

ESSR Journal Club

Covered Article: “Protective Effects of Exercise on Cognition and Brain Health in Older Adults”

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- 1) Suggest reasons why older adults do not meet the recommended ACSM physical activity guidelines. Name some strategies that can help older adults attain the recommended exercise dose.
- 2) What role does the cerebrovascular system play in the development and pathophysiology of dementia?
- 3) Describe broadly the “multiple, mutually complementary and interacting factors” hypothesized by the authors that optimize cognition and brain health in older adults. Which factors might be most affected by physical activity?
- 4) Design an animal or human research study in which you can assess the influence of physical activity on the different factors modulate brain health in older adults. How could you determine if these factors influence brain health independently or if they work together?
- 5) Most of the factors discussed in this review are modifiable risk factors, except for genetic risk. What influence does genetic risk play in the development of disease? What is meant when we call *APOE* a risk gene? Why does penetrance vary in different diseases, in particular dementia and Alzheimer disease?
- 6) What is the metabolic syndrome? How do the components of the metabolic syndrome influence cerebrovascular regulation?
- 7) Which Psychological and Lifestyle factor plays the most significant role in brain health? How does this factor interact with physical activity?