Confidence interval.

Table 4. Multivariate regression analysis for predicting hamstring graft thickness

Anthropometric parameter	β	95% CI	Standard error	p
Leg length (cm)	0.19	0.05 - 0.33	0.07	0.008
Height (cm)	0.37	0.20 - 0.54	0.09	<0.001
Leg length/height ratio	0.09	-0.12 - 0.30	0.10	0.350
Model R^2	0.32			<0.001

CI: Confidence interval.

Table 5. ROC analysis of anthropometric parameters predicting hamstring graft thickness ≥8 mm.

Anthropometric parameter	AUC (95% CI)	Cut-off	Sensitivity (%)	Specificity (%)	p
Leg length	0.78 (0.66-0.90)	≥ 89.5 cm	76.5	70.2	<0.001
Height	0.82 (0.70-0.94)	≥ 174.0 cm	82.4	75.0	<0.001
Leg length/body height ratio	0.70 (0.56-0.84)	≥ 0.50	68.8	65.4	0.006

ROC: Receiver operating characteristic; AUC: Area under the curve; CI: Confidence interval.

a statistically significant association with graft thickness (β=0.19, 95% CI: 0.05–0.33, p=0.008), while the leg length/height ratio did not reach statistical significance (β=0.09, 95% CI: -0.12 to 0.30, p=0.350). The overall model explained 32% of the variance in graft thickness (Model R^2=0.32, p<0.001).

The ROC analysis demonstrated that height was the most accurate anthropometric predictor for identifying patients with a hamstring graft thickness ≥8 mm, with an AUC of 0.82 (95% CI: 0.70–0.94), a sensitivity of 82.4%, and a specificity of 75.0% at a cut-off value of ≥174.0 cm (p<0.001). Leg length also demonstrated strong predictive performance, with an AUC of 0.78 (95% CI: 0.66–0.90), a sensitivity of 76.5%, and a specificity of 70.2% at a cut-off of ≥89.5 cm (p<0.001). The leg length/height ratio exhibited lower predictive accuracy, with an AUC of 0.70 (95% CI: 0.56–0.84), sensitivity of 68.8%, and specificity of 65.4% at a cut-off value of ≥0.50 (p=0.006) (Table 5, Fig. 1).

DISCUSSION

The present study evaluated the predictive value of selected anthropometric measurements, specifically leg length, total body height, and the leg length-to-height ratio, for preoperative estimation of hamstring tendon graft thickness in ACL reconstruction. Total body height was the strongest independent predictor, showing the greatest linear association and remaining significant in multivariable regression, with superior discriminative performance on receiver operating characteristic analysis.

These results are in agreement with several previous studies that have explored anthropometric predictors for graft sizing. For instance, Albishi et al. reported a significant correlation between graft thickness and anthropometric variables such as height and BMI, emphasizing height as one of the most reliable indicators [15]. Similarly, Bagherifard et al. identified thigh length and body height as consistent predictors of

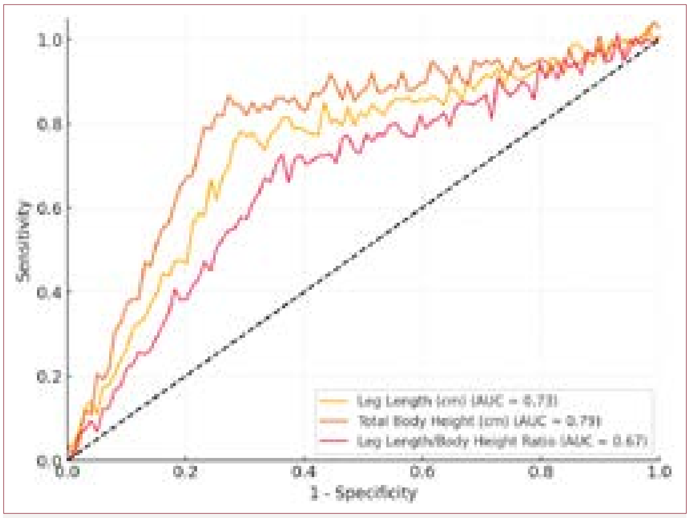

Figure 1. ROC curve for predicting hamstring graft thickness ≥8 mm.

hamstring tendon diameter in Iranian patients undergoing ACLR, further supporting our findings [21].

