

Musculoskeletal physiotherapists' discharge practices for people treated with low back pain: A United Kingdom survey

Toby Smith¹  | Gurpreet Singh² | George McNamee^{2,3}  | Christopher Newton^{2,3}

¹Warwick Clinical Trials Unit, University of Warwick, Coventry, UK

²Physiotherapy Department, University Hospitals Coventry and Warwickshire, Coventry, UK

³School of Health and Care, University of Coventry, Coventry, UK

Correspondence

Toby Smith, Warwick Clinical Trials Unit, Warwick Medical School, Gibbet Hill Road, Coventry CV4 7AL, UK.

Email: toby.o.smith@warwick.ac.uk

Abstract

Background: Persistent low back pain (LBP) is the leading cause of disability, and a major burden on the healthcare system globally. Many people with LBP experience recurrent pain flares and receive repeated appointments and re-referrals to services such as physiotherapy. However, it is not clear what the criteria are for discharging people with LBP from physiotherapy services. This study aims to describe the current practices for discharging people from physiotherapy for LBP in the United Kingdom (UK).

Methods: A cross-sectional study using an anonymous online national (UK) survey was conducted among qualified physiotherapists who treat people with LBP in UK musculoskeletal out-patient services.

Results: A total of 104 surveys were completed. The majority of respondents reported using (i) a shared decision-making (77%) and (ii) person-physiotherapist goal attainment (74%) approach to discharging people with LBP. Sixty-three percent of respondents reported using a patient-initiated follow-up (PIFU) approach. Only 8% of respondents reported using a graded discharge approach with 'booster' appointments. A PIFU or graded discharge approach was considered most pertinent for people at higher risk of a pain flare (97%; 86%) and with low self-efficacy to self-manage their LBP.

Conclusions: This UK survey established that discharge practices for people with LBP after physiotherapy vary. Whilst the majority of people are currently discharged with a PIFU appointment, a graded discharge approach may be more beneficial for people who are less likely to initiate a PIFU appointment. Further consideration on the development of such a pathway is now required.

KEYWORDS

booster appointments, low back pain, national survey, physiotherapy discharge, PIFU

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1 | INTRODUCTION

Low back pain (LBP) is the leading cause of years lived with disability globally (Knezevic et al., 2021). In the United Kingdom (UK), 10 million people live with LBP with more than half (5.5 million people) experiencing 'high impact' symptoms present for more than 6 months (Bernstein et al., 2017). It is regarded as a long-term condition associated with a complex interplay of physical, psychological, social, lifestyle, genetic and health-related factors (Knezevic et al., 2021).

People with LBP are frequently referred to physiotherapy (Boyle et al., 2022). There, people are assessed and prescribed treatments including exercise, pacing, manual therapy, behaviour modification and are taught self-management skills (Corp et al., 2021). This is supported by national guidance such as NICE (NICE, 2016). Self-management has been defined as an individual's ability to adapt their symptom management in the face of social, physical or emotional challenges which may occur (Van de Velde et al., 2019) and is considered important in improving a person's ability to control pain flares, which can occur in up to 80% of people with LBP (Kongsted et al., 2015). Furthermore, self-management skills equip people with the ability to problem-solve and create individualised action plans that improve control over their symptoms, which may reduce their need to seek further physiotherapy and other healthcare services (Du et al., 2017). In the UK, NICE supports the provision of self-management guidance and a number of other physiotherapy-based interventions, but do not currently offer recommendations on the number nor the range of physiotherapy sessions offered to people with LBP (NICE, 2016).

It is assumed in current practice that once a person with LBP reaches their goals or when they and/or their physiotherapist feel that treatment should cease, they are discharged from the service. Qualitative research indicates that patients can find this sudden end to physiotherapy challenging (Pashley et al., 2010). Unfortunately, people with persistent LBP following physiotherapy discharge frequently re-attend healthcare services (Gorge et al., 2017; Hirsch et al., 2014). They often seek further treatment from their General Practitioner (GP), primary care and physiotherapy services to obtain support with managing pain flares. This repeated seeking of healthcare is a major cause of burden on healthcare resources.

