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CENTRAL NERVOUS SYSTEM

Overview of Anatomy

Jiří Valenta

Pavel Fiala

Central Nervous System
Overview of Anatomy

prof. MUDr. Jiří Valenta, DrSc.
doc. RNDr. Pavel Fiala, CSc.

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Reviewers:
prof. MUDr. Josef Stingl, CSc.
prof. MUDr. Libor Páč, CSc.

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Preface

This concise overview of CNS anatomy is intended for first year medical students, who often find the neuroanatomy course one of the most difficult parts of their study. The text presents the basic CNS structures and their interrelations. The accompanying simplified drawings should make it easier for the students to understand the text; however, they are not intended to substitute for pictures in neuroanatomy textbooks. More detailed information can be found in the recommended literature listed under "References".

We hope that this short overview will help the students understand the nervous system in its functional unity.

J. V., P. F.

1/ Cells of the nervous system

1.1 Neurones

The neurone is the basic structural and functional unit. The total number of neurones in the human body is estimated at 10^{10}, their size varies from 5μm (interneurones) to more than 100 μm (motor neurones).

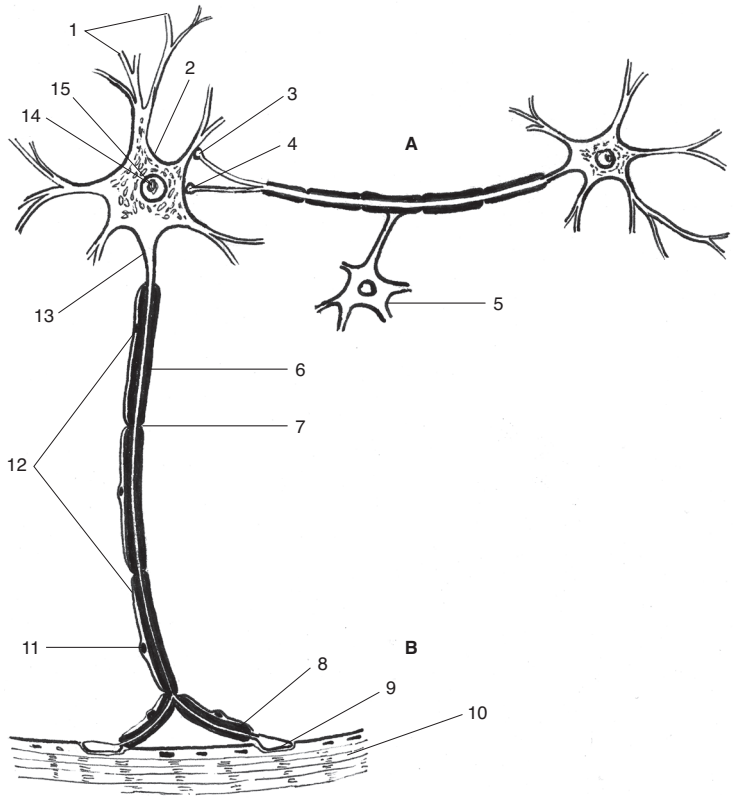

Fig. 1.1 **Diagram of neurones and their connections**

A – upper motoneurone located within the CNS

B – lower motoneurone

1 – dendrites, 2 – perikaryon, 3 – axodendritic synapse, 4 – axosomatic synapse, 5 – oligodendroglia, 6 – myelin sheath, 7 – node of Ranvier, 8 – teledendron, 9 – motor end-plate, 10 – skeletal muscle, 11 – Schwann cell (in PNS), 12 – axon, 13 – initial segment, 14 – nucleus, 15 – Nissl bodies