[TITLE]

Clinicians' experiences of discontinuing routine hip precautions following total hip replacement surgery: A qualitative analysis

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[RESEARCH ETHICS]

Ethics and research approvals were obtained from Nottingham 2 Research Ethics Committee (REC) - East Midlands (16/EM/0283), the Research and Innovation department of Nottingham University Hospitals NHS Trust (16HC005), and the Health Research Authority (HRA).

[CONSENT]

All participants provided written informed consent prior to taking part in interviews. Written informed consent was obtained prior to the telephone interview, and verbal consent was audio recorded at the start of each interview.

[DECLARATION OF INTEREST]

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[KEY WORDS]

Hip precautions, total hip replacement, implementation, rehabilitation, change in practice

[IMPLICATIONS FOR REHABILITATION]

- Key strategies for changing practice were educating staff and providing targeted training
- Multidisciplinary training might prevent discrepancies in the advice given to patients
- Appointing ‘Hip Champions’ provided clear role models and enabled new clinical behaviours to be enforced

[WHAT THE STUDY HAS ADDED]

This study has identified key issues in implementing a successful change in an orthopaedic service, which could be used to support changing practice in other areas.

[ABSTRACT]

Purpose:

Hip precautions are routinely provided in the UK, despite evidence suggesting that they are no longer needed. A change in practice was introduced into an orthopaedic service whereby provision of routine hip precautions was discontinued for selected individuals receiving a primary total hip replacement. The change involved implementing a new regime of 'no precautions' which was facilitated using a number of key strategies. The aim of this study was to explore the experiences of clinicians associated with the change in practice.

Material and methods: Individual semi-structured interviews were conducted with clinicians who had experience of delivering both hip precautions and no hip precaution regimes. Data were analysed thematically.

Results: Ten orthopaedic staff (two senior occupational therapists, one occupational therapy support worker, three senior physiotherapists, two surgeons, and two senior nurses) were interviewed. Three main themes were identified: changes experienced, perceptions of the new regime, and challenges experienced.

Conclusion: Several barriers and facilitators to the successful changeover were identified. Successful strategies in changing practice included assigning 'Hip Champions' and staff education and targeted training. It is proposed that holding multidisciplinary education and training would be the ideal model.

[MAIN ARTICLE]

Introduction

Hip precautions protocols are commonly used in UK hospitals, to reduce the risk of dislocation following total hip replacement surgery, despite evidence suggesting that they provide no additional benefit [1-3]. Indeed, recent studies have reported that patients recover at a similar rate regardless of whether they receive precautions or not, with no increase in the number of complications observed, including hip dislocation which is the major concern of clinicians [4-6]. Although many clinicians are interested in moving away from a regimented regime of hip precautions for all patients [7], there remains uncertainty around how this can be operationalised and achieved in practice. The lack of clear guidelines about rehabilitation progression when a regime of no precautions is implemented may lead to patients unnecessarily self-limiting movement behaviours, which may in turn impact functional outcomes [4]. Clear guidance and reassurance are needed from clinicians about rehabilitation progression during the recovery period. The change in provision of hip precautions following total hip replacement may be challenging, thus, strategies to successfully implement a new regime of no hip precautions is required.

Implementing evidence into practice is a challenging process as it involves making changes at individual, organisational or health system levels [8]. There is a growing need to develop an understanding of the factors that influence the implementation of evidence into practice and how to effectively implement research findings in practice [9-11]. Barriers to implementation commonly reported include the absence of a leader or champion of the implementation process within organisations, lack of time of healthcare professionals, lack of clarity and credibility in the evidence, and lack of knowledge about the evidence [8]. Multiple, interacting factors can slow or imped the transfer of research into clinical practice

[12], and thus understanding the factors that could influence implementation is the first step in creating strategies to improve the translation of research findings into practice.

Aim

The aim of this study was to explore the experiences of the changeover in service, from the perspective of the clinicians involved, to identify barriers and facilitators associated with the change and to evaluate the success of the strategies used.

Methods

Setting

XX hospital performed over 600 primary THRs a year. In response to emerging evidence, XX hospital underwent a change in orthopaedic service delivery which involved the discontinuation of routine hip precautions for the majority of patients following THR. The HippityHop trial, a before and after study, was designed around this change and evaluated the discontinuation of hip precautions and implementation of a no hip precautions regime on patient outcomes. HippityHop (n=237) showed that patients who did and did not receive hip precautions recovered at a similar pace, and no differences in clinical outcomes or complications were observed between the groups [5].

