

## ICON Trauma (Impact of COVID-19 on Major Trauma workload) Study

### Editor

Coronavirus disease 2019 (COVID-19) has resulted in a global pandemic with significant health and economic consequences. Global confirmed cases as of April 2020 were estimated at 3-million with around 200 000 case fatalities<sup>1</sup>. Following WHO advice, social distancing measures and lockdown policies have been implemented worldwide, in an attempt to reduce the basic reproductive rate of the virus and contain its spread. In the United Kingdom (UK), the lockdown measures were introduced on 23rd of March 2020, and were eased on the 10th of May 2020. These measures stipulated only essential travel for work or to provide care, once daily exercise and a closure of non-essential shops, schools, leisure facilities, restaurants and bars. This has been associated with a significant reduction in emergency medical and surgical presentations, with a reported fall of 30 per cent in overall emergency admissions, and a 50 per cent fall in presentations with suspected myocardial infarction<sup>2,3</sup>. This is likely to be related to the lockdown measures themselves, as well as societal anxieties related to hospital avoidance during the pandemic. It is imperative that we derive high quality evidence in a timely fashion to inform surgical practice during these uncertain times.

We read with interest the article by Spinelli and Pellino published in the *British Journal of Surgery*, in which they describe the impact of COVID-19 on both elective and emergency surgery in Italy<sup>4</sup>. This is further modelled by COVIDSurg collaborative group in a more recent article, showing the drastic impact of COVID on elective surgery worldwide<sup>5</sup>. It is unclear however, what the impact of this pandemic is on the management of major trauma. Much like all medical and surgical specialties, there has been an anecdotal drop number of trauma calls per day, and the number of in-patient admissions to our major trauma centre, one of the busiest in the United Kingdom. Previously,

published literature from the UK has demonstrated significant seasonal variation in trauma admissions<sup>6</sup>. However, the impact of the pandemic, coupled with social isolation, on trauma admissions and the delivery of trauma care is not known. Anecdotal evidence from Italy suggests a fall in trauma volume, but with higher injury severity<sup>7</sup>. Furthermore, an intriguing point noted by Søreide et al. is that whilst trauma volumes may fall, so may the pool of regular blood donors, impacting the management of bleeding trauma patients<sup>8</sup>. There is therefore a clear and urgent need to capture and accurately define the change in numbers, demographics and severity of presentations over the lockdown period. The management options utilised, whether conservative, radiological or surgical would also be important to evaluate. Changes in practice during the pandemic have resulted in an alteration in the management of conditions such as acute appendicitis<sup>9</sup>, where antibiotics are now used as first-line treatment. Surgery is reserved for those who fail antibiotic therapy<sup>9</sup>. In those undergoing surgery, the open route is now preferred to laparoscopy, which until this pandemic, would have counted as the gold standard. What we do not know, is whether this pandemic has had a similar impact on the management of traumatic injuries, for instance traumatic visceral injuries and orthopaedic injuries. We will assess the impact of this pandemic and subsequent quarantine and self-isolation of the general public on trauma care at this UK major trauma centre. We will assess current workload and treatment during the 6 weeks of lockdown, as well as the 2 weeks prior to and subsequent to this period. To allow for a comparator, we intend to evaluate against the same 10-week time period in 2019.

The ICON Trauma Study, is a service evaluation study supported by the National Trauma Research Collaborative and the East Midlands Major Trauma Network. The primary intention of this study is to understand the change in the major trauma workload, understand any changes in demographics and injury types and explore the

differences in injury severity during these two time periods. The study is planned and has been registered with our local audit department as a single site study. However, in the interest of shared learning, the protocol will be made available to teams seeking similarly to understand the impact of COVID-19 on their major trauma practice. Participating ICON-trauma researchers will be eligible for collaborative authorship.

A. Adiamah<sup>1</sup>, N. Moody, L. Blackburn, E. Dickson, A. Thompson, J. J. Reilly, J. Saunders<sup>2</sup>, A. Brooks and On behalf of the The ICON Trauma Study Group

East Midlands Major Trauma Centre,  
Nottingham University Hospitals NHS  
Trust and University of Nottingham,  
Queen's Medical Centre, Nottingham,  
NG7 2UH, UK (Twitter: @AdiamahAlfred,  
@nickmoody18, @laurenburnage,  
@John\_H\_Saunders, @adambrooks\_AB,  
@EastMidsMTC, @EMSAN\_UK,  
@nottmhospitals)

DOI: 10.1002/bjs.11855

- 1 World Health Organisation. Coronavirus disease 2019 situation report – 99. [https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200428-sitrep-99-covid-19.pdf?sfvrsn=119fc381\\_2](https://www.who.int/docs/default-source/coronaviruse/situation-reports/20200428-sitrep-99-covid-19.pdf?sfvrsn=119fc381_2).
- 2 Appleby J. What is happening to non-covid deaths? *BMJ* 2020; <https://doi.org/10.1136/bmj.m1607> [Epub ahead of print].
- 3 Lives at risk due to 50 per cent drop in heart attack A&E attendances. <https://www.bhf.org.uk/what-we-do/news-from-the-bhf/news-archive/2020/april/drop-in-heart-attack-patients-amidst-coronavirus-outbreak>
- 4 Spinelli A, Pellino G. COVID-19 pandemic: perspectives on an unfolding crisis. *Br J Surg* 2020; **107**:785–787.
- 5 CovidSurg Collaborative. Elective surgery cancellations due to the COVID-19 pandemic: global predictive modelling to inform surgical recovery plans. *Br J Surg* 2020; <https://doi.org/10.1002/bjs.11746> [Epub ahead of print].

- 6 Kieffer WK, Michalik DV, Gallagher K, McFadyen I, Bernard J, Rogers BA. Temporal variation in major trauma admissions. *Ann R Coll Surg Engl* 2016; **98**: 128–137.
- 7 Fojut R. How coronavirus is affecting trauma systems in Italy. *Trauma System News* 2020. <https://www.trauma-news.com/2020/03/how-coronavirus-is-affecting-trauma-systems-in-italy/>
- 8 Søreide K, Hallet J, Matthews JB *et al*. Immediate and long-term impact of the COVID-19 pandemic on delivery of surgical services. *Br J Surg* 2020; <https://doi.org/10.1002/bjs.11670> [Epub ahead of print].
- 9 The Association of Surgeons of Great Britain and Ireland. 2nd Update Intercollegiate General Surgery Guidance on COVID-19. [https://www.asgbi.org.uk/userfiles/file/covid19/2nd-update-intercollegiate-general-surgery-guidance-on-covid-19-6-april\\_-1.pdf](https://www.asgbi.org.uk/userfiles/file/covid19/2nd-update-intercollegiate-general-surgery-guidance-on-covid-19-6-april_-1.pdf)