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Exploring Ethically Sensitive Decision-Making in Acute Hospital Care: Using Hand-Control Mittens in Adult Patients

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January 2007 – May 2008
Further work on-going

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Summary of project
This project explored the use of hand control mittens in three groups of patients: ITU, acute stroke and head injury within an acute hospital setting. The trial of mittens in each setting was followed by a researcher administered semi-structured interview using a list of question prompts to the patient (where possible and appropriate), next-of-kin and the key team members involved. These data have been utilised to inform the next phase of the project and assist the Trust to make decisions regarding sanctioning the use of such interventions and the requisite decision making processes and documentation to minimise risks.

Background
Patients in the acute phase of their illness frequently become restless and inadvertently remove feeding tubes and other essential access lines. There are various treatment options which include forms of restraint and, as such, are ethically sensitive and fraught with emotion for the patient, their family and for staff. Such tensions have to be managed alongside the need to provide optimal treatment.

This project was initiated because patients receiving enteral nutrition frequently remove their feeding tubes. Problems with the placement and positioning of such tubes have been well documented (Eisenberg, Spies and Metheny, 1987; Meer, 1988; Ciocon et al., 1988; Norton et al., 1996), as have issues regarding the maintenance of adequate nutrition in hospital settings (National Collaborating Centre for Acute Care, 2006). In practice clinicians are able to cite cases where relatives have become anxious regarding 'missed feeds' or lack of hydration between tube or line removal and replacement times. Patients undergoing repeated naso-gastric intubation have to endure the invasive procedure and staff find it unacceptable to re-pass tubes on innumerable occasions. Managers have also been able to provide reports of complaints regarding these issues.

Critical care nurses have explored the use of restraint to reduce the problem and published a position statement (Bray et al., 2004) and at the 2006 UK Stroke Forum conference (Kee et al., 2006; Mahony et al., 2006) two poster presentations highlighted the potential to use hand control mittens. It also became evident that locally the problem was widespread across various patient groups.

The project was potentially contentious as "the use of restraint is always an emotive issue" (Royal College of Nursing, 2004) but it was felt that further exploration was warranted and that it would be essential to explore local perceptions in order to inform decision making regarding acceptability of this intervention.

Project group
A small project group comprising a range of clinicians and a representative of the Patient Experience Council was formed to explore the issue in greater depth using a systematic enquiry approach through a pilot project.
The group were able to cite various local case studies in which treatment of individuals was compromised through the omission of essential therapeutic interventions resulting from tube/line displacement. The group were also aware of different opinions amongst staff, families and patients and various approaches employed to manage this problem. No local policy or guidance existed to support decision making in these circumstances and the group felt that development of these would ensure that a transparent and consistent decision-making process is followed.

In addition, the group anticipated the following outcomes:

- Improved patient care through the provision of optimal treatment, for example enteral feeding, intravenous fluids and medication administration
- Improved health care practice by raising the profile of ethically sensitive decision making, encouraging health care professionals to debate such issues within their organisation and promote evidence based practice through dissemination of project findings

The group authored the research protocol, funding and ethical approval applications and met regularly throughout the study with monitoring and support functions.

Aim and objectives of the project

The principal aim of the project was to explore the use of hand control mittens within Portsmouth Hospitals NHS Trust and ascertain their acceptability for use in clinical practice.

The main objectives were as follows:

- To identify and explore patient, family members and staff perspectives of the use of a form of restraint to ensure patients received optimal care
- To develop an ethically sensitive decision-making process for the use of hand control mittens
- To identify recommendations and oversee their implementation
- To share findings to inform and develop practice locally, regionally and nationally

Method

This project employed a purposive sampling method utilising a decision-making algorithm for recruitment. It was anticipated that a sample of 9 patients would be recruited.

Potential participants were to be identified via senior specialist nurses in the three proposed clinical areas (clinical stroke coordinator, acquired brain injury nurse specialist and senior sister Intensive Therapy Unit). The patients were identified as having removed feeding tubes or other access lines. The patient (where appropriate) or their next-of-kin were asked whether they would like to use the hand-control mittens to avoid further inadvertent tube/line removal. A study information sheet was given and explained to the patient/next-of-kin and the patient/next-of-kin were asked whether they would like to proceed. They were informed that they could decline or withdraw at this or any point without detriment to the care provided.

If the potential participant provided consent/assent a further explanation of the study was provided if required and mittens supplied if agreement was secured. A consent/assent form was signed which also invited the patient or their relative to be interviewed following the intervention using a semi structured interview technique.

The nursing teams monitored the patient's progress over the following week with advice from the nurse specialist or researcher if necessary. Any member of the clinical team could make the decision to halt the intervention if proving not to be beneficial for the patient or at the request of the patient or their next-of-kin.

Key members of the clinical team were identified and invited to participate in a semi-structured interview. A staff information sheet was supplied and the consent process was undertaken. The research nurse undertook these interviews at an agreed time and within a suitably private and quiet environment. The interviews were recorded using semi-structured interview prompt sheets. The same process was followed with either the patient or their next-of-kin. Issues, themes and suggestions were extracted.

Findings

Table 1 provides a summary of the patients that were involved in the project.

