







EDITORIALS

- Opioid cessation: another teachable moment**
A. Turan and D. I. Sessler 219
- Airway management equipment and practice: time to optimise institutional, team, and personal preparedness**
M. Gibbins, F. E. Kelly and T. M. Cook 221
-  **Preoperative evaluation in 2020: does exercise capacity fit into decision-making?**
L. A. Fleisher 224
-  **Separating the effects of anaesthesia and surgery on the brain**
L. Evered and D. A. Scott 227
-  **Targeting microglia to mitigate perioperative neurocognitive disorders**
D.-S. Wang, N. Terrando and B. A. Orser 229
-  **Untangling anaesthesia and amyloid**
K. A. Walker, R. G. Eckenhoff and C. H. Brown IV 232
-  **Advances in precision anaesthesia may be found by testing our resistance to change**
S. L. Eagleman and M. B. MacIver 235

COVID-19 AND THE ANAESTHETIST: A SPECIAL SERIES

- COVID-19: a complex multisystem disorder**
C. M. Roberts, M. Levi, M. McKee, R. Schilling, W. S. Lim and M. P. W. Grocott 238
- Regional anaesthesia and COVID-19: first choice at last?**
A. J. R. Macfarlane, W. Harrop-Griffiths and A. Pawa 243
- Supporting more than one patient with a single mechanical ventilator: useful last resort or unjustifiable risk?**
J. G. Laffey, M. Chikhani, D. G. Bates and J. G. Hardman 247
-  **Using applied lung physiology to understand COVID-19 patterns**
M. Komorowski and S. K. Aberegg 250
- An ethical algorithm for rationing life-sustaining treatment during the COVID-19 pandemic**
J. Savulescu, M. Vergano, L. Craxi and D. Wilkinson 253


CARDIOVASCULAR



- Outcomes of the NHS England National Extracorporeal Membrane Oxygenation Service for adults with respiratory failure: a multicentre observational cohort study**
A. Warren, Y.-D. Chiu, S. S. Villar, J.-a. Fowles, N. Symes, J. Barker, L. Camporota, C. Harvey, S. Ledot, I. Scott and A. Vuylsteke on behalf of the NHS England-commissioned National ECMO Service 259

CLINICAL PRACTICE

- Effects of propofol and dexmedetomidine with and without remifentanyl on serum cytokine concentrations in healthy volunteers: a post hoc analysis**
D. J. Bosch, M. V. Meurs, R. M. Jongman, P. Heeringa, W. H. Abdulahad and M. M. R. F. Struys 267

NEUROSCIENCE AND NEUROANAESTHESIA

- Preoperative cognitive dysfunction in older elective noncardiac surgical patients in South Africa**
L. A. Amado, H. Perrie, J. Scribante and K.-A. Ben-Israel 275
-  **Human plasma biomarker responses to inhalational general anaesthesia without surgery**
S. Deiner, M. G. Baxter, J. S. Mincer, M. Sano, J. Hall, I. Mohammed, S. O'Bryant, H. Zetterberg, K. Blennow and R. Eckenhoff 282
- Frontal electroencephalogram reveals emergence-like brain activity occurring during transition periods in cardiac surgery**
H. A. Kaiser, M. Peus, M. M. Luedi, F. Lersch, V. Krejci, D. Reineke, J. Sleight and D. Hight 291

-  **Blocking Kv1.3 potassium channels prevents postoperative neuroinflammation and cognitive decline without impairing wound healing in mice**
I. K. Lai, M. Valdearcos, K. Morioka, S. Saxena, X. Feng, R. Li, Y. Uchida, A. Lijun, W. Li, J. Pan, S. Koliwad, R. Marcucio, H. Wulff and M. Maze **298**
-  **Resistance to state transitions in responsiveness is differentially modulated by different volatile anaesthetics in male mice**
A. Z. Wasilczuk, B. A. Harrison, P. Kwasniewska, B. Ku, M. B. Kelz, A. R. McKinstry-Wu and A. Proekt **308**

PAEDIATRICS

- Prognostic value of cardiac cycle efficiency in children undergoing cardiac surgery: a prospective observational study**
D. Han, S. Pan, H. Li, L. Meng, Y. Luo and C. Ou-Yang **321**
- Brainwave entrainment to minimise sedative drug doses in paediatric surgery: a randomised controlled trial**
W. Schmid, P. Marhofer, P. Opfermann, M. Zadrazil, O. Kimberger, L. Triffterer, D. Marhofer and W. Klug **330**
- High-dose versus low-dose tranexamic acid for paediatric craniostomosis surgery: a double-blind randomised controlled non-inferiority trial**
S. M. Goobie, S. J. Staffa, J. G. Meara, M. R. Proctor, M. Tumolo, G. Cangemi and N. Disma **336**

