

# The Rehabilitation of Patients with Anatomical Variants of the Circle of Willis and Ischemic Stroke in a Multidisciplinary Context

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years, from several international medical libraries and databases such as Google Scholar, and PubMed. We used the following keywords: circle of Willis, variants, ischemic stroke, neurology, circle of Willis + and, rehabilitation, stroke, circle of Willis +.

Version as made available

**Results:** The study shows that the anatomical changes that lead to the impossibility of this anastomotic structure for professionals and students. Contact: Claudia Florida Costea, Grigore T. Popa University of Medicine and Pharmacy, Iasi, Romania, Tel: 04682318138, E-mail: costea10@yahoo.com

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## Introduction

The arterial circle of Willis (CoW) represents the main arterial anastomosis of the brain, which provides communication between two arterial systems: carotid and vertebro-basilar. In the cases presenting asymmetry of the arterial circle, in patients with stenosis or severe occlusion of the Internal Carotid artery (ICA), the blood can be reallocated to the ischemic area cerebral perfusion preservation. Thus, there is prevented the onset of ischemic events and their progression. Any changes in the morphology of the constituent arteries of the circle of Willis could lead to the appearance of different vascular insufficiency syndromes, the capacity of blood distribution in the arterial circle depending on the state of its component vessels [1]. Patients suffering from ICA occlusion but have an arterial circle of Willis with effective collateral circulation have a lower risk of ischemic or hemorrhagic stroke than those without such collaterals [1]. More and more articles reporting various variations from the original definition have appeared in the literature. The autopsic or imagistic studies published so far show that a normal CoW occurs only in 16.6% or, respectively in 42.8% of





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