Table 1. Summary table

Patient	Diagnosis	Indications for mittens use	Age	Gender	Consent/Assent
1	Stroke	3 tubes pulled out, agitated	83	Male	Consent
2	Stroke	2 tubes pulled out, agitated	64	Male	Assent
3	Stroke	3 tubes pulled out	90	Male	Assent
4	Head injury	2 tubes pulled out, agitated	78	Male	Assent
5	Epilepsy, brain injury	3 tubes pulled out, agitated	44	Male	Assent
6	Stroke	3 tubes pulled out, agitated	76	Female	Consent
7	Encephalitis	4 tubes pulled out, very agitated	58	Male	Assent

In all cases the hand control mittens were suggested for use because the patient had pulled out at least two naso-gastric (NG) tubes. Participants in the study had either suffered a stroke (4 patients), or cerebral irritation due to epilepsy (1 patient), head injury (1 patient) or encephalitis (1 patient). All patients included in the study were restless or agitated and had not declined to be fed. Only two of the patients were able to give consent to wearing the mittens, assent was obtained from next of kin in the other four patients; one patient had no next of kin and the decision to use the mittens was made in discussion with the team consultant.

A total of seven staff members were interviewed and four family members. One patient had no next of kin, one patient sadly died shortly after participation in the study and it was not thought appropriate to contact his family. One patient did not wear the mittens as their tolerance of the naso-gastric tube improved but was included in the study as the process was followed.

All those who were interviewed said that the decision making process was clear and unambiguous. The guidelines for referral were said to be clear and straight forward. All said that the process was managed effectively and there were no problems raised. In one case the process was managed by a senior member of staff, all other cases had involvement by the research nurse and a senior nurse caring for the patient.

All involved were keen to try using the mittens. There was consensus that anything that could benefit the patient was worth trying, although there was some concern that the patients would be able to remove the mittens.

There were many comments from both staff and families about the actual physical appearance of the mittens. Four out of seven members of staff said the mittens were too big and bulky, they also all commented the mittens looked like 'boxing gloves'. The other three said they looked comfortable, soft and well padded. One nurse thought that the patient was very shocked when the mittens were applied and did not know what to make of them. She thought this was made worse by the appearance and colour of the mittens. It was soon established that touching, trying on and experiencing the feel of the mittens was a very important part of the decision making process. Staff initially thought they were secure and would be difficult to remove. Most relatives interviewed thought the mittens looked and felt comfortable and there was only one negative comment about their appearance. One family spent a lot of time feeling and trying on the mittens prior to their use. Initially they were concerned about how they looked and thought they may take away the patients dignity. After they had seen the mittens and their use had been demonstrated, they were happy for them to be used and were very positive at the potential effects of them. There was unanimous agreement from those interviewed that they liked the finger spacers on the mittens especially as this allowed some degree of movement of the fingers. One patient had an intravenous cannula on the back of one of their hands and although the mitten did fit over it, it meant the mitten could not be secured properly and the cannula had to be re-sited to a different area. Another family member stated 'the appearance of the mittens is not relevant, my son's condition and life was far more important'.

In summary, only one family initially had concerns about using the mittens. The other families were happy and keen to accept anything that could help their relative receive nutrition. All were distressed to see them pull tubes out and understood that it was not possible to provide one-to-one nursing for these patients.

Achievements to date

During the first 18 months of this project, the group have succeeded in tackling a difficult area of clinical practice. Significant success has been achieved so far. The project group have enthusiastically enjoyed participating in a piece of practice based research that has:

- Sought, succeeded and received external funding support
- Sought, succeeded and received ethical approval for the project
- Stimulated debate regarding the use of restraint to optimise patient care
- Recruited 7 patients into the study
- Authored a project report
- Identified recommendations and key actions for the next 6 months
- Identified a change in clinical practice that will benefit a group of complex and challenging patients

Project limitations

The very small sample size is a limitation but on reflection of the comments from staff and relatives, the decision-making process, communication and education are key components of any potential use.
The process of providing information and a cooling off

period prior to seeking consent delayed the recruitment of patients. Once embedded in clinical practice away from the research protocol, the decision-making process will be expedited and patients will be able to have mittens applied in a timely manner.

Recommendations

As a result of this work, the project group have made the following recommendations:

- Hand control mittens should be available for use in certain circumstances
- The results should be shared with the Governance and Quality Committee
- The project group should reform as a policy development, over seeing and clinical support group
- There is a need for formulation and ratification of a clinical policy with supporting practice guidelines for the use of hand control mittens
- An education and training programme should be developed
- A competency framework to support practice guidelines should be developed
- Potential alternative products need to be explored to reduce issues regarding aesthetics and ease of removal
- An evaluation of the use of hand-control mittens should be undertaken in 6 months time
- Support and encouragement for units to undertake their own audits of use, utilising measurements pertinent to their specialism should be provided

Conclusions

With careful patient selection and following a clear, unambiguous decision-making process, hand control mittens have their place in contemporary clinical practice. The mittens allow a non-invasive method of facilitating the protection of enteral feeding tubes and access lines to be instigated. There may be additional benefits which will be recorded during the next evaluation phase, for example reduction in urinary catheter trauma and reduction in sedation medication facilitating greater accuracy in recording conscious level etc.

Whilst there are ethical issues to consider, once provided with information and the opportunity to see and experience the mittens neither relatives or staff members raised any ethical barriers to their use, rather, they were welcomed as a clinical option.

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