

Perioperative Neurocognitive Disorders

2022

[Risk of Parkinson's disease after anaesthesia and surgery.](#)

Jain S, Rosenbaum PR, Reiter JG, Hill AS, Wolk DA, Hashemi S, Fleisher LA, Eckenhoff R, Silber JH.
Br J Anaesth. 2022 Apr;128(4):e268-e270.

2021

[Anesthetic Effects on the Progression of Parkinson Disease in the Rat DJ-1 Model.](#)

Xu DA, DeYoung TP, Kondoleon NP, Eckenhoff RG, Eckenhoff MF.
Anesth Analg. 2021 Nov 1;133(5):1140-1151.

[Improving perioperative brain health: an expert consensus review of key actions for the perioperative care team.](#)

Peden CJ, Miller TR, Deiner SG, Eckenhoff RG, Fleisher LA; Members of the Perioperative Brain Health Expert Panel.
Br J Anaesth. 2021 Feb;126(2):423-432.

2020

[Using Medicare claims in identifying Alzheimer's disease and related dementias.](#)

Jain S, Rosenbaum PR, Reiter JG, Hoffman G, Small DS, Ha J, Hill AS, Wolk DA, Gaulton T, Neuman MD, Eckenhoff RG, Fleisher LA, Silber JH.
Alzheimers Dement. 2020 Oct 8;10.1002/alz.12199.

[Untangling anaesthesia and amyloid.](#)

Walker KA, Eckenhoff RG, Brown CH 4th.Br
J Anaesth. 2020 Sep;125(3):232-235.

[Perioperative Neurocognitive Disorder: Reply.](#)

Eckenhoff RG, Eckenhoff MF.
Anesthesiology. 2020 Jul;133(1):243-244.

[International drive to illuminate delirium: A developing public health blueprint for action.](#)

Khachaturian AS, Hayden KM, Devlin JW, Fleisher LA, Lock SL, Cunningham C, Oh ES, Fong TG, Fick DM, Marcantonio ER, Iyengar V, Rockwood K, Kuchel GA, Eckenhoff RG, MacLulich AMJ, Jones RN, Davis D, D'Antonio PM, Fargo KN, Albert MS, Williamson JD, Ling SM, Weiss J, Karlawish J, Petersen RC, Blazer DG, Khachaturian ZS, Inouye SK.
Alzheimers Dement. 2020 May;16(5):711-725.

[Adherence to recommended practices for perioperative anesthesia care for older adults among US anesthesiologists: results from the ASA Committee on Geriatric Anesthesia-Perioperative Brain Health Initiative ASA member survey.](#)

Deiner S, Fleisher LA, Leung JM, Peden C, Miller T, Neuman MD; ASA Committee on Geriatric Anesthesia and the ASA Perioperative Brain Health Initiative.
Perioper Med (Lond). 2020 Feb 25;9:6.

[Perioperative Neurocognitive Disorder: State of the Preclinical Science.](#)

Eckenhoff RG, Maze M, Xie Z, Culley DJ, Goodlin SJ, Zuo Z, Wei H, Whittington RA, Terrando N, Orser BA, Eckenhoff MF.
Anesthesiology. 2020 Jan;132(1):55-68.

2019

[In Response.](#)

Berger M, Angst MS, Culley DJ, Price CE, Scott DA, Whittington RA, Eckenhoff RG; Perioperative Neurotoxicity Working Group.
Anesth Analg. 2019 Sep;129(3):e112-e113.

[Recommendations for a new perioperative cognitive impairment nomenclature.](#)

Evered L, Silbert B, Scott DA, Eckenhoff RG.
Alzheimers Dement. 2019 Aug;15(8):1115-1116.

[Prevalence and Multivariable Factors Associated With Preoperative Cognitive Impairment in Outpatient Surgery in the United States.](#)

Gaulton TG, Eckenhoff RG, Neuman MD.
Anesth Analg. 2019 Jul;129(1):e5-e7.

2018

[Recommendations for the nomenclature of cognitive change associated with anaesthesia and surgery-2018.](#)

Evered L, Silbert B, Knopman DS, Scott DA, DeKosky ST, Rasmussen LS, Oh ES, Crosby G, Berger M, Eckenhoff RG; Nomenclature Consensus Working Group.
Br J Anaesth. 2018 Nov;121(5):1005-1012

[Recommendations for the Nomenclature of Cognitive Change Associated with Anaesthesia and Surgery-2018.](#)

Evered L, Silbert B, Knopman DS, Scott DA, DeKosky ST, Rasmussen LS, Oh ES, Crosby G, Berger M, Eckenhoff RG; Nomenclature Consensus Working Group.
Anesthesiology. 2018 Nov;129(5):872-879.

