

# Changing manual-handling practice in a stroke rehabilitation unit

Patients who have had a stroke are often unable to support their full weight when moving. Recent guidelines on patient handling stress the risk of injury to nurses' backs if they lift patients or support their body weight. Nurses in one stroke rehabilitation unit who used a 'pivot' transfer had to reconsider their practice and explore other options for moving patients

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MANAGING CHANGE, LIFTING, REHABILITATION

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When helping patients to transfer from bed to wheelchair, chair or toilet, nurses working in one stroke rehabilitation unit based their patient transfers on the Bobath technique (Bobath, 1990). This was in keeping with the rehabilitation process used by the unit's physiotherapists. The Bobath technique is used with patients with a neurological condition. The technique follows the principle of normal movement to encourage rehabilitation. To transfer a patient from a bed to chair, for example, the physiotherapist stands in front of the patient, encouraging them to lean forward and take their own weight through their feet. The physiotherapist then helps the patient to pivot 90 degrees to the chair; hence it is also known as the 'pivot' transfer.

Although the issue of manual handling had been raised at various times, the argument for using this technique was that it followed the principles of normal movement and is seen as a transfer rather than a lift. The nurses were comfortable with this method of transfer, there was no apparent desire to change and, most importantly, the nurses believed it was best practice.

In the current climate, many changes have been introduced through government directives; however, without commitment change may not happen (Tappen, 1995).

The following factors led the stroke unit nurses to believe that the handling technique used may not have been as beneficial as was thought:

- The unit's manual handling officer questioned whether the practice complied with the Health and Safety Executive's *Manual Handling Operations Regulations* (1992)
- Social services rules had become stricter concerning the amount of physical assistance home-care staff could provide once patients were discharged from hospital
- The RCN's guidance *Introducing a Safer Handling*

*Policy* (2000) and its *Code of Practice for Patient Handling* (2002) aim to eliminate hazardous handling in all but exceptional circumstances. This includes lifting patients and supporting their body weight during a transfer. The Bobath or therapeutic transfer requires the nurse to take some of the patient's body weight and is therefore classed as a lift.

The nursing staff resolved to:

- Identify alternative manual-handling techniques for patients who have had a stroke
- Comply with HSE regulations and RCN guidance
- Introduce an assessment tool to raise awareness of handling risks
- Provide appropriate equipment following trial and evaluation of equipment
- Ensure nursing staff attend manual-handling training on a yearly basis.

At first we were uncertain about how to change practice. The nurses did not know of any other method of transferring patients who had experienced a stroke that would encourage them to continue their rehabilitation. The manual-handling officer did not condone current practice or offer any alternative advice apart from recommending the use of a hoist.

To implement the change a combination of strategies was required. The nurses were given written information regarding lifting, manual-handling policy and backache. Practice did not change, however. As Cahill (1995) found, information alone is not enough to change practice.

The 'power-coercive' approach was explored. The nurses were told that if they suffered an injury during a pivot transfer they would be unable to claim compensation as all law courts would refer to RCN guidelines. The patients, if injured, could accuse the nurse of assault (NMC, 2002).

At this time there was much confusion. The nurses were told they could no longer continue using the transfer. However, at this time there were

**Table 1. Forcefield analysis to implement different transfer techniques**

The driving and restraining forces are mapped identifying the factors that will help or hinder the change process.

A score of 1 to 5 is given, with 1 = low force, 5 = strong force

Driving forces		Restraining forces	
Legislation	5		
Safer practice	5	5	Is it rehabilitation?
Reduction in back injury	3	3	Patient/relative pressure
Nursing staff	2	3	Nurse custom and practice
Physiotherapist/occupational therapist	2	3	Physiotherapist/occupational therapist
New equipment	3	2	Old equipment
Risk assessment tool	2	3	More documentation
<b>Total</b>	<b>22</b>	<b>19</b>	

few alternatives. The stand-aid available in the ward was not suitable for stroke patients because its use entailed the potential risk of damage to the shoulder affected by the stroke. The hoist available was difficult to use, cumbersome and unsuitable for rehabilitation patients.

Although the risk of injury to the nurse was highlighted, current transfer practice continued in the absence of any other solution.

### Encouraging change in practice

Knowing that we had to comply with the HSE regulations and RCN guidelines, we held open debates at monthly ward meetings.

There was great support from a senior physiotherapist and senior occupational therapist as they were also starting to question the safety for staff and the risk of injury when using the Bobath technique. The main difference between therapists and nurses was that the therapists had been specifically taught patient-moving techniques, whereas the nurses had learnt by watching the therapists and following their example (Smith and Smith, 2003). There was thus no guarantee that all the nurses transferred in the same manner.

Many changes are prevented, not because of poor planning, interest or enthusiasm, but because of a lack of resources (Tappen, 1995). Fortunately, each ward manager in the hospital had been allocated a budget to spend on improving the environment and patient care. The ward manager believed the purchase of an appropriate stand-aid was a priority.

