

# W Alan C Mutch

## List of Publications by Year in descending order

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93  
papers

2,618  
citations

186265

28  
h-index

197818

49  
g-index

97  
all docs

97  
docs citations

97  
times ranked

1739  
citing authors

#	ARTICLE	IF	CITATIONS
1	Extracellular pH Changes during Spreading Depression and Cerebral Ischemia: Mechanisms of Brain pH Regulation. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1984, 4, 17-27.	4.3	297
2	Biologically Variable or Naturally Noisy Mechanical Ventilation Recruits Atelectatic Lung. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2000, 162, 319-323.	5.6	198
3	Lumbar Cerebrospinal Fluid Drainage for Thoracoabdominal Aortic Surgery. <i>Anesthesia and Analgesia</i> , 2010, 111, 46-58.	2.2	141
4	Biologically variable ventilation increases arterial oxygenation over that seen with positive end-expiratory pressure alone in a porcine model of acute respiratory distress syndrome. <i>Critical Care Medicine</i> , 2000, 28, 2457-2464.	0.9	139
5	Improved arterial oxygenation after oleic acid lung injury in the pig using a computer-controlled mechanical ventilator.. <i>American Journal of Respiratory and Critical Care Medicine</i> , 1996, 154, 1567-1572.	5.6	127
6	Improved Arterial Oxygenation with Biologically Variable or Fractal Ventilation Using Low Tidal Volumes in a Porcine Model of Acute Respiratory Distress Syndrome. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2002, 165, 456-462.	5.6	106
7	Epidural Anesthesia and Acutely Increased Intracranial Pressure. <i>Anesthesiology</i> , 1996, 85, 1086-1091.	2.5	76
8	Neuroimaging Assessment of Cerebrovascular Reactivity in Concussion: Current Concepts, Methodological Considerations, and Review of the Literature. <i>Frontiers in Neurology</i> , 2016, 7, 61.	2.4	76
9	Biologically variable ventilation prevents deterioration of gas exchange during prolonged anaesthesia. <i>British Journal of Anaesthesia</i> , 2000, 84, 197-203.	3.4	71
10	Brain magnetic resonance imaging CO2 stress testing in adolescent postconcussion syndrome. <i>Journal of Neurosurgery</i> , 2016, 125, 648-660.	1.6	69
11	Quantitative computed tomography in porcine lung injury with variable versus conventional ventilation: Recruitment and surfactant replacement*. <i>Critical Care Medicine</i> , 2011, 39, 1721-1730.	0.9	57
12	Biologically variable ventilation improves gas exchange and respiratory mechanics in a model of severe bronchospasm*. <i>Critical Care Medicine</i> , 2007, 35, 1749-1755.	0.9	54
13	A comparison of biologically variable ventilation to recruitment manoeuvres in a porcine model of acute lung injury. <i>Respiratory Research</i> , 2004, 5, 22.	3.6	44
14	Patient-Specific Alterations in CO2 Cerebrovascular Responsiveness in Acute and Sub-Acute Sports-Related Concussion. <i>Frontiers in Neurology</i> , 2018, 9, 23.	2.4	43
15	Cerebral Hypoxia During Cardiopulmonary Bypass: A Magnetic Resonance Imaging Study. <i>Annals of Thoracic Surgery</i> , 1997, 64, 695-701.	1.3	42
16	Approaches to Brain Stress Testing: BOLD Magnetic Resonance Imaging with Computer-Controlled Delivery of Carbon Dioxide. <i>PLoS ONE</i> , 2012, 7, e47443.	2.5	41
17	Cerebral Pressure-Flow Relationship during Cardiopulmonary Bypass in the Dog at Normothermia and Moderate Hypothermia. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1994, 14, 510-518.	4.3	40
18	Left Ventricular Systolic and Diastolic Function Is Unaltered During Propofol Infusion in Newborn Swine. <i>Anesthesia and Analgesia</i> , 1998, 86, 717-723.	2.2	39