Implementation strategy

An implementation strategy was used, broadly based on principles identified by Grimshaw, et al. [13] and following discussion with the clinicians, to facilitate the change in practice consisting of the following five key components:

i. *Preparatory/planning discussions with key clinicians about current evidence and potential to change routine practice*

During the conception of the trial and changeover, several briefings and meetings were held with senior clinical staff (including team leads) and surgeons to propose, agree and plan for the potential changeover. At these meetings, the need to provide justification for change, ensure a shared purpose, plan for change, and identify known risks for all the orthopaedic staff in the service were highlighted and the best ways of communicating these issues discussed. In addition, key clinicians were educated about the evidence base and previous research relating to hip precautions in order that they knew and could explain the rationale behind the change.

ii. *Meetings with the multidisciplinary team to explain and clarify the change process*

Following discussions with senior clinicians, meetings were held with other orthopaedic team members to ensure that they were aware of, and understood, the proposed changes (i.e. what patients could and could not do), leaving sufficient time to plan and prepare for the changes. Meetings involved discussing practical changes to the service such as providing alternative advice to patients such as 'moving as able' and 'as your pain allows', and taking a more individualised approach to the provision of adaptive equipment rather than a blanket approach, for example, only providing adaptive equipment required by the patient following assessment.

iii. *Regular communication with clinicians*

The trial research team facilitated the change in practice by identifying key messages for patients and using appropriate terminology to ensure staff members understood their roles via regular email communications. Staff were informed about the 'launch date' of when

the changeover would occur. Clinicians were also provided with additional clinical support and guidance, if required, from the research team and senior staff. There were opportunities for clinicians to questions and clarify anything they were unsure of such as which patients not to include in the new regime and what equipment to provide.

iv. *Assigning 'Hip Champions'*

Each team of healthcare professionals within the orthopaedic team was assigned a 'Hip Champion' who was a senior member of staff who had volunteered to undertake the role and who was committed to the changeover. They contacted other staff about the changes and provided an immediate clinical point of contact for other clinicians for clarification or reassurance, or to raise any concerns. They also demonstrated good practice and provide tips on terminology to use with patients, for examples instead of saying 'do not do this as you may dislocate your hip', telling patients to 'move as you are able' or 'move as pain allows'.

v. *Training and practising the new regime*

Training sessions and meetings were held by 'Hip Champions' for members of staff within their own discipline. These involved discussing the timelines and details for removal of providing routine hip precautions, implementation of new advice and equipment provision. There was also an opportunity for all staff members to practise the new regime prior to the researchers collecting data for the trial. A 'washout phase' of six weeks was included to ensure that clinicians could adjust to the new regime of no hip precautions, practise it, and were competent in the new approach. This was also for the benefit of patients as well as ensuring that trial data was not collected until the new regime was introduced and available.

Study design

This was a nested qualitative evaluation study of the experiences of staff who had treated patients during the HippityHop trial period and who had thus experienced the change in practice. Semi-structured interviews were chosen with a purposively selected sample of clinicians who used the previous regime (routine precautions) and the new regime (no precautions).

Ethics

Ethics and research approvals were obtained from XXX, the Research and Innovation department of XXX, and the Health Research Authority (HRA).

Participants

To participate in an interview, participants had to have provided care and treatment to patients during both phases of the HippityHop trial [5]. Interviews were conducted between one and six months after the change in service had occurred. Participants were interviewed by telephone or face-to-face

In order to capture diversity in views and experiences, participants were purposively sampled, using maximum variation sampling, to ensure a range of characteristics. Participants were therefore selected according to their discipline (surgeon, physiotherapist, occupational therapist, nurse), years of experience, and the type of care they provided (preoperative, postoperative). The aim was to conduct 10 interviews from a range of disciplines. The sample size was chosen to reflect sufficient diversity in views and experiences within the time and resources available.

Those selected to be interviewed were sent a letter of invitation via email. Participants were asked to reply to the researcher if they wished to take part or not. They were reassured that this was entirely voluntary. All participants provided written informed consent prior to taking part in the interviews. Verbal consent was audio recorded at the start of each interview.

Interview procedure

A semi-structured interview guide with prompts was designed to encompass a range of potential issues in terms of the orthopaedic treatment services provided.

The interview schedule covered the following broad topic areas:

- Changes in service,
- Impact on information and advice provided in the different regimes,
- Change in equipment provision, changes in clinical practice and perceived impact on patients

Data analysis

All the interviews were conducted, recorded, and transcribed verbatim and data were analysed thematically [14].

One researcher (CJL) read the complete data and independently identified initial codes. A sample of transcripts were read and coded independently by a second researcher (CC). Both researchers reviewed, revised, and agreed on the sample of codes and definitions of the themes.

