



Journal of the British Thoracic Society

Impact Factor: 10.844

Editors-in-Chief

N Hart (UK)
G Jenkins (UK)
AR Smyth (UK)

Deputy Editors

R Chambers (UK)
C Wainwright (Australia)

Associate Editors

D Baldwin (UK)	B Kampman (UK)
C Bloom (UK)	W Lenney (UK)
HJ Bogaard (The Netherlands)	O M Kon (UK)
S Christenson (USA)	B Mokhlesi (USA)
T Coleman (UK)	I Noth (USA)
A Condliffe (UK)	J-L Pepin (France)
GJ Criner (USA)	M Polkey (UK)
L Donnelly (UK)	J Quint (UK)
A Floto (UK)	N Rahman (UK)
M Griffiths (UK)	K Robinson (USA)
R Halifax (UK)	B Sage (UK)
L Heaney (UK)	S Saglani (UK)
N Hopkinson (UK)	C Scott (UK)
S Janes (UK)	R Stevens (USA)
DL Jarvis (UK)	P Wark (Australia)
G Kaltsakas (UK)	T Wilkinson (UK)
	P Wolters (USA)

Guidelines Associate Editor

I Du Rand (UK)

Statistical Editors

A Douiri (UK)
C Flach (UK)
C Jackson (UK)
S Nevitt (UK)
L Stanberry (USA)
S Stanojevic (USA)
I Stewart (UK)
R Szczesniak (USA)
B Wagner (USA)
Y Wang (UK)

Journal Club Editor

P Murphy (UK)

Multimedia Editor

R Moses (UK)

President, British Thoracic Society

Graham Burns

Editorial Office

Thorax, BMJ Journals, BMA House, Tavistock Square, London, WC1H 9JR, UK
T: +44 (0)20 7383 6373
E: thorax@bmj.com

Twitter: @ThoraxBMJ

ISSN: 0040-6376 (print)

ISSN: 1468-3296 (online)

Disclaimer: The Editor of *Thorax* has been granted editorial freedom and *Thorax* is published in accordance with editorial guidelines issued by the World Association of Medical Editors and the Committee on Publication Ethics. *Thorax* is primarily intended for healthcare professionals and its content is for information only. The Journal is published without any guarantee as to its accuracy or completeness and any representations or warranties are expressly excluded to the fullest extent permitted by law. Readers are advised to independently verify any information on which they choose to rely.

Acceptance of advertising by *Thorax* does not imply endorsement. Neither *BTS* nor *BMJ Publishing Group Limited* shall have any liability for any loss, injury or damage howsoever arising from *Thorax* (except for liability which cannot be legally excluded).

Copyright: © 2021 *BMJ Publishing Group Ltd* and the *British Thoracic Society*. All rights reserved; no part of this publication may be reproduced in any form without permission.

Thorax is published by *BMJ Publishing Group Ltd*, typeset by *Exeter Premedia Services Private Ltd*, Chennai, India and printed in the UK on acid-free paper.

Thorax, ISSN No: 0040-6376 (USPS 2143) is published monthly by *BMJ Publishing Group Ltd*, BMA House, Tavistock Square, WC1H 9JR London. Airfreight and mailing in the USA by agent named *World Container Inc*, 150-15, 183rd Street, Jamaica, NY 11413, USA. Periodicals postage paid at Brooklyn, NY 11256. US Postmaster: Send address changes to *Thorax*, World Container Inc, 150-15, 183rd Street, Jamaica, NY 11413, USA. Subscription records are maintained at *BMA House*, Tavistock Square, WC1H 9JR London. Air Business Ltd is acting as our mailing agent.

Contents

Volume 76 Issue 7 | THORAX July 2021

Airwaves

- 635 Highlights from this issue
The Triumvirate

Editorials

- 636 Citizen science in the time of COVID-19
L J Birkin, E Vasileiou, H R Stagg
- 638 Short sleep, sleep apnoea-associated hypoxaemic burden and kidney function: more questions than answers
J M Neborak, B Mokhlesi
- 640 ICU mobility and improved outcomes: still searching for the Holy Grail
M R Stutz, J P Kress, K S Wolfe
- 642 Bedside assessment of pulmonary gas exchange in very preterm infants: a pathophysiological approach to bronchopulmonary dysplasia diagnosis?
Tn C Kwok, D Sharkey

Controversies and challenges in respiratory medicine

- 644 Functional respiratory assessment: some key misconceptions and their clinical implications
J A Neder

Chronic obstructive pulmonary disease

- 647 BET proteins are associated with the induction of small airway fibrosis in COPD
R Zakarya, Y L Chan, S Rutting, K Reddy, J Bozier, R R Woldhuis, D Xenaki, D Van Ly, H Chen, C-A Brandsma, I M Adcock, B G Oliver

Critical care

- 656 Functional electrical stimulation in-bed cycle ergometry in mechanically ventilated patients: a multicentre randomised controlled trial
S Berney, R O Hopkins, J W Rose, R Koopman, Z Puthuchery, A Pastva, I Gordon, E Colantuoni, S M Parry, D M Needham, L Denehy

