

## Patients' preferred mode of travel to the orthopaedic theatre

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**METHODS:** Data was collected prospectively over a 2-wk period at an elective Orthopaedic Treatment Centre. Patients were asked to complete a patient satisfaction questionnaire following their surgery on their experience and subsequent preferred mode of transport to theatre. The data was then recorded in a tabulated format and analysed with percentages. Fisher's exact test was used to determine if there was any statistical association between patients' preference to walk and various groups; in-patient or day case procedures, and whether patients were < 60 years or > 60 years of age.

**RESULTS:** Seventy patients (40 females and 30 males) fully completed the questionnaire. In total there were 33 d-cases and 37 in-patients. The spectrum of orthopaedic sub-specialties included was knee (41%), hip (17%), foot and ankle (24%), spine (13%) and upper limb (4%). Patient satisfaction for overall experience of travelling to theatre was either excellent (77%) or good (23%). Following their experience of travelling to theatre, 87% (95%CI: 79%-95%) of the total cohort would have preferred to walk to the operating theatre. There was a statistically significant association ( $P = 0.003$ ) between patients' preference to walk and whether they were day-case or in-patients. Similarly, there was a statistically significance association ( $P = 0.028$ ) between patients' preference to walk and whether they were < 60 years or > 60 years of age.

**CONCLUSION:** This study confirms the majority of Orthopaedic elective patients would prefer to walk to theatre, when given the choice and if practically possible.

**Key words:** Patient satisfaction; Orthopaedic theatre; Patient autonomy

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**Core tip:** There were previously no studies focusing primarily on how Orthopaedic patients prefer to travel

### Abstract

**AIM:** To determine the preferred mode of travel to the operating theatre for elective orthopaedic patients.

the operating theatre. Questioning unproven and habitual protocols is essential to improve delivery of care. Our study highlights elective orthopaedic patients should predominantly walk to theatre with a nurse to enhance independence, maintain dignity and improve efficiency of the process; however the patient's autonomy must be respected and pre-operative mobility taken into account.

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## INTRODUCTION

Changing clinical routine can be challenging, but questioning unproven and habitual protocols is essential to improve delivery of care. With the model of orthopaedic services changing nationwide, with designated regional trauma units and local elective centres, there is an opportunity to implement improved guidelines with evidence-based medicine. The majority of surgical patients travel to the operating theatre by trolley accompanied by a porter and a nurse, however a high proportion of patients across the surgical specialties prefer to walk to their operation if given the choice<sup>[1]</sup>.

There are no current studies focusing primarily on how Orthopaedic patients prefer to travel the operating theatre. Due to the nature of trauma surgery, especially lower limb injuries, patients practically cannot always be given this option. However, in planned procedures, when patients have walked into hospital they should have more autonomy. Therefore the aim of the study is to determine the preferred mode of travel to the operating theatre, specifically for elective orthopaedic patients, so a protocol can be unified within treatment centres.

## MATERIALS AND METHODS

Data was collected prospectively over a 2-wk period at an elective Orthopaedic Treatment Centre. Patients were asked to complete a patient satisfaction questionnaire following their surgery, either in the discharge area for day-cases or on the ward for in-patients.

The tick-box questionnaire had 11 questions covering patient demographics (age group, sex, gender), basic operative information (limb operated on, day-case or in-patient), usual mobility outside the house (independent, stick, frame, wheelchair), mode of transport to theatre (walking, chair, trolley), to rate the overall travel experience (good, fair, poor), whether dignity was maintained (yes or no), preferred mode of transport after the experience and text box to give reasons for their decision.

The data was then recorded in a tabulated format

and analysed with percentages. SPSS version 22 was used for statistical analysis. Fisher's Exact test was used to determine if there was any statistical association between the following variables: patients' preference to walk whether they were in-patient or day case procedures and patients' preference to walk whether they were < 60 or > 60 years of age. The reason for using Fisher's Exact test was that at least one cell had an expected count of less than 5 in each of the  $\chi^2$  analyses mentioned above.

## Statistical analysis

The statistical methods of this study were reviewed by Dr. Muzaffar Malik, senior lecturer medical statistics, Postgraduate Medicine, Division of Medical Education, Brighton and Sussex Medical School, University of Brighton, Falmer, Brighton BN1 9PH, United Kingdom.

## RESULTS

Seventy patients (40 females and 30 males) fully completed the questionnaire. In total there were 33 d-cases and 37 in-patients; 41 were under 60 years of age and 29 above 60 years of age. The spectrum of orthopaedic sub-specialties included was knee (41%), hip (17%), foot and ankle (24%), spine (13%) and upper limb (4%). As per protocol the mode of transport to theatre was decided pre-operatively on the day of the operation between the nursing staff and the patient. Options included, walking accompanied by a nurse, chair with a porter and a nurse or trolley with a porter and a nurse. No pre-medications were administered prior to arrival on the anaesthetic induction room.

Overall, 89% (62/70) of patients walked to theatre for their operation, 7% (5/70) travelled by trolley and 4% (3/70) by chair. Patient satisfaction for overall experience of travelling to theatre was either excellent (77%) or good (23%). All patients confirmed their dignity was maintained throughout the experience. There were no issues regarding patient safety.