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19	Biologically Variable Ventilation Improves Oxygenation and Respiratory Mechanics during One-lung Ventilation. <i>Anesthesiology</i> , 2006, 105, 91-97.	2.5	38
20	Brain MRI CO2 Stress Testing: A Pilot Study in Patients with Concussion. <i>PLoS ONE</i> , 2014, 9, e102181.	2.5	38
21	Convexity, Jensen's inequality and benefits of noisy mechanical ventilation. <i>Journal of the Royal Society Interface</i> , 2005, 2, 393-396.	3.4	36
22	Acute Kidney Injury in Patients Undergoing Open Abdominal Aortic Aneurysm Repair: A Pilot Observational Trial. <i>Journal of Cardiothoracic and Vascular Anesthesia</i> , 2015, 29, 1212-1219.	1.3	34
23	Cerebrovascular Resistance: The Basis of Cerebrovascular Reactivity. <i>Frontiers in Neuroscience</i> , 2018, 12, 409.	2.8	33
24	Longitudinal Brain Magnetic Resonance Imaging CO2 Stress Testing in Individual Adolescent Sports-Related Concussion Patients: A Pilot Study. <i>Frontiers in Neurology</i> , 2016, 7, 107.	2.4	32
25	Haemodynamic instability and myocardial ischaemia during carotid endarterectomy: A comparison of propofol and isoflurane. <i>Canadian Journal of Anaesthesia</i> , 1995, 42, 577-587.	1.6	31
26	End-Tidal Hypocapnia Under Anesthesia Predicts Postoperative Delirium. <i>Frontiers in Neurology</i> , 2018, 9, 678.	2.4	31
27	Magnetic Resonance Imaging Biomarkers of Brain Connectivity in Predicting Outcome after Mild Traumatic Brain Injury: A Systematic Review. <i>Journal of Neurotrauma</i> , 2020, 37, 1761-1776.	3.4	30
28	Paraplegia following thoracic aortic cross-clamping in dogs. No difference in neurological outcome with a barbiturate versus isoflurane.. <i>Stroke</i> , 1993, 24, 1554-1559.	2.0	29
29	Fractal ventilation enhances respiratory sinus arrhythmia. <i>Respiratory Research</i> , 2005, 6, 41.	3.6	29
30	Postoperative Delirium, Learning, and Anesthetic Neurotoxicity: Some Perspectives and Directions. <i>Frontiers in Neurology</i> , 2018, 9, 177.	2.4	29
31	Computer-Controlled Cardiopulmonary Bypass Increases Jugular Venous Oxygen Saturation During Rewarming. <i>Annals of Thoracic Surgery</i> , 1998, 65, 59-65.	1.3	28
32	Resolution of pulmonary edema with variable mechanical ventilation in a porcine model of acute lung injury. <i>Canadian Journal of Anaesthesia</i> , 2011, 58, 740-750.	1.6	25
33	Obstetrical and neonatal outcomes in obese parturients. <i>Journal of Maternal-Fetal and Neonatal Medicine</i> , 2010, 23, 906-913.	1.5	22
34	Neurological Outcome in a Porcine Model of Descending Thoracic Aortic Surgery. <i>Stroke</i> , 1996, 27, 2095-2101.	2.0	22
35	Dementia and Depression with Ischemic Heart Disease: A Population-Based Longitudinal Study Comparing Interventional Approaches to Medical Management. <i>PLoS ONE</i> , 2011, 6, e17457.	2.5	22
36	Biologically variable pulsation improves jugular venous oxygen saturation during rewarming. <i>Annals of Thoracic Surgery</i> , 2000, 69, 491-497.	1.3	21

