The purpose of this study is to determine formation of the sural nerve (SN) and its components. In this study 100 limbs from 50 embalmed fetuses aged between 15-40 weeks of gestation with no external pathology or anomaly were studied in Department of Anatomy Laboratory Faculty of Medicine at SDU. SN and its components were seen by dissection. All contributions to the SN were noted and the origin of SN was classified into four main types. The contributions of the medial sural cutaneous nerve (MSCN) and peroneal communicating branch (PCB) were analyzed via histological techniques by axon counting. Type A was the anastomotic type, in which both the MSCN and the PCB contributed to the formation of the SN and was found 71% of the cases. Histological analyses showed that MSCN was thicker than the PCB, except one case. When the MSCN or PCB was in the place of the SN, at the origin and at the termination levels of the MSCN or PCB were analyzed and numbers of axons were equal. The present study has revealed that the formation of the SN during the fetal period. We hope that present results can be considered as providing some useful findings for future studies.

**Keywords:** fetus, sural nerve, axon counting