

EDITORIALS

A special issue on respiration and the airway: critical topics at a challenging time*T. Asai, E. P. O'Sullivan and H. C. Hemmings Jr.*

1

Evaluating interventions to reduce the risk of postoperative delirium*P. S. Myles*

4

COVID-19 AND THE ANAESTHETIST: A SPECIAL SERIES

Guidance in an uncertain world*I. K. Moppett, D. Gardiner and D. J. R. Harvey*

7

Equality or utility? Ethics and law of rationing ventilators*J. Savulescu, J. Cameron and D. Wilkinson*

10

Anaesthesia and COVID-19: infection control*P. M. Odor, M. Neun, S. Bampoe, S. Clark, D. Heaton, E. M. Hoogenboom, A. Patel, M. Brown and D. Kamming*

16

CARDIOVASCULAR

Continuous noninvasive pulse wave analysis using finger cuff technologies for arterial blood pressure and cardiac output monitoring in perioperative and intensive care medicine: a systematic review and meta-analysis*B. Saugel, P. Hoppe, J. Y. Nicklas, K. Kouz, A. Körner, J. C. Hempel, J. J. Vos, G. Schön and T. W. L. Scheeren*

25

**Restricted versus liberal intraoperative benzodiazepine use in cardiac anaesthesia for reducing delirium (B-Free Pilot): a pilot, multicentre, randomised, cluster crossover trial***J. Spence, E. Belley-Côté, E. Jacobsohn, S. F. Lee, R. Whitlock, S. Bangdiwala, S. Syed, A. Sarkaria, S. MacIsaac, A. Lengyel, S. Long, K. Um, W. F. McIntyre, M. Kavosh, I. Fast, R. Arora, A. Lamy, S. Connolly and P. J. Devereaux*

38

Myocardial infarction after noncardiac surgery in Sweden: a national, retrospective observational cohort study*L. Hallqvist, F. Granath and M. Bell*

47

NEUROSCIENCE AND NEUROANAESTHESIA

Cohort study into the neural correlates of postoperative delirium: the role of connectivity and slow-wave activity*S. Tanabe, R. Mohanty, H. Lindroth, C. Casey, T. Ballweg, Z. Farahbakhsh, B. Krause, V. Prabhakaran, M. I. Banks and R. D. Sanders*

55

Dynamic changes in rhythmic and arrhythmic neural signatures in the subthalamic nucleus induced by anaesthesia and tracheal intubation*Y. Huang, K. Hu, A. L. Green, X. Ma, M. J. Gillies, S. Wang, J. J. Fitzgerald, Y. Pan, S. Martin, P. Huang, S. Zhan, D. Li, H. Tan, T. Z. Aziz and B. Sun*

67

Ageing and genetic background influence anaesthetic effects in a *D. melanogaster* model of blunt trauma with brain injury[†]*H. J. Schiffman, Z. P. G. Olufs, M. R. Lasarev, D. A. Wassarman and M. Perouansky*

77

QUALITY AND PATIENT SAFETY

Prospective observational study of postoperative infection and outcomes after noncardiac surgery: analysis of prospective data from the VISION cohort*Y. I. Wan, A. Patel, T. E. F. Abbott, C. Achary, N. MacDonald, E. Duceppe, D. I. Sessler, W. Szczeklik, G. L. Ackland, P. J. Devereaux and R. M. Pearse*

87

Agreement between trainees and supervisors on first-year entrustable professional activities for anaesthesia training*A. P. Marty, S. Schmelzer, R. A. Thomasin, J. Braun, M. P. Zalunardo, D. R. Spahn and J. Breckwoldt*

98

REGIONAL ANAESTHESIA

Brachial plexus block with ultrasound guidance for upper-limb trauma surgery in children: a retrospective cohort study of 565 cases*M. Zadzrazil, P. Opfermann, P. Marhofer, A. I. Westerlund and T. Haider*

104

BOOK REVIEW

Stephen Hearn, *Peak Performance Under Pressure: Lessons from a Helicopter Rescue Doctor*
D. Lockey

110

SPECIAL ISSUE ON RESPIRATION AND THE AIRWAY

Edited by Takashi Asai, Ellen P. O'Sullivan and Hugh C. Hemmings Jr.

EDITORIALS

Physiologically difficult airway in critically ill patients: winning the race between haemoglobin desaturation and tracheal intubation

J. M. Mosier

e1

Spaceflight: the final frontier for airway management?

J. Hinkelbein

e5

Supraglottic airway devices for Caesarean delivery under general anaesthesia: for all, for none, or for some?