In this study, linear regression analysis revealed that height (β=0.52, R^2=0.27, p<0.001) outperformed leg length and leg length-to-body height ratio in predicting graft thickness. These results align with the study by Babalola and Akinyemi, which also found a strong correlation between semitendinosus tendon dimensions and patient height [20]. Moreover, Kremen et al. demonstrated that the combination of tendon parameters and anthropometric data, particularly height, improves the preoperative prediction of autograft diameter [22].

In the multivariate model, height remained the strongest predictor (β=0.37, p<0.001), whereas the leg length-to-height ratio did not reach statistical significance (p=0.350). This outcome highlights the limited utility of proportional indices compared to absolute measurements, such as height and leg length. Our ROC analysis further validated these conclusions, with height showing the highest area under the curve (AUC=0.82), sensitivity (82.4%), and specificity (75.0%) for predicting adequate graft thickness (≥8 mm). These diagnostic performance metrics are comparable to those reported in the study by Fucaloro et al., where preoperative ultrasound measurements correlated well with intraoperative tendon dimensions, particularly when combined with patient height [18].

Interestingly, while some authors have promoted the use of preoperative MRI or ultrasound for tendon sizing [17,19], this study demonstrates that simple and inexpensive anthropometric measurements may offer similar predictive capabilities. This is particularly relevant in low-resource settings or when imaging is unavailable or cost-prohibitive.

One strength of our study lies in its focus on a previously underexplored parameter, leg length and its relationship with tendon size. While studies like that of Bagherifard et al. [21] emphasized thigh length, our inclusion of leg length as a predictor provides a broader view of lower limb morphology's contribution to graft size estimation. However, our study is not without limitations. The sample size is modest, which may limit the generalizability of the findings. On the other hand, an a priori sample size calculation was not feasible due to the retrospective design; a post-hoc sensitivity analysis indicated that the study was adequately powered to detect clinically meaningful correlations (≥80% power for r≈0.25). Furthermore, we did not evaluate other potentially influential factors, such as thigh circumference or BMI, which have been shown to correlate with graft thickness in other populations [16, 20]. Additionally, information regarding patients' sports activity levels and occupations was not available in the medical records, and these factors may potentially influence tendon morphology and graft thickness. Finally, we analyzed both genders together.

CONCLUSION

In conclusion, our findings support the clinical utility of height and leg length as accessible and reliable predictors for preoperative estimation of hamstring tendon graft thickness. These measurements can help surgeons select the most suitable graft and reduce the risk of using undersized grafts, which are associated with higher failure rates and the need for revision surgeries.

DECLARATIONS

Ethics Committee Approval: The Hatay Mustafa Kemal University Local Ethics Committee approved this study (Date: 19/03/2025, Number: 04/58).

Informed Consent: Informed consent was not required due to the retrospective nature of this study.

Conflict of Interest: The authors declared no conflict of interest.

