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NEUROIMAGING AND NEUROGENESIS OF DEPRESSION

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Introduction: Until only a few years ago, the adult brain was considered to be an organ with a fixed structure, unable to remodel or repair itself. Today, neuroscientists and neurobiologists use the term “neuroplasticity” to indicate an ability of some nervous system regions to change their structure, eventually altering their overall functionality.

Aim: The presentation reviews the implication for the conceptualization of and investigation of depression arising from neuroplastic change and neurogenesis in the brain.

Results: Animal experimental and human studies have shown the effects of stress and depression to affect brain structure and function, e.g. of the hippocampus. Exercise, learning and antidepressant treatment was shown to have beneficial neuroplastic effects.

Discussion: Long-term interventions should also target the molecular mechanisms linked with neuroplastic adaptive dysfunctions in the brain. Possibilities how psychotherapy and pharmacotherapy could achieve this aim will be discussed.