Y. Metodiev and M. Mushambi

e7

Cognitive psychology, the multidisciplinary operating theatre team, and managing a cannot intubate, cannot oxygenate emergency

T. Miller, T. Miller, A. McCann, M. Stacey and P. Groom

e12

From breathtaking to encapsulation: a novel approach to reverse respiratory depression from opioid overdosing

A. Dahan, M. Boon, M. van Velzen and M. Niesters

e16

The difficult airway refocused

J. C. Sakles, G. S. Pacheco, G. Kovacs and J. M. Mosier

e18

The Airway Lead: opportunities to improve institutional and personal preparedness for airway management

A. F. McNarry, T. M. Cook, P. A. Baker and E. P. O'Sullivan

e22

COVID-19 AND THE ANAESTHETIST: A SPECIAL SERIES

The COVID-19 intubation experience in Wuhan

M. F. Aziz

e25

Emergency tracheal intubation in 202 patients with COVID-19 in Wuhan, China: lessons learnt and international expert recommendations

W. Yao, T. Wang, B. Jiang, F. Gao, L. Wang, H. Zheng, W. Xiao, S. Yao, W. Mei, X. Chen, A. Luo, L. Sun, T. Cook, E. Behringer, J. M. Huitink, D. T. Wong, M. Lane-Fall, A. F. McNarry, B. McGuire, A. Higgs, A. Shah, A. Patel, M. Zuo, W. Ma, Z. Xue, L.-M. Zhang, W. Li, Y. Wang, C. Hagberg, E. P. O'Sullivan, L. A. Fleisher, H. Wei and collaborators

e28

AIRWAY MANAGEMENT

Lost in transition: the challenges of getting airway clinicians to move from the upper airway to the neck during an airway crisis

N. Chrimes, A. Higgs and A. Rehak

e38



Tracheal intubation in microgravity: a simulation study comparing direct laryngoscopy and videolaryngoscopy†

C. Starck, S. Thierry, C. I. Bernard, T. Morineau, F. Jaulin, P. Chapelain and M. Komorowski

e47

An international survey of airway management education in 61 countries†

L. Armstrong, F. Harding, J. Critchley, A. F. McNarry, S. N. Myatra, R. Cooper and P. A. Baker on behalf of The World Airway Management Meeting 2015 Education Group

e54

Emergency front of neck access in children: a new learning approach in a rabbit model

F. Ulmer, J. Lennertz, R. Greif, L. Bütikofer, L. Theiler and T. Riva

e61

Effect of oxygen fraction on airway rescue: a computational modelling study

M. Laviola, C. Niklas, A. Das, D. G. Bates and J. G. Hardman

e69

NONINVASIVE VENTILATION

High-flow nasal oxygen does not increase the volume of gastric secretions during spontaneous ventilation

E. McLellan, K. Lam, E. Behringer, V. Chan, D. Bozak, N. Mitsakakis and A. Perlas

e75

OBSTETRIC ANAESTHESIA

Incidence and risk factors for maternal hypoxaemia during induction of general anaesthesia for non-elective Caesarean section: a prospective multicentre study

M.-P. Bonnet, F. J. Mercier, E. Vicaut, A. Galand, H. Keita and C. Baillard on behalf of the CAESAR working group

e81

QUALITY AND PATIENT SAFETY

Impact of capnography on patient safety in high- and low-income settings: a scoping review

E. Wollner, M. M. Nourian, W. Booth, S. Conover, T. Law, M. Lilaonitkul, A. W. Gelb and M. S. Lipnick

e88

Global Tracheostomy Collaborative: data-driven improvements in patient safety through multidisciplinary teamwork, standardisation, education, and patient partnership

M. J. Brenner, V. Pandian, C. E. Milliren, D. A. Graham, C. Zaga, L. L. Morris, J. R. Bedwell, P. Das, H. Zhu, J. Lee, Y. Allen, A. Peltz, K. Chin, B. A. Schiff, D. M. Randall, C. Swords, D. French, E. Ward, J. M. Sweeney, S. J. Warrillow, A. Arora, A. Narula, B. A. McGrath, T. S. Cameron and D. W. Roberson

e104

Improving tracheostomy care in the United Kingdom: results of a guided quality improvement programme in 20 diverse hospitals

B. A. McGrath, S. Wallace, J. Lynch, B. Bonvento, B. Coe, A. Owen, M. Finn, M. J. Brenner, E. Edwards, T. L. Finch, T. Cameron, A. Narula and D. W. Roberson

e119

Ventilatory frequency during intraoperative mechanical ventilation and postoperative pulmonary complications: a hospital registry study

P. Santer, S. Zheng, M. Hammer, S. Nabel, A. Pannu, Y. Li, S. K. Ramachandran, M. F. Vidal Melo and M. Eikermann

e130

RESPIRATION

Calabadiol I selectively reverses respiratory and central nervous system effects of fentanyl in a rat model

T. Thevathasan, S. D. Grabitz, P. Santer, P. Rostin, O. Akeju, J. D. Boghosian, M. Gill, L. Isaacs, J. F. Cotten and M. Eikermann

e140

Oesophageal pressure and respiratory muscle ultrasonographic measurements indicate inspiratory effort during pressure support ventilation

M. Umbrello, P. Formenti, A. C. Lusardi, M. Guanziroli, A. Caccioppola, S. Coppola and D. Chiumello

e148

CORRESPONDENCE

Changes in laryngeal airway patency in response to complete reversal of rocuronium-induced paralysis with sugammadex in small children with a supraglottic airway: protective effect of fentanyl?