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37	Cerebral oxygen desaturation during one-lung ventilation: correlation with hemodynamic variables. Canadian Journal of Anaesthesia, 2013, 60, 660-666.	1.6	21
38	Use of neuroanesthesia adjuncts (hyperventilation and mannitol administration) improves neurological outcome after thoracic aortic cross-clamping in dogs.. Stroke, 1993, 24, 1204-1210.	2.0	19
39	Phlebotomy Reverses the Hemodynamic Consequences of Thoracic Aortic Cross-clamping. Anesthesiology, 1991, 74, 320-324.	2.5	18
40	Fractal or biologically variable delivery of cardioplegic solution prevents diastolic dysfunction after cardiopulmonary bypass. Journal of Thoracic and Cardiovascular Surgery, 2002, 123, 63-71.	0.8	18
41	A Novel Stress-Diathesis Model to Predict Risk of Post-operative Delirium: Implications for Intra-operative Management. Frontiers in Aging Neuroscience, 2017, 9, 274.	3.4	18
42	Cerebral Oxygen Saturation: Graded Response to Carbon Dioxide with Isoxia and Graded Response to Oxygen with Isocapnia. PLoS ONE, 2013, 8, e57881.	2.5	18
43	Regional Cerebral Blood Flow and Response to Carbon Dioxide during Controlled Hypotension with Isoflurane Anesthesia in the Rat. Anesthesia and Analgesia, 1988, 67, 383-388.	2.2	17
44	A comparison of the cerebral pressure-flow relationship for halothane and isoflurane at haemodynamically equivalent end-tidal concentrations in the rabbit. Canadian Journal of Anaesthesia, 1990, 37, 223-230.	1.6	17
45	Mathematical modelling to centre low tidal volumes following acute lung injury: A study with biologically variable ventilation. Respiratory Research, 2005, 6, 64.	3.6	17
46	Brain BOLD MRI O2 and CO2 stress testing: implications for perioperative neurocognitive disorder following surgery. Critical Care, 2020, 24, 76.	5.8	15
47	Phenylephrine Increases Regional Cerebral Blood Flow Following Hemorrhage during Isoflurane Oxygen Anesthesia. Anesthesiology, 1989, 70, 276-279.	2.5	14
48	Isoflurane and halothane impair both systolic and diastolic function in the newborn pig. Canadian Journal of Anaesthesia, 1996, 43, 495-502.	1.6	14
49	Neuroanesthesia Adjunct Therapy (Mannitol and Hyperventilation) Is as Effective as Cerebrospinal Fluid Drainage for Prevention of Paraplegia After Descending Thoracic Aortic Cross-Clamping in the Dog. Anesthesia and Analgesia, 1995, 81, 800-805.	2.2	13
50	Lactate flux during carotid endarterectomy under general anesthesia: correlation with various point-of-care monitors. Canadian Journal of Anaesthesia, 2010, 57, 903-912.	1.6	13
51	Anesthesia and postoperative delirium: the agent is a strawman – the problem is CO2. Canadian Journal of Anaesthesia, 2017, 64, 678-680.	1.6	13
52	Analysis of facial motor evoked potentials for assessing a central mechanism in hemifacial spasm. Journal of Neurosurgery, 2017, 126, 379-385.	1.6	12
53	A Promising Subject-Level Classification Model for Acute Concussion Based on Cerebrovascular Reactivity Metrics. Journal of Neurotrauma, 2021, 38, 1036-1047.	3.4	12
54	Physiological noise versus white noise to drive a variable ventilator in a porcine model of lung injury. Canadian Journal of Anaesthesia, 2008, 55, 577-586.	1.6	11

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55	Is hemifacial spasm a phenomenon of the central nervous system? â€œ The role of desflurane on the lateral spread response. <i>Clinical Neurophysiology</i> , 2015, 126, 1354-1359.	1.5	11
56	Biologically Variable Bypass Reduces Enzymuria After Deep Hypothermic Circulatory Arrest. <i>Annals of Thoracic Surgery</i> , 2006, 82, 1480-1488.	1.3	10
57	Treatment of Proximal Aortic Hypertension after Thoracic Aortic Cross-clamping in Dogs Phlebotomy versus Sodium Nitroprusside/Isoflurane. <i>Anesthesiology</i> , 1992, 77, 357-364.	2.5	9
58	New concepts regarding cerebral vasospasm: glial-centric mechanisms. <i>Canadian Journal of Anaesthesia</i> , 2010, 57, 479-489.	1.6	9
59	BIOLOGIC VARIABILITY IN MECHANICAL VENTILATION IN A CANINE OLEIC ACID LUNG INJURY MODEL. <i>American Journal of Respiratory and Critical Care Medicine</i> , 2001, 163, 1756-1757.	5.6	9
60	Continuous opioid infusions for neurosurgical procedures: a double-blind comparison of alfentanil and fentanyl. <i>Canadian Journal of Anaesthesia</i> , 1991, 38, 710-716.	1.6	8
61	Control of Outflow Pressure Provides Spinal Cord Protection During Resection of Descending Thoracic Aortic Aneurysms. <i>Journal of Neurosurgical Anesthesiology</i> , 1995, 7, 133-138.	1.2	8
62	Left Ventricular Systolic and Diastolic Function Is Unaltered During Propofol Infusion in Newborn Swine. <i>Anesthesia and Analgesia</i> , 1998, 86, 717-723.	2.2	8
63	Hemodynamic Effects of Intravenous Nitroglycerin. <i>Survey of Anesthesiology</i> , 1983, 27, 191.	0.1	7
64	Can we develop a Canadian Perioperative Anesthesiology Clinical Trials Group?. <i>Canadian Journal of Anaesthesia</i> , 2010, 57, 1051-1057.	1.6	7
65	Facilitated insertion of the ProSealâ„¢ laryngeal mask airway using a lightwand. <i>Canadian Journal of Anaesthesia</i> , 2006, 53, 635-636.	1.6	6
66	Health, 'small-worlds', fractals and complex networks: an emerging field. <i>Medical Science Monitor</i> , 2003, 9, MT19-23.	1.1	6
67	Regional Cerebral Blood Flow following Hemorrhage during Isoflurane Anesthesia in the Rabbit. <i>Anesthesiology</i> , 1989, 70, 978-983.	2.5	5
68	The Incidence and Magnitude of Cerebral Desaturation in Traumatic Brain Injury. <i>Journal of Neurosurgical Anesthesiology</i> , 2019, Publish Ahead of Print, 258-262.	1.2	5
69	Jugular bulb saturation and cognitive dysfunction after cardiopulmonary bypass. <i>Annals of Thoracic Surgery</i> , 1995, 60, 231.	1.3	4
70	Anaesthesia for carotid artery surgery. <i>Canadian Journal of Anaesthesia</i> , 1997, 44, R90-R100.	1.6	4
71	Anesthetic management for a nailgun injury involving a cerebral venous sinus. <i>Canadian Journal of Anaesthesia</i> , 2007, 54, 954-955.	1.6	4
72	A comparison of the ability of the EEGo and BIS monitors to assess emergence following neurosurgery. <i>Canadian Journal of Anaesthesia</i> , 2009, 56, 366-373.	1.6	4

