

Jumpstarter

Anesthesia, Surgery, and Dementia

Access downloadable resources to jump-start your search on anesthesia in older adults and those living with dementia. Use the tools and the research articles as a basis for questions you might ask your doctor or surgical team.

While exploring this brief resource, keep in mind that [delirium](#), which often occurs after surgery in older adults, is different from cognitive decline and dementia. In order to achieve good outcomes, it is important to know ahead of surgery whether a person has a diagnosis of dementia so it can be determined if they are at a higher risk for delirium. Older adults are more sensitive to anesthetic agents and generally require smaller doses for the same clinical effect. Drug action is usually prolonged.

Resources

2019 Updated AGS Beers Criteria for potentially inappropriate medication in older adults

New York, NY: American Geriatrics Society.

Benzodiazepines should typically be avoided for persons living with dementia, but may be recommended in the U.S. for periprocedural anesthesia [occurring soon before, during, or soon after surgery]. See Table 2, page 680.

<https://onlinelibrary.wiley.com/doi/epdf/10.1111/jgs.15767>

Alzheimer's disease and surgery

Atlanta, GA: WebMD.

Covers the issues to consider when deciding about surgery, questions to ask before surgery, sedation, what to expect from the surgery, after surgery, problems to watch for, pain and follow-up care.

<https://www.webmd.com/alzheimers/alzheimers-surgery#1>

Anesthesia for older people with dementia

Kingston, ACT, Canberra: Dementia Australia LTD.

Family members report anecdotally that the person living with dementia is not the same after anesthesia. This sheet from the Australian government describes the different types of problems that may occur. Answers these questions: can anesthesia cause dementia? - can anesthesia make it worse? - what causes post-operative cognitive problems? - does type of anesthesia make a difference?

https://www.dementia.org.au/files/helpsheets/Helpsheet-DementiaQandA20-Anaesthesia_english.pdf

Anesthesia facts for non-medical people: anesthesia medications

Richard Novak

The personal web site of a board certified anesthesiologist who writes about common anesthesia medications used in the U.S. today.

<https://theanesthesiaconsultant.com/anesthetic-medications>

Decisions about surgery

Melbourne, AU: BetterHealth Channel, Victoria State Government

A general tip sheet about making your own decisions, questions to ask the surgeon, consenting to treatment, and where to get help.

<https://www.betterhealth.vic.gov.au/health/ServicesAndSupport/making-decisions-about-surgery>

Drugs used for anesthesia

Dallas, TX: Drug.com.

A compendium of drug names ranked by “popularity” calculated from the web site, Drugs.com, not by usage in surgery. Provides a link to the drug with a description of drug, important information, side effects, and other drugs that will affect the anesthetic.

https://www.drugs.com/condition/anesthesia.html?category_id=&include_rx=true&include_otc=true&show_off_label=true&submitted=true

Geriatrics (anesthesia text)

San Francisco, CA: OpenAnesthesia; International Anesthesia Research Society.

This technical information covers changes associated with aging, heart, lungs, liver, kidneys, and blood pressure, and their implications and research related to surgery.

Additionally it addresses management during surgery (perioperative), regional versus general anesthesia, pain, mental status, and recovery from anesthesia.

http://www.openanesthesia.org/geriatrics_anesthesia_text/

Optimal perioperative management of a geriatric patient: best practices/ guidelines from ACS NSQIP /

Chicago, IL: American College of Surgeons.

Provides all-in-one guidelines for pre-, intra-, and postoperative management of geriatric patients, transition to care following surgery, tools for developing treatment plans, and more.

<https://www.facs.org/quality-programs/acs-nsqip/geriatric-periop-guideline>

Seniors and anesthesia.

Schaumburg, IL: American Society of Anesthesiologists (ASA)

Covers types of anesthesia, risks to older adults, cognition and how to reduce risks of confusion after surgery (practical tips and with the care team), and the qualifications of the anesthesiologists you should expect.

https://www.asahq.org/whensecondscount/wp-content/uploads/2017/10/asa_seniors-anesthesia_final.pdf

Anesthesia Research

Evered L; Silbert B; Knopman DS; et al. Recommendations for the nomenclature of cognitive change associated with anaesthesia and surgery – 2018. *Anesthesiology*. Nov 2018; vol. 129(5), pp. 872-879.

