One in five older adults experience brain network weakening following knee replacement surgery

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A new University of Florida [5] study finds that 23 percent of adults age 60 and older who underwent a total knee replacement experienced a decline in activity in at least one region of the brain responsible for specific cognitive functions. Fifteen percent of patients declined across all brain networks the team evaluated.

[6]The study, which was published online (February 6, 2018) ahead of print in the Journal of Alzheimer’s Disease, was conducted to help scientists understand the causes of postsurgical cognitive impairment, which causes memory and thinking problems in about 15 to 30 percent of older adult patients. In most cases, these thinking and memory problems will resolve within six months to a year after surgery. You can read the full article online via the UF Health Newsroom [7]:

- One in five older adults experience brain network weakening following knee replacement surgery [8]
One in five older adults experience brain network weakening following knee replacement surgery.

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This study/project is part of a larger investigation involving:

- **Catherine Price, PhD** [9], senior author (Departments of **Clinical and Health Psychology** [10] and **Anesthesiology** [11])
- **Mingzhou Ding, PhD** [12], senior author (Department of **Biomedical Engineering** [13])
- **Thomas Mareci, PhD** [14] (Department of **Biochemistry and Molecular Biology** [15])
- **Hari Parvataneni, MD** [16] (Department of **Orthopaedics and Rehabilitation** [17])
- **Ilona Schmalfuss, MD** [18] (Department of **Radiology** [19])
- Mark Rice, MD and **Cynthia Garvan, PhD** [20] (Department of **Anesthesiology** [11])
- **Ann Horgas, PhD** [21] (Department of **Biobehavioral Nursing Science** [22])

The research was supported by funding from the **National Institutes of Health** [23].


**Links:**
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