[Recommendations for the Nomenclature of Cognitive Change Associated With Anaesthesia and Surgery-2018.](#)

Evered L, Silbert B, Knopman DS, Scott DA, DeKosky ST, Rasmussen LS, Oh ES, Crosby G, Berger M, Eckenhoff RG; Nomenclature Consensus Working Group.
Anesth Analg. 2018 Nov;127(5):1189-1195

[Recommendations for the nomenclature of cognitive change associated with anaesthesia and surgery-2018.](#)

Evered L, Silbert B, Knopman DS, Scott DA, DeKosky ST, Rasmussen LS, Oh ES, Crosby G, Berger M, Eckenhoff RG; Nomenclature Consensus Working Group.
Acta Anaesthesiol Scand. 2018 Nov;62(10):1473-1480.

[Recommendations for the nomenclature of cognitive change associated with anaesthesia and surgery-2018.](#)

Evered L, Silbert B, Knopman DS, Scott DA, DeKosky ST, Rasmussen LS, Oh ES, Crosby G, Berger M, Eckenhoff RG; Nomenclature Consensus Working Group^a.

Can J Anaesth. 2018 Nov;65(11):1248-1257.

[Recommendations for the Nomenclature of Cognitive Change Associated with Anaesthesia and Surgery-20181.](#)

Evered L, Silbert B, Knopman DS, Scott DA, DeKosky ST, Rasmussen LS, Oh ES, Crosby G, Berger M, Eckenhoff RG; Nomenclature Consensus Working Group.
J Alzheimers Dis. 2018;66(1):1-10.

[Best Practices for Postoperative Brain Health: Recommendations From the Fifth International Perioperative Neurotoxicity Working Group.](#)

Berger M, Schenning KJ, Brown CH 4th, Deiner SG, Whittington RA, Eckenhoff RG, Angst MS, Avramescu S, Bekker A, Brzezinski M, Crosby G, Culley DJ, Eckenhoff M, Eriksson LI, Evered L, Ibinson J, Kline RP, Kofke A, Ma D, Mathew JP, Maze M, Orser BA, Price CC, Scott DA, Silbert B, Su D, Terrando N, Wang DS, Wei H, Xie Z, Zuo Z; Perioperative Neurotoxicity Working Group.
Anesth Analg. 2018 Oct 9.

[Between a ROCK and an IR Place.](#)

Pan JZ, Eckenhoff RG.
Anesth Analg. 2018 Mar;126(3):750-751

[One to rule them all?](#)

Terrando N, Eckenhoff RG.
Br J Anaesth. 2018 Mar;120(3):428-430

[Stroke 112: A Universal Stroke Awareness Program to Reduce Language and Response Barriers.](#)

Zhao J, Eckenhoff MF, Sun WZ, Liu R.
Stroke. 2018 Jul;49(7):1766-1769.

2017

[Perioperative cognitive disorders. Response to: Postoperative delirium portends descent to dementia.](#)

Evered L, Eckenhoff RG; International Perioperative Cognition Nomenclature Working Group.
Br J Anaesth. 2017 Dec 1;119(6):1241.

[Effects of propofol and surgery on neuropathology and cognition in the 3xTgAD Alzheimer transgenic mouse model.](#)

Mardini F, Tang JX, Li JC, Arroliga MJ, Eckenhoff RG, Eckenhoff MF.
Br J Anaesth. 2017 Sep 1;119(3):472-480

2016

[From the Cover: Volatile Anesthetics Transiently Disrupt Neuronal Development in Neonatal Rats.](#)

Drobish JK, Gan ZS, Cornfeld AD, Eckenhoff MF.
Toxicol Sci. 2016; 154(2):309-319.

[Absence of Neuropathology With Prolonged Isoflurane Sedation in Healthy Adult Rats.](#)

DeYoung TP, Li JC, Tang X, Ward CG, Dworkin BR, Eckenhoff MF, Kofke WA.
J Neurosurg Anesthesiol. 2016 Sep 20.

[Fallacy... Really?](#) Eckenhoff RG, Hogan KJ, Evered L.

Anesthesiology. 2016; 125(2):426-8.