Following their experience of travelling to theatre, 87% (61/70) of the total cohort would have preferred to walk to the operating theatre, 11% (8/70) to travel by trolley and 1% (1/70) by chair.

For the day-case patients everyone (33/33) would have opted to walk. For the in-patients 76% (28/37) would have opted to walk. There was a statistical significant association ( $P = 0.003$ ) between patients' preference to walk and the type of patient (day case or in-patient). Of the nine in-patients who would have chosen a trolley or chair, all under-went lower limb or spinal surgery; the majority required walking aids outside the house, either a walking stick or a frame.

In all the age groups, the majority of patients preferred to walk to the Orthopaedic theatre; 98% (40/41) < 60 years, 73% (16/22) 60-75 years and 71% (5/7) > 76 years. There was a statistically significance association ( $P = 0.028$ ) between the

patients' preference to walk and the patients being over or under 60 years of age.

In the comments section, the main reasons for a preference to walking were patients feeling in-control and maintaining their independence. The patients requiring a chair or trolley highlighted age, comfort and poor mobility as contributing factors.

## DISCUSSION

The protocol within our department for decisions on mode of transport to theatre incorporates patients' choices and practical considerations. The aim of the study was to ascertain the patients' preferred mode of travel to the operating theatre. As detailed in the results, 87% (95%CI: 79%-95%) of the patients preferred to walk. Its benefit to patient well-being is also highlighted with 100% excellent or good patient satisfaction and 100% dignity maintained throughout.

Although patients require surgery, many do not consider themselves to be ill; therefore giving the patient a choice provides a sense of control in what is perceived as an uncontrolled environment<sup>[2]</sup>. Patients want to be included in the decision making process in their travel to the operating theatre and actively embrace change<sup>[3]</sup>.

Walking into the operating theatre rather than lying on a trolley can reduce patient pre-operative anxiety, allowing for easier communication with the accompanying staff, in order to help relax patients<sup>[4]</sup>. Walking can also improve efficiency, with patients arriving on time to the operating theatre, by reducing a potential limiting factor of porter availability<sup>[5]</sup>. Without the need for a regular porter, the workforce can be redistributed within the hospital.

Not all patients will be able to comfortably walk to theatre due to the very nature of the specialty and due to potential debilitating co-morbidities. Also, the feasibility will depend on the distance from the surgical admission unit to the theatre department, an issue that should be addressed with modern hospital design. Others may not wish to walk, as they can feel exposed in a hospital gown, but providing a dressing gown is a potential solution.

In our study the mode of transport to theatre was decided pre-operatively between the nursing staff and patient on the day of surgery, however this could also be addressed easily in a pre-admission assessment clinic.

In conclusion, we advocate elective orthopaedic

patients should predominantly walk to theatre with a nurse to enhance independence, maintain dignity and improve efficiency of the process; however the patient's choice must be respected and pre-operative mobility taken into account. This study confirms our practice is safe and beneficial to the overall care of the patient. It can have further impact on other Orthopaedic Treatment Centre protocols and future design.

## COMMENTS

Following admission to hospital, all patients need to travel to the operating theatre to undergo their surgery. In many institutions patients are automatically transported to the theatre in a chair or trolley without being given a choice, even though they are able to independently walk. The aim of study is to ascertain patients' preferred mode of transport to the elective Orthopaedic theatre, in order to provide evidence to potentially change clinical practice.

### Research frontiers

Previously, there are no studies focusing primarily on how elective Orthopaedic patients prefer to travel the operating theatre.

### Innovations and breakthroughs

The study highlights the majority patients generally prefer to walk to the Orthopaedic theatre if given the choice and are physically able to do so.

### Applications

Elective orthopaedic patients should predominantly walk to theatre with a nurse to enhance independence, maintain dignity and improve efficiency of the process; however the patient's choice must be respected and pre-operative mobility taken into account. The study confirms this practice is safe and beneficial to the overall care of the patient. It can have a practical application with Orthopaedic hospital protocols.

### Terminology

Orthopaedics is an area of surgery managing conditions affecting the musculo-skeletal system. An elective operation refers to a procedure that is pre-planned in advance. Operating theatre is a facility in a hospital where surgical operations are performed.

### Peer-review

The rational of this review is good, and it is an interesting. The article is also well organized and well written.

## REFERENCES

1. **Nagraj S**, Clark CI, Talbot J, Walker S. Which patients would prefer to walk to theatre? *Ann R Coll Surg Engl* 2006; **88**: 172-173 [PMID: 16551412]
2. **Porteous A**, Tyndall J. Yes, I want to walk to the OR. *Can Oper Room Nurs J* 1994; **12**: 15-25 [PMID: 8025875]
3. **Keegan-Doody M**. Walk or be driven? A study on walking patients to the operating theatre. *Br J Perioper Nurs* 2005; **15**: 529-531, 533-536 [PMID: 16372779]
4. **Kojima Y**, Ina H, Fujita T, Mitono H. Relieving anxiety by entering the operating room on foot. *Can J Anaesth* 2002; **49**: 885-886 [PMID: 12374724]
5. **Davies JM**. Changing anesthetic practice: walking to the OR. *Can J Anaesth* 2002; **49**: 772-776 [PMID: 12374704]

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