One approach to attempt to address the challenge of repeated use of health resources and re-referral to physiotherapy services is to stagger discharge with an 'open appointment' or patient-initiated follow-up (PIFU). In this model, people can re-enter the physiotherapy service if they feel the need to during a designated period. This means that theoretically people with LBP may feel more empowered and can access care if it is required. An alternative model to PIFU is the graded discharge with 'booster appointment'. Although not initiated by patients, this approach offers scheduled appointments with the aim of refreshing self-management skills and particularly re-motivating and empowering people to engage in exercise and health lifestyle behaviours, which may be key components in the longer-term management of their LBP. The use of the 'booster model' has demonstrated mixed effects in non-LBP populations (Bove et al., 2018; Nicolson et al., 2017; Pryymachenko et al., 2021). However, no studies

have explored this with people with LBP nor when used as part of a graded discharge pathway. Given that persistent LBP is a leading cause of burden on health services, with a high prevalence of repeat appointments and re-referral to physiotherapy services through poor and long-term outcomes, there is a need to identify an approach to improve patient care and increase the efficiency of services. A more 'proactive' rather than 'reactive' model of clinical discharge may be warranted.

There remains uncertainty on when and how people with LBP are discharged from physiotherapy services in the UK. It is not clear what the criteria are for discharge, when this occurs and whether a PIFU or graded discharge with booster appointments is offered as part of routine UK physiotherapy practice. The purpose of this UK-survey is to determine current practices in these respects.

2 | METHODS

2.1 | Design

This is a national (UK) online, cross-sectional survey.

2.2 | Participants and approach

We used a social media platform (X, previously known as Twitter) to promote the survey. An electronic link was distributed through the Investigator's Twitter accounts (@tobyosmith; @chrisnewtonPT). It was anticipated that the link would be re-tweeted across other follower's accounts and networks through a snowballing approach. This was adopted to provide a broader reach of the views of a potentially wider population to answer the research questions.

Potentially eligible participants were:

- UK-practising and qualified physiotherapists
- Working in musculoskeletal out-patient services
- Had treated patients (more than one) with LBP in the past 4 weeks
- Provided and verified informed consent to participate in the study

We excluded individuals who were unable to complete the online form.

2.3 | Consent and data collection

Those who approached the study through social media texts were directed to a Qualtrics (Qualtrics UK), survey webpage. This is a dedicated online data collection tool. Here, potential respondents were provided with further information about the study through a Participant Information Page detailing the aims and objectives of the survey, study processes and timescale. Consent was recorded by ticking a box at the end of the Participant Information Page prior to the first survey questions.

The survey consisted of 10 questions covering a wide variety of issues related to discharge practice for people with LBP following physiotherapy treatment. The topics covered by the survey included the grade of physiotherapist, location of work, principal employer (e.g. National Health Service (NHS) or private practice), frequency of LBP referrals, current approach to discharge following physiotherapy, particularly regarding PIFU or booster appointments. The survey provided partial closed-ended questions requiring categorical responses. Survey completion ranged from eight to 17 min.

2.4 | Sample size

There is no consensus on the optimal sample size for an online survey of this nature. The sample size was therefore based on timescale. We opened the survey for a 6-week period (23 August 2023 to 30 September 2023) to gain as large a sample as feasible within the study timeframes.

2.5 | Data analysis

The primary analysis was to assess the practices of UK musculoskeletal physiotherapists when discharging people with LBP. To determine this, descriptive statistics were used to collectively assess all completed surveys. Data were presented as frequency distributions and mean values with standard deviations (SD) where appropriate as data were normally distributed.

3 | RESULTS

3.1 | Respondent characteristics

In total, 126 people accessed the survey link. Of these, 104 respondents confirmed that they were eligible and consented to participate. The characteristics of the respondents are presented in Table 1. As this illustrates, the majority of respondents worked in the NHS in England and were working as Highly Specialised (Band 7) or Consultant, Extended Scope Practitioner, Advance Practitioner (Band 8) physiotherapists. Respondents reported treating a mean of 41 people (SD: 38.9) with LBP per month. This constituted a mean of 43% (SD: 25.3) of their caseloads.

3.2 | Currently adopted discharge approaches

Table 2 illustrates the criteria used by physiotherapists to determine when people with LBP are discharged from their services. A shared decision-making approach was used for the majority of people who were discharged from physiotherapy, with 77% of respondents reporting this for over three-quarters of their caseloads. Seventy-four percent of respondents reported discharging over half of the

TABLE 1 Characteristics of survey respondents.

