The aim of our research work was study of the nerves of the neck’s muscles and individual variability of their neuromuscular apparatus. This research has an important role in the clinical practice.

In order to study an individual anatomical variability of nerves of the suprhyoid and the infrahyoid muscles of human’s neck we’ve examined 55 corpses of people at the juvenile (7), mature (40) and old age( 8). The macromicroscopic, histological and morphometric methods of research were used in the work.

As a result of our research some regularities in the extraorganic and intraorganic innervations of the muscles and the character of their intratrunical structure were found. Special emphasis was given to the study of the relations between metric indications of the given group of muscles and quantitative characteristics of the myeloarchitectonic of their nerves. The correlation between individual peculiarities of the structure of the lower jaw and the configuration of the nerve branching in the mylohoid muscle was determined. In a dolichomorphic lower jaw mainly the magistral type of the branching is observed, in a brachymorphic one the scattered type is observed and in a mesomorphic the mixed or scattered types are present.

The investigation has shown that size and volume of muscles depend on the shape of a lower jaw and a neck. Individual variability in the topography and in the amount of nervous branches which come to the muscles was observed in the innervation of the studied muscles. Constant sources of innervation have been determined and additional sources of innervation have been identified. Intermuscular nervous connections were found between the nerves of the muscles of the right and left sides. Peculiarities of the intramuscular nerve branching and the regions of their peak concentration for each of the nerves have been determined.

The statistical analysis of the myeloarchitectonics showed quantitative differences in the composition of the myelin component of each studied nerve, while the information analysis revealed uniformity in their structure as communication channels.