



COLLABORATOR GUIDELINES

Title

Ergonomic and Musculoskeletal Burden in Surgery: The EMBUS-UKI study—A multi-centre cross-sectional study among surgeons in the United Kingdom and Ireland

Background

Surgeons are often subjected to prolonged static postures, repetitive motions, and poorly designed operating room setups.¹ These factors, among others, significantly increase the risk of work-related musculoskeletal disorders (WMSDs).¹ WMSDs affect male and female surgeons, but little is known about gender disparity in WMSDs' prevalence and ergonomic stressors.² Despite increased global awareness, ergonomic practices are still inconsistently implemented in surgical healthcare settings.³ Evidence from the UK and Ireland's surgical healthcare centres is scarce and often confined to selected surgical specialties.^{4,5}

Aim

To assess the prevalence of work-related musculoskeletal disorders (WRMDs) among surgeons in the United Kingdom and Ireland, and explore contributory lifestyle and workplace risk factors.

Study protocol/methods

The study will be led by the Human Factors in Surgery Network (HFSN) and will utilise a trainee collaborative model for data collection. All UK and Ireland NHS Trusts/Boards in which surgical procedures are undertaken will be eligible for the study.

The study will consist of the following components:

1. Multi-centre cross-sectional survey assessing WRMD prevalence
2. Analysis of ergonomic, workplace, and lifestyle risk factors
3. Subgroup analysis including gender, specialty, and grade

Local collaborators will be recruited from participating hospitals and will be required to:

1. Distribute a standardised survey to eligible surgeons within their Trust/Board
2. Support local participation and completion of surveys

All collected data will be analysed centrally by the steering committee. Collaborators may be provided with an anonymised summary of their local results on request (where responses are >20) to allow local quality improvement and comparison with national results.

Ethics & audit registration

- As per the University of Oxford research classification committee, ethical approval is not required and no patient information will be requested.
- However, local collaborators are required to register the project as a quality improvement project with their local audit/quality improvement team (Note: not required at the time of application, but will be required when submitting data for analysis).

How to Get Involved?

- Resident doctors, associate specialists consultants working in UK NHS hospitals/healthcare boards and in the Irish HSE National Health Service are eligible to apply to become EMBUS-UKI local collaborators.
- Collaborators must seek approval of a local consultant supervisor prior to application.
- Any consultant working in the same trust can be a consultant supervisor.
- Up to three further participants can contribute to local data collection (see below)

Therefore, each local team should consist of up to 5 people:

- 1) A Consultant Supervisor
- 2) A Local Collaborator
- 3) Up to three further participants (Local Data Collectors)

What's in it for me?

Local collaborators (and their consultant supervisors) who manage to obtain 20 completed survey responses can qualify for collaborator status. Additional Local Data Collectors can also qualify for collaborator status if they achieve the same standard. Those who do not meet this threshold would receive acknowledgement status. Consultant supervisors will be afforded the same status as their local collaborators.

Local Collaborators and additional Local Data Collectors will be recognised as contributors to the EMBUS UKI-Study and provided with certificates of recognition. Local Collaborators, Consultant Supervisors and Local Data Collectors will be eligible for collaborator authorship on publications and presentations should they meet the following criteria:

- *Minimum 20 responses for the first local collaborator in each trust, plus 10 for each additional local data collector involved.*
- *Local collabs must keep a prospective record of how many people they contacted to complete the survey*
- *Those who meet the above criteria and have a response rate >75% are invited to contribute (review) the main manuscript and may achieve main authorship status*
- *All others will received collaborator authorship status (or acknowledgement if they don't reach the number of responses required)*

Who should be asked to complete the survey?

The target respondents will include surgical trainees (core trainees and registrars), associate specialists and locally employed surgeons, and consultants across all ten surgical specialties defined by the RCS, including: 1) General Surgery, 2) Trauma and Orthopaedics, 3) ENT, 4) Urology, 5) Maxillofacial Surgery, 6) Paediatric Surgery, 7) Plastic Surgery, 8) Neurosurgery, 9) Vascular Surgery, and 10) Cardiothoracic Surgery.

Important dates

Registration will open on **11th August 2026**, and close **11th November 2026**. The data collection deadline is **1st December 2026**.

How to sign up?

- Please complete the registration form via the link below
- A member of the study team will contact you with further instructions and the survey link.
- Additional information is available via the HFSN website

Sign up link:

<https://forms.gle/ejG6titBHZvFAdnQ6>

Contact Information

For further information including FAQs and contact details please visit the HFSN website.

Thank you on behalf of the HFSN and EMBUS-UKI steering committee.

References

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5. Phoenix E, Canavan C, Kelly L, et al. Ergonomic burden in microsurgery: Real-time quantification of cervical posture using biosensor technology. *J Plast Reconstr Aesthet Surg*. 2025;113:374-381. doi:10.1016/j.bjps.2025.11.042