		N	%
Accessed survey		126	100
Consented to participate		104	82.5
Location of clinical practice	England	96	92.3
	Scotland	4	3.8
	Wales	2	1.9
	Northern Ireland	1	1.0
	Not stated	1	1.0
Principal employer	NHS	92	88.5
	Private medical provider	2	1.9
	Own practice	5	4.8
	Not reported	5	4.8
Principal staff grade	Junior (Band 5)	8	7.7
	Specialised (Band 6)	19	18.3
	Highly Specialised (Band 7)	31	29.8
	Consultant, ESP, advance practitioner (Band 8)	43	41.3
	Not stated	3	2.9
Average number of people with LBP treated per month		40.5	(38.9) ^a
Average percentage of monthly caseload being peoples with LBP		43.3	(25.3) ^a

Abbreviations: ESP, extended scope practitioner; LBP, low back pain; NHS, national health service.

^aMean (standard deviation) reported by 85 respondents.

people they treated with LBP once all patient-physiotherapist goals were met. Less than 20% of respondents reported that half of their LBP caseload was discharged when the person did not attend their last appointment.

When asked what other criteria were used to base discharge on, three respondents reported that discharge was considered when people with LBP had demonstrated compliance to physiotherapy and the skills to enable self-management of their LBP. One respondent reported this was based on patient-reported outcome measures citing the EQ-5D (Herdman et al., 2011) and the Roland Morris Disability Questionnaire (Roland & Morris, 1983), whilst one respondent reported this was based on no demonstrable improvement.

3.3 | Patient-initiated follow-up approach

Sixty-three percent of respondents reported using a PIFU approach for the majority of people they treat with LBP, with 31% reporting a PIFU offered back to their physiotherapy service rather than directly back to themselves. Forty percent of respondents reported that a quarter of the people they treat with LBP are routinely discharged

completely from the service. Only 8% of respondents reported using a graded discharge with booster appointment for the majority of the people they treat, with 63% reporting this is never done in their practice (Table 2).

When asked about specific details on discharge approaches, respondents provided further details on the duration for which a PIFU was permitted. Thirty-eight percent of respondents reported this as 7 to 12 weeks in their practice, whilst 22% stated this was 13–24 weeks (Figure 1).

When considering who a PIFU was most appropriate for, respondents acknowledged that people at risk of a pain flare (97%) and those whose treatment goals were not fully met (90%) were considered most appropriate for this discharge approach (Table 3). Respondents also noted that specific groups of people who may be appropriate for a PIFU included those due to return to work/full

duties at work but had not achieved this at the point of discharge, those who require a period of self-management to increase confidence in this, and patients with low self-efficacy to self-manage their LBP.

The most frequent interventions delivered in an appointment once a PIFU was enacted are presented in Table 4. As this illustrates, exercise prescription (100%), advice on pacing and behaviour modification (96%), self-management skills (93%), goal setting (93%) and referral or sign-posting to GPs (91%) were either currently used or important components of these appointments. Interventions considered less useful included referral to another physiotherapist (24%), referral to occupational health services (19%) and advice on analgesia (19%).

The most frequent modes of delivery for PIFU appointments are face-to-face (86%) and telephone-based (69%). Nonetheless, 60% of

TABLE 2 Current discharge practices on discharge criteria and discharge processes for people with low back pain (LBP) reported by 104 responding physiotherapists.

	Discharge practice adopted for percentage of LBP caseload (%)				
	100%–75%	74%–50%	49%–25%	24%–1%	0%
Discharge criteria					
Met all patient-physiotherapist agreed goals	46.3	27.5	13.8	5.0	7.4
Shared decision-making between patient-physiotherapist	76.5	9.9	8.6	4.9	0.1
Patient refuses further treatment	17.5	0.0	3.8	51.3	27.4
Patient does not attend subsequent appointment with no further contact	13.8	6.3	15.0	63.8	1.1
Patient referred to another service	9.9	11.1	14.8	60.5	4.8
Discharge process					
Discharged completely	25.8	25.8	7.6	28.8	12.0
Discharged with 'open' self-referral to treating physiotherapist	43.7	19.7	11.3	9.9	15.4
Discharged with 'open' self-referral to treating physiotherapy service	22.2	9.5	4.8	20.6	42.9
Discharged with designated future 'check-up' or booster appointment	1.5	6.0	7.5	22.4	62.6