Findings

Participant characteristics

A total of 20 orthopaedic staff members were invited to be interviewed: four nurses, four occupational therapists (including one assistant), four physiotherapists, one physiotherapy assistant, and seven surgeons. A total of 10 orthopaedic staff consented to participate in the interviews. Interviewees comprised two senior occupational therapists, one occupational therapist support worker (assistant), three senior physiotherapists, two surgeons, and two senior nurses. Nine were conducted face-to-face and one by telephone. Interviews lasted 24 minutes on average (range 11 to 40 minutes). Although we were unable to ask participants who declined what their reasons for not participating were, several volunteered that they were too busy clinically to be interviewed.

Key themes

Staff members described how the changes impacted on routine practice. Three main themes were identified, each with subthemes, which are displayed in Table 1.

[INSERT TABLE ONE HERE]

Changes to practice

Rationale for changing practice

Participants recognised that the lack of evidence to support precautions was the main justification for withdrawing precautions from routine practice. However, they believed consultants played a fundamental role in the decision to change practice.

"[There's] research to say that there was no benefit to having hip precautions to the majority of people and if they were going to dislocate that was going to happen in the very early stages, whereas hip precautions were not going to prevent that. So that is why I think they decided not to issue the hip precautions" – Participant 6, Nurse

"It came from above, from the consultants" – Participant 7, Nurse

Alternative advice

Clinicians believed that the focus of the new advice was on encouraging patients to 'listen to their body' and to move as they felt able, rather than the 'blanket approach' of using precautions. The emphasis of the new advice was for patients to move within their own functional ability and as pain allowed.

"It's kind of been more what we don't say rather than what we do say … we advise people to move as is comfortable, which is a simple message and very easy to replicate ... we are reinforcing the message that you can move, don't be frightened to bend, don't be frightened to reach down and touch your toes … that you can do things, you don't have to hold back, you are free to move as you wish" – Participant 1, Physiotherapist

Information and training provided

Therapy team leaders believed that they were key to ensuring that all their staff understood the new treatment regime and had provided training sessions to assist with this. The team leaders reported that most staff attended and were engaged in the sessions. The training was

considered to be time-consuming but worthwhile to support staff through the transitional period. However, interviewees perceived there to be a lack of confidence and need for reassurance among the more junior staff about how to discuss the change in practice with patients. Team meetings provided opportunities to discuss and coach staff through these concerns and respond to questions raised by patients.

> *"As a leader I felt my responsibility [was] to manage the staff through the change we did spend quite a lot of time investing before the study into kind of reassuring, and explaining what the study was, and explaining the reasons, talking about ways in which we might do our assessments differently, providing training for the support workers … I think a good investment in the time, but it has taken time to go through that with staff [to] make sure everyone feels confident leading up to the change, then through the change. We've discussed it a lot of at team meetings… reassurance in the wording I think has been the main thing staff have asked" – Participant 2, Occupational therapist*

Conversely, some nursing staff felt that not enough information or formal training had been provided to them and reported they had relied on receiving informal training from other professions. They, and some other AHP staff, believed that there was a need for a multidisciplinary approach in terms of training. Nursing staff explained how it was difficult to change 'ingrained' practices and felt that they required more reassurance and knowledge about the new regime.

> *"Whether we could have done with more [information], I don't know …. not just the fact that we're not doing hip precautions anymore, it is what do you say to them instead then. I probably would have felt more comfortable*

having a bit more information on that, I think. [They] should have got us all together and go through it and said right we are not doing that, so advise them to do this, tell them that and if they ask this, tell them that sort of thing" – Participant 6, Nurse

Perceptions of the new regime

Patients' response to new advice

Patients who previously had a THR were considered to be quite 'wary' and 'cautious' at the prospect of no longer having to follow hip precautions. Most patients, particularly younger and fitter patients, were believed to respond well to the relaxation of precautions, and the increased flexibility of the service, which enabled them to be more mobile and independent. Staff discussed how they managed patients asking about precautions, and the explanations that they provided to them regarding the change in advice and rationale for the removal of precautions.

"It's been positive, when I have explained that there is no evidence either way that you should or shouldn't. With the primary hips, we have taken them [hip precautions] away and it gives them more flexibility and I think they like that idea that they are not as restricted … If, say they have had their other hip done under precautions, and now you have removed precautions, they might be a bit more cautious because you are saying something slightly different now" – Participant 5, Occupational therapist

Impact on treatment practice

The removal of hip precautions was considered to be positive for clinical practice, enabling staff to use a greater variety of techniques to mobilise a patient, and helping reduce the need for patient handling and the subsequent strain on staff. The amount of time spent teaching precautions was considered to have provided some time-saving in certain areas, enabling staff to spend more time teaching different functional techniques and conducting functional assessments.