- 664 Functional electrical stimulation-assisted cycle ergometry-based progressive mobility programme for mechanically ventilated patients: randomised controlled trial with 6 months follow-up
P Waldauf, N Hrušková, B Blahuňová, J Gojda, T Urban, A Krajčová, M Fric, K Jiroutková, K Řasová, F Duška

Interstitial lung disease

- 672 Oxygen supplementation during exercise improves leg muscle fatigue in chronic fibrotic interstitial lung disease
M Marillier, A-C Bernard, S Verges, O Moran-Mendoza, D E O'Donnell, J A Neder

Orphan lung disease

- 681 Lung clearance index predicts pulmonary exacerbations in individuals with primary ciliary dyskinesia: a multicentre cohort study
F Singer, A Schlegel, S Nyilas, F Vermeulen, M Boon, C Koerner-Rettberg

Paediatric lung disease

- 689 Simplified bedside assessment of pulmonary gas exchange in very preterm infants at 36 weeks' postmenstrual age
B Stoecklin, Y J Choi, A Rakeshasbhuvankar, J Svedenkrans, G Jones, J Pillow

Respiratory infection

- 696 Early prognostication of COVID-19 to guide hospitalisation versus outpatient monitoring using a point-of-test risk prediction score
F Chua, R Vancheeswaran, A Draper, T Vaghela, M Knight, R Mogal, J Singh, L G Spencer, E Thwaite, H Mitchell, S Calmonson, N Mahdi, S Assadullah, M Leung, A O'Neill, C Popat, R Kumar, T Humphries, R Talbut, S Raghunath, P L Molyneaux, M Schechter, J Lowe, A Barlow

MORE CONTENTS ►

Cover caption: Geo-social gradients in predicted COVID-19 prevalence in Great Britain: results from 1 960 242 users of the COVID-19 Symptoms Study app (see Bowyer R C E, *et al.* page 724)



EDITOR'S CHOICE



OPEN ACCESS

This article has been chosen by the Editors to be of special interest or importance and is freely available online.

This article has been made freely available online under the BMJ Journals open access scheme.

See <http://authors.bmj.com/open-access/>



Member since 2009
JMD03979

This journal is a member of and subscribes to the principles of the Committee on Publication Ethics

<http://publicationethics.org/>



When you have finished with this magazine please recycle it.

Sleep

- 704** Multiple, objectively measured sleep dimensions including hypoxic burden and chronic kidney disease: findings from the Multi-Ethnic Study of Atherosclerosis
C L Jackson, C Umesi, S A Gaston, A Azarbarzin, J Lumyera, J A McGrath, W B Jackson II, C J Diamantidis, E Boulware, P L Lutsey, S Redline

Smoking

- 714** Current smoking and COVID-19 risk: results from a population symptom app in over 2.4 million people



N S Hopkinson, N Rossi, J El-Sayed_Moustafa, A A Lavery, J K Quinti, M Freidin, A Visconti, B Murray, M Modat, S Ourselin, K Small, R Davies, J Wolf, T D Spector, C J Steves, M Falchi

Brief communications

- 723** Geo-social gradients in predicted COVID-19 prevalence in Great Britain: results from 1 960 242 users of the COVID-19 Symptoms Study app



R C E Bowyer, T Varsavsky, E J Thompson, C H Sudre, B A K Murray, M B Freidin, D Yarand, S Ganesh, J Capdevila, E Bakker, M J Cardoso, R Davies, J Wolf, T D Spector, S Ourselin, C J Steves, C Menni

- 726** Longitudinal changes to quadriceps thickness demonstrate acute sarcopenia following admission to hospital for an exacerbation of chronic respiratory disease

H J C McAuley, T C Harvey-Dunstan, M Craner, M Richardson, S J Singh, M C Steiner, N J Greening

- 729** Blocking LOXL2 and TGFβ1 signalling induces collagen I turnover in precision-cut lung slices derived from patients with idiopathic pulmonary fibrosis

Y Wei, W Dong, J Jackson, T-C Ho, C J Le Saux, A Brumwell, X Li, J Klesney-Tait, M L Cohen, P J Wolters, H A Chapman

- 733** Add-on azithromycin reduces sputum cytokines in non-eosinophilic asthma: an AMAZES substudy

S D Shukla, S L Taylor, P G Gibson, D Barker, J W Upham, I A Yang, P N Reynolds, S Hodge, A L James, G B Rogers, J L Simpson

Case based discussion

- 737** Asthma, ECMO and eosinophils

T McLellan, C Patvardhan, D Rassl, H S Jenkins, M Knolle, M Thillai

Images in Thorax

- 740** Pleural empyema secondary to xanthogranulomatous pyelonephritis

A Maxwell, A Kent, M Tinkler, S Mathur, A Beale

Journal club

- 742** Journal club
S Ananth

Miscellaneous

- e4** Correction: *BTS clinical statement on pulmonary sarcoidosis*

- e5** Correction: *British Thoracic Society Winter Meeting February 2021*