

Saphenous nerve

The pes anserinus was an important graft choice for anterior cruciate ligament (ACL) reconstruction. The infrapatellar branch of the saphenous nerve (IPBSN) might be damaged in this surgery. This study aimed to provide anatomic and ultrasonic measurement data of pes anserinus and superficial nerves.

METHODS: Eighty lower limb specimens of forty adult cadavers were dissected. The length, width, thickness, and the position of the tibial attachment of pes anserinus tendons were anthropometric measured, as well as the distance between the infrapatellar branch of the saphenous nerve and the pes anserinus. Sixty healthy adult participants were enrolled for ultrasonic research. The length, width, thickness of pes anserinus was also measured and the saphenous nerve was also assessed.

RESULTS: Anatomic results showed that there were 3 types of pes anserinus, the infrapatellar branch of the saphenous nerve (IPBSN) was almost paralleled to the upper edge of the pes anserinus tendon, and the average of distance between them was about 0.95 cm. The length of semitendinosus and gracilis tendons were 146.49 ± 12.83 mm and 124.62 ± 8.86 mm, the width of sartorius tendon was 25.58 ± 4.65 mm, wider than other tendons. The classification of pes anserinus tendons and the saphenous nerves could be identified in ultrasonic image. The length of semitendinosus and gracilis tendons were 151.35 ± 9.65 mm and 120.86 ± 8.99 mm, the width of sartorius tendon was 22.84 ± 3.83 mm. And there was no significance difference between anatomic and ultrasonic measurement ($P > .05$).

CONCLUSION: The morphology of pes anserinus and its peripheral structures could be identified and measured precisely by ultrasound device, a presurgical ultrasonic examination was recommended. The arrangement of pes anserinus tendons was classified into 3 types according to our results. The incision should be performed medial to tibial eminence 1.5 cm and under the tibial tubercle level 2 to 3 cm, an oblique incision formed an angle of 50° with tibial transection was recommend, which was parallel to the direction of pes anserinus tendon¹⁾.

¹⁾

Zhong S, Wu B, Wang M, Wang X, Yan Q, Fan X, Hu Y, Han Y, Li Y. The anatomical and imaging study of pes anserinus and its clinical application. *Medicine (Baltimore)*. 2018 Apr;97(15):e0352. doi: 10.1097/MD.00000000000010352. PubMed PMID: 29642176.

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