Anatomical considerations on treatment strategies for compression syndromes of the fibular nerve in the proximal leg

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BACKGROUND
Posttraumatic or iatrogen compression syndromes of the common fibular nerve (CFN) are frequent. Based on previous anatomical investigations the aim of this study was to analyse the course of the CFN along the proximal portion of the leg with respect to its relationship to the anterior intermuscular septum (AIS). Further sites of constriction or fibrous fixation should be defined.

MATERIAL AND METHODS
Anatomical dissection of 111 cadaveric leg specimens was performed. Twenty additional legs were used for histological examination of the respective region within the AIS of the leg. By means of medical records of three patients our current treatment strategy is demonstrated.

RESULTS
A tight fixation of the most proximal motor branch of the deep fibular nerve (DFN) within the AIS at its entering point to the anterior compartment could be demonstrated.

CONCLUSION
We conclude, that selective decompression not only of the CFN, but of the DFN branches which are fixed in the AIS along their course through the proximal portion of the leg, is mandatory during compression syndromes of the CFN.