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73	Differential regional cerebral blood flow reactivity to alterations in end-tidal gases in healthy volunteers. <i>Canadian Journal of Anaesthesia</i> , 2021, 68, 1497-1506.	1.6	4
74	Brain Extracellular pH Changes During Alterations in Substrate Supply. , 1985, , 189-193.		4
75	The Influence of Hypocarbica on the Resolution of Transient Increases in Brain Extracellular Potassium. <i>Anesthesiology</i> , 1987, 66, 350-355.	2.5	3
76	Academic fraud: perspectives from a lifelong anesthesia researcher. <i>Canadian Journal of Anaesthesia</i> , 2011, 58, 782-788.	1.6	3
77	Strawman redux: management of end-tidal gases in patients at risk of perioperative neurocognitive disorder. <i>Canadian Journal of Anaesthesia</i> , 2020, 67, 1685-1686.	1.6	2
78	Effects of variable versus non-variable controlled mechanical ventilation. Comment on Br J Anaesth 2020; 124: 430-9. <i>British Journal of Anaesthesia</i> , 2020, 124, e222-e223.	3.4	2
79	In reply: Hyperoxia-induced brain ischemia: the Strawman comes up short. <i>Canadian Journal of Anaesthesia</i> , 2021, 68, 152-153.	1.6	2
80	Convexity, Jensen's inequality, and benefits of noisy or biologically variable life support (Keynote) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 4		1
81	Allometry and physiologic time. <i>Physics of Life Reviews</i> , 2013, 10, 229-230.	2.8	1
82	Physiologically variable ventilation and severe asthma. Comment on Br J Anaesth 2020; 125: 1107â€“16. <i>British Journal of Anaesthesia</i> , 2021, 126, e214.	3.4	1
83	Emerging from the quagmire. Comment on Br J Anaesth 2021; 127: 664â€“6. <i>British Journal of Anaesthesia</i> , 2022, , .	3.4	1
84	Authors' Replies. <i>Journal of Cerebral Blood Flow and Metabolism</i> , 1995, 15, 175-177.	4.3	0
85	Decreased Cerebrospinal Fluid Pressure with Mannitol and Hypocapnia. <i>Anesthesia and Analgesia</i> , 1996, 83, 663.	2.2	0
86	Decreased Cerebrospinal Fluid Pressure with Mannitol and Hypocapnia. <i>Anesthesia and Analgesia</i> , 1996, 83, 663.	2.2	0
87	Biologically variable cardiopulmonary bypass enhances systemic perfusion and reduces renal injury after deep hypothermic circulatory arrest. <i>Journal of the American College of Surgeons</i> , 2005, 201, S26.	0.5	0
88	Variable ventilation compared with recruitment manoeuvres in a porcine model of ARDS. <i>Canadian Journal of Anaesthesia</i> , 2005, 52, A52-A52.	1.6	0
89	Biologically variable ventilation improves oxygenation and respiratory mechanics in a porcine model of one-lung ventilation. <i>Canadian Journal of Anaesthesia</i> , 2006, 53, 26236-26236.	1.6	0
90	Maternal and neonatal outcomes in obese parturients. <i>Canadian Journal of Anaesthesia</i> , 2008, 55, 4723481-4723482.	1.6	0

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91	Variable ventilation and Jensen's inequality: citation corrections. <i>Critical Care</i> , 2016, 20, 190.	5.8	0
92	Can self-reported cognitive difficulties predict postoperative delirium?. <i>Canadian Journal of Anaesthesia</i> , 2021, 68, 593-595.	1.6	0
93	A Slightly Different Tune: The Multipart Harmony of Noisy Life Support. <i>Anesthesiology</i> , 2009, 111, 681-681.	2.5	0