> *"Getting them out of bed is easier because you don't have to worry about the occasional cross-leg or occasional flexion beyond 90 degrees. You can also use a log roll technique to get patients out of bed if they are willing to try a different alternative, so instead of doing a pivot turn, you roll the patient onto their side and sit them up similar to someone who's just had back surgery which is less of a strain to the therapist" – Participant 1, Physiotherapist*

> *"It's a lot easier from our point of view … in the speed of seeing patients that come through to the clinics that has helped an awful lot. As a lot of time was spent going through precautions and now with having the hip school doing that as well that has eased off the time spent with patients in clinics" – Participant 3, Occupational therapist*

Impact on recovery/ rehabilitation

The less restrictive protocol of no precautions was considered to provide staff with more options to help progress patients' rehabilitation. Therapy staff discussed how they were able to encourage patients to perform more movement specific exercises, which could enable them

to perform daily activities more easily. Therapy staff perceived that hip precautions limited patients' recovery, not only physically but also psychologically.

> *"I think day-to-day practice we can do more with the patients, not necessarily straight away because postoperatively you are limited by their pain anyway so actually they are not moving and are probably staying within the precautions if you like, purely from a pain comfort point of view … I think it was very restrictive before, whereas I feel now that recovery is definitely aided because of it. For the right patient, I do think recovery is quicker, more effective, they are probably benefiting a lot earlier from surgery than before … In terms of movement and progressive exercises so you can do more bending, more squatting, forms of exercise functionally I think that transfers over, so they can get themselves dressed and up and about so just generally their recovery is aided by that" – Participant 4, Physiotherapist*

Challenges experienced

Adapting to the new regime

Adapting to the new regime was considered challenging for some staff, however the more senior and long-term staff believed that they 'adapted very quickly'. Individual disciplines were considered to respond differently to the change in service and adjusting to the new regime.

> *"I think we in terms of physio team have been brilliant, we can really progress people a lot quicker and people will recover a lot better. Occupational therapists, interestingly I think they weren't sure initially*

because of their role in preop and the provisions that they provide in terms of equipment. I think there was a little bit uncertainty about whether we are giving the equipment to everyone or are we assessing people individually." – Participant 4, Physiotherapist

Some staff, particularly nursing staff, explained how they sometimes found it difficult not to advise patients about hip precautions as it was a well-established practice. Doctors and nursing staff were considered to find it difficult to convert to the new regimes and were often 'forgetful', reverting back to hip precautions.

"Hip precautions I think are still instilled in us, even though we try not to … I think we still have it in us that if we someone bending over, I sometimes forget and automatically try and stop someone …. it's just periodically sometimes" – Participant 7 Nurse

Support staff were thought to have found it more challenging to adjust to a less prescriptive approach due to lack of training.

"I think the support workers have probably have probably found it more of a challenge because they have to use clinical judgement more. Before it was very prescriptive, taking the safe height, it was very prescriptive how high to make furniture … I think staff are really thinking about taking each individual patient's circumstances on board because the staff that do the preop are band 3 and 4s, they are not qualified OTs, so they have not had OT training, so I think it has made it more of a challenge for them" – Participant 2, Occupational therapist

Reassuring patients

Staff reported that some patients, particularly those who had previously been taught precautions, were unsure about the new regime and found the change in advice quite daunting. Staff described how they had found it quite challenging to reassure patients who had had a previous THR.

> *"One problem that has been highlighted to me is patients who have had their other side done are very wary of it still. Because obviously when they had their other side done, we were very much involved in hip precautions so they're a bit wary about how they've suddenly disappeared" – Participant 10, Physiotherapist*

Staff reported discussing the current evidence available, and the advancements in surgical techniques and prosthesis development (e.g. bigger head sizes) with patients to reduce their anxiety. Patients were reassured by staff, particularly patients who were anxious of the potential risk of dislocating their hip, accepting their explanations as to why hip precautions were no longer enforced.

> *"Reassuring them about resuming function, getting back to normal for that patient … reassuring patients that its ok to move and exercise within their own limitations of comfort, and that pain doesn't mean harm and that they aren't going to do any damage. A lot of reassurance along the way" – Participant 4, Physiotherapist*

Discrepancies in information

Clinicians described how following the change ‘not everybody had sung from the same hymn sheet’ initially and that there was some frustration as patients were receiving different information from different members of staff. One clinician discussed the difficulties they encountered when managing patients who had been provided opposing information about hip precautions.