PAIN

- Prevalence and intensity of persistent post-surgical pain following breast cancer surgery: a systematic review and meta-analysis of observational studies**
L. Wang, J. C. Cohen, N. Devasenapathy, B. Y. Hong, S. Kheyson, D. Lu, Y. Oparin, S. A. Kennedy, B. Romerosa, N. Arora, H. Y. Kwon, K. Jackson, M. Prasad, D. Jayasekera, A. Li, G. Guarna, S. Natalwalla, R. J. Couban, S. Reid, J. S. Khan, M. McGillion and J. W. Busse **346**
- Intrathecal hydrophilic opioids for abdominal surgery: a meta-analysis, meta-regression, and trial sequential analysis**
M. V. Koning, M. Klimek, K. Rijs, R. J. Stolker and M. A. Heesen **358**

RESPIRATION AND THE AIRWAY

- Individualised positive end-expiratory pressure guided by electrical impedance tomography for robot-assisted laparoscopic radical prostatectomy: a prospective, randomised controlled clinical trial**
F. Girrbach, D. Petroff, S. Schulz, G. Hempel, M. Lange, C. Klotz, S. Scherz, A. Giannella-Neto, A. Beda, A. Jardim-Neto, J.-U. Stolzenburg, A. W. Reske, H. Wrigge and P. Simon **373**
- Individualized PEEP to optimise respiratory mechanics during abdominal surgery: a pilot randomised controlled trial**
A. Fernandez-Bustamante, J. Sprung, R. A. Parker, K. Bartels, T. N. Weingarten, C. Kosour, B. T. Thompson and M. F. Vidal Melo **383**


STATISTICS IN ANAESTHESIA

- Causal inference in perioperative medicine observational research: part 1, a graphical introduction**
V. Krishnamoorthy, D. J. N. Wong, M. Wilson, K. Raghunathan, T. Ohnuma, D. McLean, S. R. Moonesinghe and S. K. Harris **393**
- Causal inference in perioperative medicine observational research: part 2, advanced methods**
V. Krishnamoorthy, D. McLean, T. Ohnuma, S. K. Harris, D. J. N. Wong, M. Wilson, R. Moonesinghe and K. Raghunathan **398**

CORRESPONDENCE

- Improved estimation of cardiac power output by including pulsatile power**
M. Jozwiak, J.-L. Teboul, S. Millasseau, M. Petitjean, C. Colas Des Francs, G. Roisman and D. Chemla **e267**
- Large underestimation of arterial pressure after vasodilator medication overdose**
C. Achino, R. Schweizer, P.-L. Jacquemet, J.-L. Fellahi and M. Jacquet-Lagrèze **e269**
- Critical indexed oxygen delivery as a cornerstone of goal-directed perfusion in neonates undergoing cardiac surgery. Comment on Br J Anaesth 2020; 124: 395-402**
R.-H. Zhou **e271**
- Implications of postoperative cognitive decline for satisfaction with anaesthesia care**
E. L. Whitlock, X. Liu, H.-M. Lin and S. Deiner **e273**
- Ketamine for neuropathic pain: a tiger that won't bite?**
A. Dahan, M. van Velzen and M. Niesters **e275**
- Oxygenation of the critically ill in selected intensive care units in the UK: are we usual?**
B. Post, E. Palmer, S. Harris, M. Singer and D. Martin **e277**