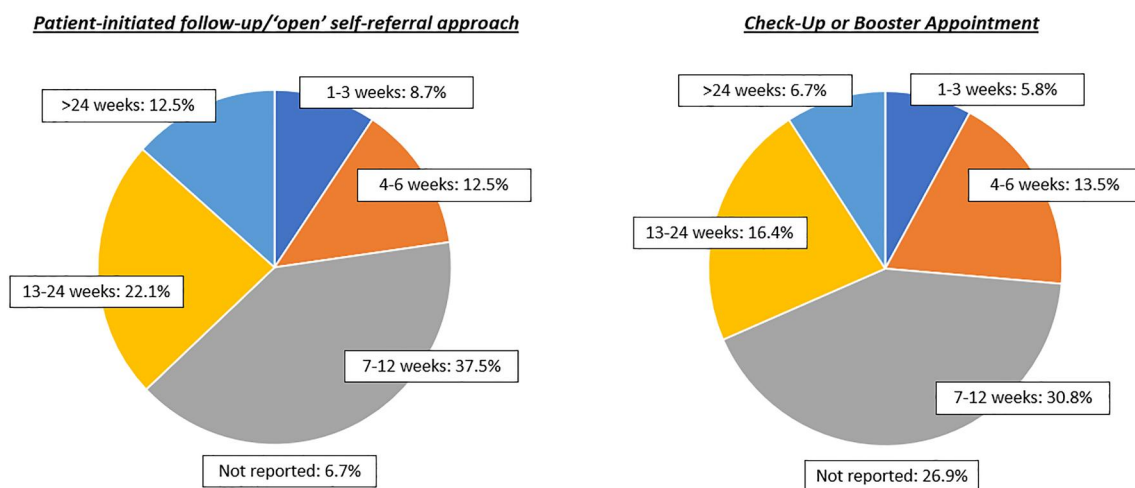


FIGURE 1 Pie chart illustrating the recommended duration of a patient-initiated follow-up (PIFU) or 'open' self-referral approach and timing of check-up or booster appointment for people with low back pain (LBP).

TABLE 3 Respondents attitude towards persons' choice for patient-initiated follow-up (PIFU) and booster appointments following physiotherapy for low back pain (LBP).

Types of people with LBP	Used (%)	Potentially useful (%)	Not used and not viewed as useful (%)
Patient-initiated follow-up			
All people	57.1	24.7	18.2
People at risk of a pain flare	76.4	20.8	2.8
People whose treatment goals were not achieved	56.2	34.3	10.0
People with previous episodes of LBP	58.3	30.6	11.1
Booster appointment			
All people	17.2	40.6	42.2
People at risk of a pain flare	33.3	53.1	13.6
People whose treatment goals were not achieved	25.0	54.7	20.3
People with previous episodes of LBP	22.2	52.4	25.4

respondents reported that virtual consultations using computers, smart phones, or tablets were not currently used but may be useful. Fifty-eight percent of respondents felt that SMS or WhatsApp messaging was not appropriate for this type of appointment (Table 5).

3.4 | Booster appointment discharge process

When asked about which people with LBP may benefit from a booster appointment, there was an acknowledgement that a more targeted provision of these appointments would be most appropriate. As Table 3 illustrates, this was considered most pertinent for those at high risk of pain flares (86%), those whose treatment goals had not been achieved (80%) and those with previous episodes of LBP (75%). This was supported in the free-text responses where respondents also acknowledged this approach may be favourable to empower people with lower self-efficacy towards self-managing their LBP in the longer term.

Respondents reported that, when used, booster sessions would be most appropriate between seven and 12 weeks after initial discharge (31%). Seventeen percent reported that this may be favourable at 13–24 weeks (Figure 1).

As demonstrated in Table 5, mirroring the interventions which would be delivered in a PIFU appointment, the most frequently adopted or recommended components within a booster appointment included delivery of self-management skills (92%), advice on exercise prescription (95%), pacing and behaviour modification (92%) and goal-setting (92%). Less frequently adopted components included advice on analgesia (25%), sign-posting or referral to another

TABLE 4 Interventions delivered in a patient-initiated follow-up (PIFU) appointment or booster appointment.