[Mechanisms of the Immunological Effects of Volatile Anesthetics: A Review.](#) Yuki K, Eckenhoff RG.
Anesth Analg. 2016; 123(2):326-35.

[Neurocognitive Adverse Effects of Anesthesia in Adults and Children: Gaps in Knowledge.](#)
Ward CG, Eckenhoff RG.
Drug Saf. 2016 Jul;39(7):613-26.

2015

[Potential Adverse Effects of Anesthesia in Children.](#) Ward CM, Hogan KJ, Eckenhoff RG.
JAMA. 2015; 314(4):408-9.

[Functional outcomes after critical illness in the elderly.](#) Neuman MD, Eckenhoff RG.
Crit Care Med. 2015; 43(6):1340-1.

[Taxane modulation of anesthetic sensitivity in surgery for nonmetastatic breast cancer.](#)
Linganna RE, Levy WJ, Dmochowski JJ, Eckenhoff RG, Speck RM.
J Clin Anesth. 2015; 27(6):481-5.

[Perioperative neurotoxicity in the elderly: summary of the 4th International Workshop.](#) Terrando N, Eriksson LI, Eckenhoff RG.
Anesth Analg. 2015; 120(3):649-52.

[Long-term dantrolene treatment reduced intraneuronal amyloid in aged Alzheimer triple transgenic mice.](#) Wu Z, Yang B, Liu C, Liang G, Liu W, Pickup S, Meng Q, Tian Y, Li S, Eckenhoff MF, Wei H.
Alzheimer Dis Assoc Disord. 2015; 29(3):184-91.

2014

[General anesthetic and the risk of dementia in elderly patients: current insights.](#) Hussain M, Berger M, Eckenhoff RG, Seitz DP.
Clin Interv Aging. 2014; 9:1619-28.

[Anesthetic preconditioning inhibits isoflurane-mediated apoptosis in the developing rat brain.](#) Peng J, Drobish JK, Liang G, Wu Z, Liu C, Joseph DJ, Abdou H, Eckenhoff MF, Wei H.
Anesth Analg. 2014; 119(4):939-46.

2013

[Anesthesia, surgery and neurodegeneration. Preface.](#)
Eckenhoff RG, Planel E.
Prog Neuropsychopharmacol Biol Psychiatry. 2013; 47:121.

[Differential general anesthetic effects on microglial cytokine expression.](#)
Ye X, Lian Q, Eckenhoff MF, Eckenhoff RG, Pan JZ.
PLoS One. 2013; 8(1):e52887.

[Modulation of murine Alzheimer pathogenesis and behavior by surgery.](#) Tang JX, Mardini F, Janik LS, Garrity ST, Li RQ, Bachlani G, Eckenhoff RG, Eckenhoff MF.
Ann Surg. 2013; 257(3):439-48.

[Anesthetic effects in Alzheimer transgenic mouse models.](#) Tang JX, Eckenhoff MF. Prog Neuropsychopharmacol Biol Psychiatry. 2013; 47:167-71.

2012

[Anesthesia, surgery, illness and Alzheimer's disease.](#) Eckenhoff RG, Laudansky KF. Prog Neuropsychopharmacol Biol Psychiatry. 2013; 47:162-6.

[Dantrolene ameliorates cognitive decline and neuropathology in Alzheimer triple transgenic mice.](#) Peng J, Liang G, Inan S, Wu Z, Joseph DJ, Meng Q, Peng Y, Eckenhoff MF, Wei H. Neurosci Lett. 2012; 516(2):274-9.

[Neurodevelopmental consequences of sub-clinical carbon monoxide exposure in newborn mice.](#) Cheng Y, Thomas A, Mardini F, Bianchi SL, Tang JX, Peng J, Wei H, Eckenhoff MF, Eckenhoff RG, Levy RJ. PLoS One. 2012; 7(2):e32029.

[Postoperative cognitive decline: where art tau?](#) Eckenhoff RG, Planel E. Anesthesiology. 2012; 116(4):751-2.

2011

[Human Alzheimer and inflammation biomarkers after anesthesia and surgery.](#) Tang JX, Baranov D, Hammond M, Shaw LM, Eckenhoff MF, Eckenhoff RG. Anesthesiology. 2011 Oct;115(4):727-32.