COVID-19 CORRESPONDENCE

-  **COVID-19 patients with respiratory failure: what can we learn from aviation medicine?**
W. Ottestad and S. Søvik e280
- Surge capacity and updated admission criteria: response of the NHS-commissioned national respiratory extracorporeal membrane oxygenation network to the COVID-19 pandemic**
A. Warren, L. Camporota and A. Vuylsteke e282
- Potential pathophysiology of COVID-19 in patients with obesity. Comment on *Br J Anaesth* 2020; 125: e262–e263**
B. Lui, J. D. Samuels and R. S. White e283
- Videolaryngoscopy for tracheal intubation in patients with COVID-19**
T. Saito, A. Taguchi and T. Asai e284
- Emergency tracheal intubation in patients with COVID-19: is it any different? Comment on *Br J Anaesth* 2020; 125: e28–e37**
R. Sethi and S. Sethi e286
- Guiding airway management and personal protective equipment for COVID-19 intubation teams**
L. Miller, E. Luković and G. Wagener e288
- Preoperative four-dimensional computed tomography imaging and simulation of a fiberoptic route for awake intubation in a patient with an epiglottic mass**
Z. Zhou, X. Zhao, C. Zhang and W. Yao e290
- Protecting staff and patients during airway management in the COVID-19 pandemic: are intubation boxes safe?**
C. L. Gould, P. D. G. Alexander, C. N. Allen, B. A. McGrath and C. L. Shelton e292
- Evaluating intubation boxes for airway management**
J. Dalli, M. F. Khan, B. Marsh, K. Nolan and R. A. Cahill e293
- Effectiveness of a negative-pressure patient isolation hood shown using particle count**
A. L. Lang, K. M. Shaw, R. Lozano and J. Wang e295
- Rapid clearing of aerosol in an intubation box by vacuum filtration**
S. Hellman, G. H. Chen and T. Irie e296
- Droplet evacuation strategy for simulated coughing during aerosol-generating procedures in COVID-19 patients**
B. C. H. Tsui, A. Deng, C. Lin, F. Okonski and S. Pan e299
- Systematic review of simulated airway management whilst wearing personal protective equipment**
F. Sanfilippo, S. Tigano, G. J. Palumbo, M. Astuto and P. Murabito e301
- Tracheal introducers and airway trauma COVID-19. Comment on *Br J Anaesth* 2020; 125: e168–e170**
M. Sorbello, I. Hodzovic, G. Cusumano and G. Frova e305
- Airway management lessons from case reports of negative outcomes. Comment on *Br J Anaesth*; 125: e168–70**
T. Heidegger e307
- Low-flow nasal cannula oxygen and potential nosocomial spread of COVID-19**
S. N. Goldhaber-Fiebert, J. A. Greene and B. T. Garibaldi e309
- An alternative continuous positive airway pressure system for COVID-19 patients**
J. Pfitzner, G. J. Maddern and J. Reid e310
- Safety considerations for neuraxial anaesthesia in parturients with COVID-19**
X. Sun, Y. Liu and W. Mei e313
- Is spinal anaesthesia an aerosol-generating procedure? Transmission of SARS-CoV-2 from patient to anaesthetist**
F. Plaat and J. P. Campbell e315
- More information needed for patients with COVID-19 receiving spinal anaesthesia**
M. Desciak, A. Deis and S. M. McHugh e315
- Anaesthetic management of patients with COVID-19: infection prevention and control measures in the operating theatre. Comment on *Br J Anaesth* 2020; 125: e239–e241**
S. Saxena and C. M. Kumar e317
- COVID-19 and improved prevention of hospital-acquired infection**
L.-Q. Hu, J. Wang, A. Huang, D. Wang and J. Wang e318
- COVID-19 and cardiopulmonary resuscitation: an N95 respirator mask may not be adequate**
P. Wong, S. G. Ong and W. Y. Lim e319

Probability of fit failure with reuse of N95 mask respirators <i>B. Maranhao, A. W. Scott, A. R. Scott, J. Maeng, Z. Song, R. Baddigam, C. R. King, M. McCormick, I. Kangrga and R. Guffey</i>	e322
The SARS-CoV-2 effect: an opportunity to reduce general anaesthesia rates for Caesarean section? <i>T. Dixon, K. Bhatia and M. Columb</i>	e324
Inclusion of pregnant women in clinical trials of COVID-19 therapies: what have we learned? <i>S. Einav, M. Ippolito and A. Cortegiani</i>	e326
COVID-19: novel pandemic, novel generation of medical students <i>J. J. Wang, A. Deng and B. C. H. Tsui</i>	e328
Presenting symptoms of COVID-19 in children: a meta-analysis of published studies <i>R. Assaker, A.-E. Colas, F. Julien-Marsollier, B. Bruneau, L. Marsac, B. Greff, N. Tri, C. Fait, C. Brasher and S. Dahmani</i>	e330
Anaesthesia preparedness for COVID-19 pandemic readiness: a medication preservation strategy <i>K. Wyssusek, G. Eames, N. Peters and J. Lee</i>	e332
Does prolonged propofol sedation of mechanically ventilated COVID-19 patients contribute to critical illness myopathy? <i>P.-A. Lönnqvist, M. Bell, T. Karlsson, L. Wiklund, A.-S. Höglund and L. Larsson</i>	e334
Cardiac arrest precipitated by succinylcholine in a patient with COVID-19. Comment on <i>Br J Anaesth 2020; 125: e255–7</i> <i>D. C. Crockett, M. C. Frise and J. M. Strachan</i>	e336
Death in the ICU from COVID-19: more research on its effects on families needed <i>A. Molokhia and W. Khaliq</i>	e338
Recommendations for resuming elective spine surgery in the COVID-19 era <i>L. A. Wilson, H. Zhong, J. Poeran, J. Liu and S. G. Mementsoudis</i>	e339