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REFERENCES

1. Faivre O, Prum G, Hulet C, Drigny J. Improved hamstring strength and knee position sense are associated with enhanced landing mechanics after anterior cruciate ligament reconstruction. J ISAKOS 2025;100858. [Crossref]
2. Acosta MT, Gobbi A. Complications in anterior cruciate ligament reconstruction Articular cartilage reconstruction: Review of concepts, techniques, complications, risk factors, and bail out salvage strategies. J Clin Orthop Trauma 2025;61:102875. [Crossref]
3. Husek F, Mizera R, Capek L, Horak Z. Early surgical treatment options for anterior cruciate ligament injury. Acta Chir Orthop Traumatol Cech 2025;92:45–51. [Crossref]
4. Brown CL, Worts PR, Dewig DR, Rolle GA, Ormsbee MJ. Return to play after an anterior cruciate ligament reconstruction in the collegiate athlete: A systematic review evaluating return to play proportions and associated factors. J Orthop Sports Phys Ther 2024;54:625–633. [Crossref]
5. Hulet C, Sonnery-Cottet B, Stevenson C, Samuelsson K, Laver L, Zdanowicz U, et al. The use of allograft tendons in primary ACL reconstruction. Knee Surg Sports Traumatol Arthrosc 2019;27:1754–70. [Crossref]
6. Han JH, Kim SH, Jung M, Moon HS, Chung K. Combined anterior cruciate ligament and anterolateral ligament reconstruction shows reduced graft failure rates and superior residual rotational stability regardless of anterolateral ligament reconstruction graft: A systematic review. J Clin Med 2025;14:2237. [Crossref]
7. Tabbaa A, Atkins M, Montalvo AM, Petit CB, White MS, Petushek EJ, et al. Lower ACLR failure rates in bone-soft tissue versus soft tissue-only allografts in adults: A systematic review and meta-analysis. Am J Sports Med 2025;53:734–44. [Crossref]
8. 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;40:1366–76. [Crossref]
9. Banovetz MT, Kennedy NI, LaPrade RF, Engebretsen L, Moatshe G. Biomechanical considerations for graft choice in anterior cruciate ligament reconstruction. Ann Jt 2023;8:17. [Crossref]
10. Neufeld EV, Sgaglione J, Sgaglione NA. Anterior cruciate ligament reconstruction graft options. Arthroscopy 2025;41:16–18. [Crossref]
11. Yang L, Chiu CH, Hsu KY, Chuang CA, Chen AC, Chan YS, et al. Using single peroneal longus tendon graft for segmental meniscus transplantation and revision anterior cruciate ligament combined anterolateral reconstruction. Medicina (Kaunas) 2023;59:1497. [Crossref]
12. Lin KM, Boyle C, Marom N, Marx RG. Graft selection in anterior cruciate ligament reconstruction. Sports Med Arthrosc Rev 2020;28:41–8. [Crossref]
13. Butt UM, Khan ZA, Amin A, Shah IA, Iqbal J, Khan Z. Peroneus longus tendon harvesting for anterior cruciate ligament reconstruction. JBJS Essent Surg Tech 2022;12:e2000053. [Crossref]
14. Thiel GE, Perleberg TD, Puga TB, Figuerres BF, Thiagarajan G, Dennis JF. Tensile strength of the Achilles tendon allograft: A comparative study of graft preparation technique. J Clin Med 2024;13:6488. [Crossref]
15. Albishi W, Aljasser S, Almalki M, Almohideb F, Alwahabi F (2025) Correlation between Anthropometric Parameters and Anterior Cruciate Ligament, Hamstring Tendon, and Posterior Horn of Medial and Lateral Meniscus Sizes. J Knee Surg 2025;38:518–24. [Crossref]
16. Mirzayan R, Chang RN, Royse KE, Reyes CE, Prentice HA, Maletis GB. Is there a hamstring autograft diameter threshold for anterior cruciate ligament reconstruction? Orthop J Sports Med 2025;13:23259671241305427. [Crossref]
17. Dworsky-Fried J, Hadwen A, Bernardini L, Vivekanantha P, Grassi A, Ollivier M, de Sa D. Quadriceps tendon autograft diameters are routinely above 8 mm, and preoperative size estimation before anterior cruciate ligament reconstruction may not be necessary for this graft type: A systematic review. Knee Surg Sports Traumatol Arthrosc 2025;33:3111–33. [Crossref]
18. Fucaloro S, Schreiner G, Ward M, Krivicich L, Bragg J, Harkey M, Salzler M. Utility of preoperative ultrasound in assessing the adequacy of autograft for anterior cruciate ligament reconstruction: a systematic review and meta-analysis. Skeletal Radiol 2025;54:869–78. [Crossref]
19. Ayres JM, Ose BM, Morey T, Brown E, Mar D, Henkelman E, Vopat BG, Goodman I, Randall J. Preoperative Magnetic Resonance Imaging Measurements of Hamstring Tendons' Cross-Sectional Area May Be Used to Predict the 5-Stranded Graft Diameter in Anterior Cruciate Ligament Reconstruction. Arthrosc Sports Med Rehabil 2024;7:101001. [Crossref]
20. Babalola OR, Akinyemi BA. Correlation of anthropometric parameters with semitendinosus tendon length in

anterior cruciate ligament injured patients. Acta Orthop Belg 2023;89:435–9. [Crossref]

21. Bagherifard A, Jabalameli M, Mohammadpour M, Bahari M, Karimi A, Naderi N, et al. Thigh Length as the Most Consistent Anthropometric Parameter in Predicting the Size of Hamstring Tendon Autografts in Patients Undergoing Anterior Cruciate Ligament Reconstruction: A Cross-Sectional Study. Med J Islam Repub Iran 2023;37:53.

22. Kremen TJ Jr, Arnold MT, Trivellas M, Shi BY, Jones KJ, Garcia-Mansilla I. Combined Assessments of Patellar Tendon and Hamstring Tendon Parameters on Preoperative Magnetic Resonance Imaging Can Improve Predictability of Hamstring Tendon Autograft Diameter in the Setting of Anterior Cruciate Ligament Reconstruction. Arthrosc Sports Med Rehabil 2022;4:e1913–21. [Crossref]