Full-text: <https://anesthesiology.pubs.asahq.org/article.aspx?articleid=2707390>

Funder, KS; Steimmetz LSR. Anaesthesia for the patient with dementia undergoing outpatient surgery. *Current Opinions in Anesthesiology*. 2009; vol. vol. 7, pp. 712-717.

<http://ether.stanford.edu/asc1/documents/elderly2.pdf>

Hussain M; Berger M; Eckenhoff RG; et al. General anesthetic and the risk of dementia in elder patients: current insights. *Clinical Interventions in Aging*. Sep 24, 2014; vol. 9, pp. 1619-1628.

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/25284995>

Jiang, J; Dong Y; Huang W; et al. General anesthesia exposure and risk of dementia: a meta-analysis of epidemiological studies. *Oncotarget*. Aug 29, 2017; vol. 8(35), pp. 59628-59637.

“overall the evidence from epidemiological studies supporting a link between general anesthesia exposure and an increased dementia risk is not very strong, while an association was suggested in the studies collecting anesthesia exposure using records and those providing anesthesia exposure frequency data.”

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/28938666>

Kanonidou Z; Karystianou, G. Anesthesia for the elderly. *Hippokratia*. Oct-Dec 2007; vol. 11(4), pp 175-177.

Full-text: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2552979/>

Kumar CM; Gopal L; Seet E. Choosing anesthesia for cataract surgery in patients with dementia. *Journal of Anaesthesiology, Clinical Pharmacology*. Jan-Mar 2019; vol. 35(1), pp. 81-84.

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/31057246>

Morandi, A; Davis D; Bellelli G; et al. The diagnosis of delirium superimposed on dementia: an emerging challenge: *Journal of the American Medical Directors Association*. Jan 2017; vol. 18(1), pp. 12-18.

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/27650668>

Needham MJ; Webb CE; Bryden DC. Postoperative cognitive dysfunction and dementia: what we need to know and do. *British Journal of Anesthesia*. Dec 1, 2017; vol. 119(suppl 1), pp. i115-i125.

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/29161395>

Siddiqi- N; Harrison, JK; Clegg A; et al. Interventions for preventing delirium in hospitalized non-ICU patients. *Cochrane Database Systematic Review*. Mar 2016; vol. 11(3).

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/26967259>

Silverstein JH; Deiner SG; Perioperative delirium and its relationship to dementia. *Progress in Neuro-Psychopharmacology and biological psychiatry*. Jun 3, 2013; vol. 43, pp. 108-115.

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/23220565>

Schulte PJ; Roberts RO; Knopman DS; et al. Association between exposure to anaesthesia and surgery and long-term cognitive trajectories in older adults: report from the Mayo Clinic Study of Aging. *British Journal of Anaesthesia*. Aug 2018; vol. 121(2), pp. 398-405).

1,819 participants found that exposure to anesthesia after 70 was linked to long-term changes in brain function. The authors emphasized that it is not possible to determine whether anesthesia, surgery or the underlying conditions necessitating surgery caused the decline.

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/30032878>

Vlisides P; Avidan M. Recent advances in preventing and managing postoperative delirium. *F1000Research*. May 1, 2019; 8

Full-text: <https://www.ncbi.nlm.nih.gov/pubmed/31105934>

News

Is surgery right for your older loved one?

Washington, DC: U.S. News and World Report.

Covers special considerations for frail, chronic conditions, current medications, and mental health status.

<https://health.usnews.com/health-care/patient-advice/articles/2018-06-06/is-surgery-right-for-your-older-loved-one>

Will surgery sap your brain power?

Science Magazine

Washington, DC: American Association for the Advancement of Science)

<https://www.sciencemag.org/news/2017/05/will-surgery-sap-your-brain-power>