BOOK REVIEW

<i>Horace and Elizabeth: Love and Death and Painless Dentistry</i> <i>J. M. Hunter</i>	406
--	-----

CORRIGENDUM

Corrigendum to “Spinal anaesthesia for patients with coronavirus disease 2019 and possible transmission rates in anaesthetists: retrospective, single centre, observational cohort study” (<i>Br J Anaesth 2020;124: 670-5</i>) <i>Q. Zhong, Y. Y. Liu, Q. Luo, Y. F. Zou, H. X. Jiang, H. Li, J. J. Zhang, Z. Li, X. Yang, M. Ma, L. J. Tang, Y. Y. Chen, F. Zheng, J. J. Ke and Z. Z. Zhang</i>	408
---	-----

RETRACTIONS

Further retractions of articles by Joachim Boldt <i>H. C. Hemmings Jr. and S. L. Shafer</i>	409
Retraction notice to “Haemodynamic effects of the phosphodiesterase inhibitor enoximone in comparison with dobutamine in esmolol-treated cardiac surgery patients” [<i>Br J Anaesth 64 (1990) 611–6</i>] <i>J. Boldt, D. Kling, B. Zickmann, F. Dapper and G. Hempelmann</i>	412
Retraction notice to “Influence of hypertonic volume replacement on the microcirculation in cardiac surgery” [<i>Br J Anaesth 67 (1991) 595–602</i>] <i>J. Boldt, B. Zickmann, C. Herold, M. Ballesteros, F. Dapper and G. Hempelmann</i>	412
Retraction notice to “The role of enoximone in cardiac surgery” [<i>Br J Anaesth 69 (1992) 45–50</i>] <i>J. Boldt, C. Knothe, B. Zickmann, M. Ballesteros, W. Russ, F. Dapper and G. Hempelmann</i>	413
Retraction notice to “Volume replacement with hydroxyethyl starch solution in children” [<i>Br J Anaesth 70 (1993) 661–5</i>] <i>J. Boldt, C. Knothe, E. Schindler, H. Hammermann, F. Dapper and G. Hempelmann</i>	413
Retraction notice to “Does correction of acidosis influence microcirculatory blood flow during cardiopulmonary bypass?” [<i>Br J Anaesth 71 (1993) 277–81</i>] <i>J. Boldt, C. Knothe, B. Zickmann, H. Hammermann, W. A. Stertmann and G. Hempelmann</i>	414
Retraction notice to “Influence of different anticoagulation regimens on platelet function during cardiac surgery” [<i>Br J Anaesth 73 (1994) 639–44</i>] <i>J. Boldt, E. Schindler, C. H. Osmer, M. Wittstock, W. A. Stertmann and G. Hempelmann</i>	414
Retraction notice to “Endothelial-related coagulation in cardiac surgery” [<i>Br J Anaesth 74 (1995) 174–9</i>] <i>J. Boldt, E. Schindler, C. H. Knothe, M. Welters, W. A. Stertmann and G. Hempelmann</i>	415

Retraction notice to “Does the type of volume therapy influence endothelial-related coagulation in the critically ill?” [Br J Anaesth 75 (1995) 740–6] <i>J. Boldt, M. Heesen, I. Welters, W. Padberg, K. Martin and G. Hempelmann</i>	415
Retraction notice to “Changes in regulators of the circulation in patients undergoing lung surgery” [Br J Anaesth 79 (1997) 733–9] <i>J. Boldt, M. Papsdorf, D. Uphus, M. Müller and G. Hempelmann</i>	416
Retraction notice to “Volume replacement in the surgical patient—does the type of solution make a difference?” [Br J Anaesth 84 (2000) 783–93] <i>J. Boldt</i>	416
Retraction notice to “The balanced concept of fluid resuscitation” [Br J Anaesth 99 (2007) 312–5] <i>J. Boldt</i>	416
Retraction notice to “Seven misconceptions regarding volume therapy strategies—and their correction” [Br J Anaesth 103 (2009) 147–51] <i>J. Boldt</i>	417
Retraction notice to “Use of albumin: an update” [Br J Anaesth 104 (2010) 276–84] <i>J. Boldt</i>	417

Articles highlighted in blue are Editor’s Choice articles. Editor’s Choices are free online.

 Indicates articles accompanied by an editorial.