[Anesthesia in presymptomatic Alzheimer's disease: a study using the triple-transgenic mouse model.](#) Tang JX, Mardini F, Caltagarone BM, Garrity ST, Li RQ, Bianchi SL, Gomes O, Laferla FM, Eckenhoff RG, Eckenhoff MF. Alzheimers Dement. 2011; 7(5):521-531.e1.

[Anesthetic modulation of neuroinflammation in Alzheimer's disease.](#) Tang JX, Eckenhoff MF, Eckenhoff RG. Curr Opin Anaesthesiol. 2011; 24(4):389-94.

[The common inhaled anesthetic isoflurane increases aggregation of huntingtin and alters calcium homeostasis in a cell model of Huntington's disease.](#) Wang Q, Liang G, Yang H, Wang S, Eckenhoff MF, Wei H. Toxicol Appl Pharmacol. 2011; 250(3):291-8.

2010

[Acute anemia elicits cognitive dysfunction and evidence of cerebral cellular hypoxia in older rats with systemic hypertension.](#) Li M, Bertout JA, Ratcliffe SJ, Eckenhoff MF, Simon MC, Floyd TF. Anesthesiology. 2010; 113(4):845-58.

[A smoking gun but still no victim.](#) Eckenhoff MF, Eckenhoff RG. J Alzheimers Dis. 2010; 19(4):1259-61.

[Anesthetic-induced neurodegeneration mediated via inositol 1,4,5-trisphosphate receptors.](#) Zhao Y, Liang G, Chen Q, Joseph DJ, Meng Q, Eckenhoff RG, Eckenhoff MF, Wei H.

J Pharmacol Exp Ther. 2010; 333(1):14-22.

[Inhaled anesthetic potency in aged Alzheimer mice.](#) Bianchi SL, Caltagarone BM, Laferla FM, Eckenhoff RG, Kelz MB.

Anesth Analg. 2010; 110(2):427-30.

[Anesthesia and the old brain.](#) Tang J, Eckenhoff MF, Eckenhoff RG.

Anesth Analg. 2010; 110(2):421-6.

2009

[Consensus statement: First International Workshop on Anesthetics and Alzheimer's disease.](#) Baranov D, Bickler PE, Crosby GJ, Culley DJ, Eckenhoff MF, Eckenhoff RG, Hogan KJ, Jevtovic-Todorovic V, Palotás A, Perouansky M, Planel E, Silverstein JH, Wei H, Whittington RA, Xie Z, Zuo Z; First International Workshop on Anesthetics and Alzheimer's Disease.

Anesth Analg. 2009; 108(5):1627-30.

2008

[A presenilin-1 mutation renders neurons vulnerable to isoflurane toxicity.](#) Liang G, Wang Q, Li Y, Kang B, Eckenhoff MF, Eckenhoff RG, Wei H.

Anesth Analg. 2008; 106(2):492-500.

[The common inhalational anesthetic isoflurane induces apoptosis via activation of inositol 1,4,5-trisphosphate receptors.](#) Wei H, Liang G, Yang H, Wang Q, Hawkins B, Madesh M, Wang S, Eckenhoff RG.

Anesthesiology. 2008; 108(2):251-60.

[Brain and behavior changes in 12-month-old Tg2576 and nontransgenic mice exposed to anesthetics.](#)

Bianchi SL, Tran T, Liu C, Lin S, Li Y, Keller JM, Eckenhoff RG, Eckenhoff MF.

Neurobiol Aging. 2008; 29(7):1002-10.

2007

[Inhaled anesthetic modulation of amyloid beta\(1-40\) assembly and growth.](#) Carnini A, Lear JD, Eckenhoff RG.

Curr Alzheimer Res. 2007; 4(3):233-41.

2006

[Interactions of volatile anesthetics with neurodegenerative-disease-associated proteins.](#) Carnini A, Eckenhoff MF, Eckenhoff RG.

Anesthesiol Clin. 2006; 24(2):381-405.

2005

[Isoflurane and sevoflurane affect cell survival and BCL-2/BAX ratio differently.](#) Wei H, Kang B, Wei W, Liang G, Meng QC, Li Y, Eckenhoff RG.

Brain Res. 2005; 1037(1-2):139-47.

2004

[Inhaled anesthetic enhancement of amyloid-beta oligomerization and cytotoxicity.](#) Eckenhoff RG, Johansson JS, Wei H, Carnini A, Kang B, Wei W, Pidikiti R, Keller JM, Eckenhoff MF. Anesthesiology. 2004; 101(3):703-9.