> *“I am aware of two incidents with a particular consultant where the consultant said preoperatively that the patient must follow hip precautions, whereas obviously as a trust we have agreed that is not the case so unfortunately, I think they are harder perhaps to control … it’s been difficult actually because in theory, you can’t go against what the consultant says but nothing had been documented about that. It was very much his word against ours … [but] you can’t really say to the patient ignore what the consultant said” – Participant 4, Physiotherapist*

There were also concerns that external therapists (therapists from local hospitals or within the community) may not have been aware about the recent changes to the hospital’s practice regarding hip precautions. Staff felt that more information should have been provided to external therapists to prevent further confusion for patients.

> ***“I suppose one of the things that would be ideal would be for there to be a bit more education out there for all the physios who aren’t related directly to this acute hospital. You know, because I think there will be physios out there who have no idea this project’s going on and have no idea that we’ve done***

away with precautions. And maybe confusing the patients a bit more" – Participant 10, Physiotherapist

Discussion

Our overall findings suggested that some clinicians found the change in practice initially demanding. This is not surprising given that it is recognised that withdrawing an established practice and adopting a new regime can be difficult: translating and implementing findings from research into clinical practice is often taxing [13]. Team discussions about withdrawing precautions and the provision of targeted training to assist with the implementation of the more relaxed regime were considered to be important facilitators to the change in this service. Despite training sessions requiring substantial amounts of preparatory time, this was believed to be a good investment of time to ensure a smooth transition in changing the service However, it appeared that some groups received more training than others and it is possible that some groups needed more formal training than they received. This could have been due to the fact that healthcare professionals often train within their own discipline, and learn in isolation from other professionals, even though their clinical practice may position them side by side at the same site of care [15].

Providing more multi-disciplinary training and education might have alleviated some confusion and issue relating to the new advice. This was certainly the belief of some of the participants. Given that individual disciplines were considered to respond differently to the change in service and adjusting to the new regime, this again underlines the need to be trained together in order for it to be more beneficial.

The ‘Hip Champions’ were key in driving forward the intervention and ensuring that other members of staff ‘bought into’ and supported the new intervention. These individuals acted as role models for other staff and reinforced the new clinical behaviours. The presence of a ‘‘local champion’’ is one of the most consistently reported factors in the successful adoption [12] and implementation of evidence-based practices [16-18]. The fact that our champions volunteered for the roles showed they were committed to the changeover.

Knowledge translation has been identified as a key implementation strategy as it focuses on ensuring that stakeholders are aware of and use research evidence to inform their health and healthcare decision making [13]. Educating staff about the research and evidence currently available so that they understood the issues, engaging staff with the change in the provision of hip precautions and appointing ‘Hip Champions’ were key mechanisms in enabling the successful change to the implementation of a new rehabilitation protocol.

Clinicians in other services considering such a change in their orthopaedic service, or indeed in other areas, could utilise the findings of this study to facilitate such a change. Those interested in the possibility of removing or relaxing hip precautions following THR surgery in their own service should learn from our experiences in doing this in order to successfully implement changes in their practice.

Limitations

Only half of those invited for interview agreed to participate in the study, thus the participants’ views might not have reflected the full range of perspectives and experiences. It would have been preferable to interview a greater number of surgeons as orthopaedic surgeons have substantial autonomy over practices. However, although several agreed, it was

impossible to interview them and many cancelled late citing clinical reasons. Although the surgeons interviewed appeared to share the same opinions about removing routine hip precautions, it may be that those who had different opinions were not willing to participate.

Conclusion

Important concrete barriers and facilitators to changing from the routine practice of hip precautions to no hip precautions were identified, and other hospitals wishing to change their practice may wish to consider these. Key implementation strategies to changing clinical practice were: formulating a plan involving relevant staff, appointing ‘Hip Champions’, educating staff and providing them with the relevant information and training about the change in practice and the evidence base. Targeted training staff within a multidisciplinary team rather than within specific disciplines might enable successful implementation at an earlier stage. The findings from this study inform the wider debate on how to change clinical practice and document important considerations and implications applicable in changing the delivery of clinical services.

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TABLE(S)

TABLE 1. THEMES AND SUBTHEMES OF STAFF INTERVIEWS

1	**Changes to practice**
	1.1 Rationale for changing practice
	1.2 Alternative advice
	1.3 Information and training provided
2	**Perceptions of new regime**
	2.1 Patients' response to new advice
	2.2 Impact on treatment practice
	2.3 Impact on recovery/ rehabilitation
3	**Challenges experienced**
	3.1 Adapting to the new regime
	3.2 Reassuring patients
	3.3 Discrepancies in information