Interventions	Used (%)	Potentially useful (%)	Not used and not viewed as useful (%)
Patient-initiated follow-up			
Self-management skill review	77.1	15.7	7.1
Advice on analgesia	42.9	38.6	18.6
Exercise prescription	77.5	22.5	0.0
Goal setting	60.9	31.9	7.3
Pacing and behaviour modification	75.7	20.0	4.3
Pain science education	54.3	35.7	10.0
Referral/signposting to GP	48.5	42.7	8.8
Referral/signposting to another physiotherapist	38.2	38.2	23.5
Referral/signposting to occupational health services	30.0	50.8	19.4
Booster appointment			
Self-management skill review	45.0	46.7	8.3
Advice on analgesia	23.0	52.5	24.5
Exercise prescription	43.3	51.7	5.0
Goal setting	39.0	52.5	8.5
Pacing and behaviour modification	40.3	51.6	8.1
Pain science education	27.1	59.3	13.6
Referral/signposting to GP	30.5	55.9	13.6
Referral/signposting to another physiotherapist	25.0	43.3	31.7
Referral/signposting to occupational health services	22.0	54.3	23.7

Abbreviation: GP, General Practitioner.

physiotherapist (32%) and referral or sign-posting to occupational health services (24%).

The majority of respondents reported that face-to-face (92%) or telephone consultations (82%) were considered most appropriate to deliver booster appointments. The use of SMS or WhatsApp messaging was not considered useful nor used by 59% of respondents (Table 5).

4 | DISCUSSION

The findings from this UK survey indicate that discharge practices for people with LBP after physiotherapy varies. This is driven by variation in both physiotherapists' approaches on when and how to discharge and also on the needs of the person with LBP. The results suggest that discharge approaches are determined by both a person's ability to self-manage and their risk of pain flares. Whilst the majority

TABLE 5 Mode of delivery for a patient-initiated follow-up (PIFU) or booster appointments.

Mode of delivery	Used (%)	Potentially useful (%)	Not used and not viewed as useful (%)
Patient-initiated follow-up			
Telephone consultation	69.1	29.4	1.5
Virtual consultation	30.8	60.0	9.2
SMS or WhatsApp messaging	6.3	35.9	57.8
Face-to-Face	85.5	11.6	2.9
Check-up or booster appointment			
Telephone consultation	42.6	47.5	9.9
Virtual consultation	26.2	55.7	18.1
SMS or WhatsApp messaging	8.5	32.2	59.3
Face-to-Face	52.5	39.3	8.2

of physiotherapists currently adopt a PIFU approach at discharge, only 8% offer a routine graded discharge approach with booster appointment for the majority of their patients. Despite this, booster appointments are regarded by many as potentially beneficial. This survey provides information on what should be included in such an appointment and when and how this could be delivered. Future research is now warranted to explore the acceptability and feasibility of such an approach for those at risk of poor outcome following physiotherapy discharge for LBP.

This survey indicates that a variety of factors may influence different discharge approaches taken for people with LBP. Interestingly, the most frequent approach to determine when people are discharged was shared decision-making between the person and physiotherapist. Shared decision-making is regarded as a collaborative approach between a person and their healthcare professional to reach an 'informed' decision about healthcare delivery (Sanders et al., 2022). The findings of our survey indicate that shared decision-making frequently occurs in this scenario, thereby following national policy and guideline recommendations for supporting shared decision-making (NICE, 2016).

The results indicate that the content and timing of a PIFU and booster appointments are comparable. This raises the question as to whether formalising the PIFU appointment into a booster appointment, for some people, could provide greater structure to those who are most likely to seek further healthcare for their LBP in the future. This may be most important for people with lower self-efficacy to self-manage their LBP and those who do not feel empowered to enact a PIFU appointment when needed. Previous literature has explored the equity of access for people discharged on a PIFU in other populations (Lorenc et al., 2022). This indicates that there is a substantial risk of people with low health literacy and those from more socially isolated or disadvantaged areas from not accessing healthcare when there is a clinical need (Nampiaparampil et al., 2009). Given people from more

disadvantaged areas are at higher risk of poor outcome and higher long-term health burden (both societally and in healthcare utilisation), providing an approach using a booster-appointment rather than PIFU, may confer both clinical and cost-effectiveness.

Importantly, a PIFU was identified as being adopted by the majority of respondents for their patient with LBP and particularly for those at risk of pain flares. This acknowledges that physiotherapists, for this population, rarely completely discharge people at the last consultation and that there is a clinical judgement made on what indicates a person at risk of pain flares/exacerbation. We did not explore how physiotherapists determine this in this survey. Whilst there was a lower proportion of physiotherapists currently delivering a routine-graded discharge with booster appointment for people following physiotherapy for LBP (1.5% for all people), 86% of respondents considered this as beneficial for their patients who have relapsing symptoms. Forty-two percent of respondents felt that this was not appropriate for all people with LBP. Understanding the judgments and thresholds, in a similar way to a PIFU, would be appropriate when considering whether a targeted approach to booster appointments should be adopted for people at high risk of persistent symptoms.