K. Ishibashi, Y. Kitamura, S. Kato, M. Sugano, Y. Sakaguchi, Y. Sato and S. Isono

e158

Training anaesthetists in cricothyrotomy techniques using video demonstrations and a hands-on practice session: a shift towards preferred surgical approaches

L. Fradet, C. Iorio-Morin, M. Tissot-Therrien, P.-H. Fortier and M.-J. Colas

e160

Improving laryngoscopy technique and success with the C-MAC® D blade: development and dissemination of the 'Bath C-MAC D blade guide'

E. C. Reynolds, N. Crowther, L. Corbett, T. Cominos, V. Thomas, T. M. Cook and F. E. Kelly

e162

Two new algorithms for managing tracheostomy emergencies on the ICU

S. Paulich, T. M. Cook, H. Hall, H. Churchill and F. E. Kelly

e164

High-flow nasal-oxygenation-assisted fiberoptic tracheal intubation in critically ill patients with COVID-19 pneumonia: a prospective randomised controlled trial

C.-N. Wu, L.-Z. Xia, K.-H. Li, W.-H. Ma, D.-N. Yu, B. Qu, B.-X. Li and Y. Cao

e166

Tracheal trauma after difficult airway management in morbidly obese patients with COVID-19

O. Abou-Arab, P. Huette, P. Berna and Y. Mahjoub

e168

Fiberoptic tracheal intubation in COVID-19: not so fast

C. Lyons

e170

Rapid ramp-up of powered air-purifying respirator (PAPR) training for infection prevention and control during the COVID-19 pandemic

Q. Chen, B. Lim, S. Ong, W.-Y. Wong and Y.-C. Kong

e171

Reducing droplet spread during airway manipulation: lessons from the COVID-19 pandemic in Singapore

P. S. Au Yong and X. Chen

e176

Reducing droplet spread during airway manipulation. Reply to Au Yong and colleagues (*Br J Anaesth* 2020; 125: e176–e178)

W. Y. Lim, P. Wong and S. G. K. Ong

e178

A multipurpose portable negative air flow isolation chamber for aerosol-generating procedures during the COVID-19 pandemic

J. Cubillos, J. Querney, A. Rankin, J. Moore and K. Armstrong

e179

Implementing shared ventilation must be scientific and ethical, or it risks harm

D. C. Cook

e181

Considerations for resuscitation and transfer of paediatric patients with COVID-19

S. Thampi, C. C. M. Lee, B. H. Z. Ng and A. P. A. Yap

e183

Percutaneous tracheostomy in patients with COVID-19: sealing the bronchoscope with an in-line suction sheath	e185
<i>C. Al Yaghchi, C. Ferguson and G. Sandhu</i>	
Prevention is better than the cure, but the cure cannot be worse than the disease: fiberoptic tracheal intubation in COVID-19 patients	e187
<i>M. Sorbello, I. Di Giacinto, R. M. Corso and R. Cataldo on behalf of the Società Italiana di Anestesia Analgesia Rianimazione e Terapia Intensiva (SIAARTI) Airway Management Research Group</i>	
“Water, water, everywhere”: a challenge to ventilators in the COVID-19 pandemic	e188
<i>J. Fullick and M. Oliver</i>	
Comparison of three tracheal intubation methods for reducing droplet spread for use in COVID-19 patients	e190
<i>S. S. Yang, M. Zhang and J. J. R. Chong</i>	
Modified tracheal extubation for patients with COVID-19	e191
<i>R. V. W. Endersby, E. C. Y. Ho, E. Schubert and A. O. Spencer</i>	
Extubation of patients with COVID-19	e192
<i>D. F. D’Silva, T. J. McCulloch, J. S. Lim, S. S. Smith and D. Carayannis</i>	
Extubation barrier drape to minimise droplet spread	e195
<i>M. Patino Montoya and H. V. Chitilian</i>	
Minimising droplet and virus spread during and after tracheal extubation	e197
<i>M. S. Kristensen and J. L. D. Thomsen</i>	
ABSTRACTS	
Selected abstracts from the World Airway Management Meeting, November 13-16, 2019, Amsterdam, The Netherlands	e199

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

 Indicates articles accompanied by an editorial.