The principles of a graded discharge with booster appointment are based on the notion that this reviews and re-enforces self-management skills and particularly empowers people to re-engage with healthy behaviours such as exercise, a key component in managing persistent LBP (NICE, 2016). Experiencing a pain flare may provide a learning opportunity for an individual with persistent LBP to 'test-out', refine and develop their self-management skills. Providing a contact with the physiotherapist who they were treated by previously may offer an efficient approach to refine these skills, to coach and build self-efficacy towards self-management and thereby overcome the set-back. This approach may reduce the costly burden of persistent LBP on healthcare services. These principles were reinforced in the survey responses where the most frequently recommended components of both PIFU and booster appointments pertained to improving self-management skills and capabilities, goal-setting, pacing and behaviour modification, and reviewing the exercise prescription. The onus of such appointments was to re-invigorate and focus on self-management rather than an opportunity to prescribe new treatment. This is an important distinction where booster appointments augment the course of treatment rather than act as an extension. Ensuring people are aware of this is crucial in managing expectations of the consultation (Reddington et al., 2022). The findings from this survey therefore provide important information to develop the components of a booster appointment for people with LBP after they are discharged from physiotherapy.

There remains a paucity of literature detailing the mode of physiotherapy delivery in musculoskeletal services. During the COVID-19 pandemic, physiotherapy services in the UK were required to adopt a virtual or hybrid approach to delivery (Stanhope & Weinstein, 2020). Antidotally, there seems to be a reversal across the UK to in-person treatment for the majority, if not all, consultations. The findings mirror this, with 85% of returning PIFU appointments being offered face-to-face. Whilst the objective of this survey was not to

map how physiotherapy is currently delivered by musculoskeletal services, this indicates a reversal of the practices from 2020 to 2022. Further exploration of when different approaches are used and where may be helpful in understanding current provision and resource requirements as the NHS moves from the COVID-19 era.

This study presented strengths and limitations. As strengths, it is the first national survey to explore the UK practice of discharging patients with LBP from physiotherapy. It offers novel insights from the practices of a relatively large number of physiotherapists (over 100) practicing largely in the NHS. However, these physiotherapists are largely based in England, and it remains unclear whether practice differs in other parts of the UK. Furthermore, whilst the study provides insights into discharge practices and how these vary, there remains uncertainty on specifically for what 'type' of person certain discharge practices would be adopted. Respondents indicated that discharge practices should be tailored to the persons' specific needs and those at risk of pain flares. We were unable to determine how physiotherapists make such a judgement. Further study, such as using vignettes and case scenarios, may be helpful through qualitative research to better understand the nuance in clinical decision-making for when and how physiotherapists select one discharge practice over another.

5 | CONCLUSION

The discharge of people with LBP from physiotherapy services is varied, both in what is done and how it is performed in the UK. Whilst the majority of people are currently discharged with a PIFU approach, particularly for those at risk of pain flares, there is support that for this population, a graded discharge approach with booster appointments may be beneficial. This may be particularly important for people who are less likely to initiate a PIFU appointment and those with low confidence in self-management of symptoms. Further consideration on the development of such a pathway and testing of the feasibility and acceptability of this is now required.

AUTHOR CONTRIBUTION

Toby Smith, Christopher Newton, Gurpreet Singh, and George Mcnamee researched the topic and devised the study. Toby Smith and Christopher Newton collected the data and performed the analysis; Toby Smith, Christopher Newton, Gurpreet Singh, and George Mcnamee interpreted the results. Toby Smith, Christopher Newton, Gurpreet Singh, and George Mcnamee provided the first draft of the manuscript. Toby Smith, Christopher Newton, Gurpreet Singh, and George Mcnamee contributed equally to the manuscript preparation. Toby Smith acts as a guarantor.

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CONFLICT OF INTEREST STATEMENT

No author declares a conflict of interest in relation to this paper.

DATA AVAILABILITY STATEMENT

Anonymised data will be able to be shared on reasonable request to the corresponding author.

ETHICS STATEMENT

This study received ethical approval from the University of Warwick's Biomedical and Scientific Research Ethics Committee (REF: BSREC 122/22-23).

ORCID

Toby Smith  <https://orcid.org/0000-0003-1673-2954>

George Mcnamee  <https://orcid.org/0000-0003-2047-9269>

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

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