### Resistance to change

The resistance to the change was tremendous, as the nurses believed traditional practice was best practice. The nurses were unprepared for such a

dramatic change to their transfer technique. They believed the RCN was wrong, that the method had been used successfully for 10 years, few back injuries had occurred and they did not understand why they should change. However, Wright (1998) found that what is regarded as a quality service today might be rejected tomorrow.

Haffer (1986) identified the main factor for resistance to change as fear of the unknown and the best weapon against resistance as knowledge. The nurses needed to understand the problem and be involved with the decision process.

Further resistant factors to overcome were the beliefs that:

- Hoists are unsuitable for use with rehabilitation patients (Carlowe, 1998)
- Risk assessments are cumbersome (Raine, 2001)
- Backache is part of the job (Owen, 1999).

Many leadership skills were required to change the culture such as diplomacy, providing a vision, motivating staff, communication and, most importantly, involving all the nurses in the process.

An unexpected source of resistance was the patients. Patients believed the pivot transfer encouraged rehabilitation because they stood and took some of their own weight despite the fact that the nurse supported them. There were frustrating incidents when patients refused to use a hoist and the nurses were faced with the dilemma of how to transfer them. Patients and relatives were surprised when the nurses refused to lift a patient in accordance with manual-handling regulations and their own need to protect themselves from a potential back injury. This stance may appear to go against their *Code of Professional Conduct* (Nursing and Midwifery Council, 2002) whose aim is to protect the public interest and give patients the care they wish. One tends to think patients are passive in the change process (Carlowe, 1998) and will go along with the nurse's decision about what is best. But patients have immense power psychologically and emotionally over nurses. Nurses in the unit often felt obliged to transfer a patient as requested (Wright, 1998; Department of Health, 2001) and patients initially caused the largest barrier to the change in practice.

To assess the viability of implementing a safer manual-handling practice to benefit both patients and staff, Lewin's (1951) forcefield analysis was used (Table 1). The change agent must have a thorough knowledge of the target system, the environment, the characteristics of change and the potential responses to change to identify >

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### Box 1. Comparability questionnaire

- How easy was it to learn to use the stand-aid?
- How easy was it to attach the strapping to the patient?
- Did the patient feel comfortable?
- Did the patient feel secure?
- Was the stand-aid easy to use?
- Was the stand-aid easy to manoeuvre while the patient was 'on board'?
- How easy was the stand-aid to use in the toilet area?
- How easy was the stand-aid in use for adjusting clothing?
- Was the stand-aid adaptable to many patients?
- Any other comments?

driving forces (for) and restraining forces (against). The main driving force was compliance with legislation leading to safer practice for nurses and therefore a reduction in the number of back injuries. The main restraining force was custom, values and a belief in a practice used for a decade that current transfers aid rehabilitation and continue therapy.

### Finding the right equipment

The nurses in the stroke unit had come to terms with the knowledge that the transfer they believed was excellent practice actually meant the nurses were taking a large proportion of the patient's weight. However, the nurses believed they used the same transfers as the physiotherapists, thus ensuring the patients received the same care over a 24-hour period. The current hoist available went against all the principles of rehabilitation, it was difficult to use, it was cumbersome, it was operated manually and required the nurses to heave the slings around the patient. The patients also felt undignified when using it. The manoeuvre also took longer to perform than a manual transfer. Carlowe (1998) found similar reports.

The physiotherapist agreed to a change of transfer technique, provided it encouraged rehabilitation and did not pull on the patient's stroke-affected shoulder, thereby increasing the risk of dislocation. The physiotherapist and ward manager went to rehabilitation equipment exhibitions and visited other units.

Three stand-aid hoists, produced by Liko, Arjo and Molift, were identified as suitable to transfer patients with a stroke from a bed to toilet or chair.

All three aids were electrically operated and similar in structure, comprising a platform on which the patient stands. All had strapping that was attached to an arm-like device which, when raised or lowered, brought the patient into a standing or seated position.

The nurses were informed that a trial of the three stand-aids would take place and the one they chose as the most appropriate for the needs of the patients would be purchased. The nurses thus had a motive to complete a comparability questionnaire (Box 1) for the three stand-aids as they felt their opinion would be valued. Although the ward manager had identified the cost of each stand-aid this was not passed on to the nurses so that the stand-aid would be purchased because of its suitability rather than the price.

Each of the aids was trialled in turn for a two-week period and a comparability questionnaire was used to record findings. Ten questions focused on patient comfort, manoeuvrability and ease of use and were scored between 1 (poor) and 5 (best).

Seventeen nurses (89%) completed the questionnaire. The Liko stand-aid scored highest with an overall rating of 689, compared with 524 for the Molift and 509 for the Arjo. The highest rating was achieved on manoeuvrability (Liko scored 89) and the lowest on how comfortable the patient felt (the Arjo scored 46). Although similar in structure the Arjo was more clumsy to use and the Molift strapping was thinner and less comfortable for the patient.

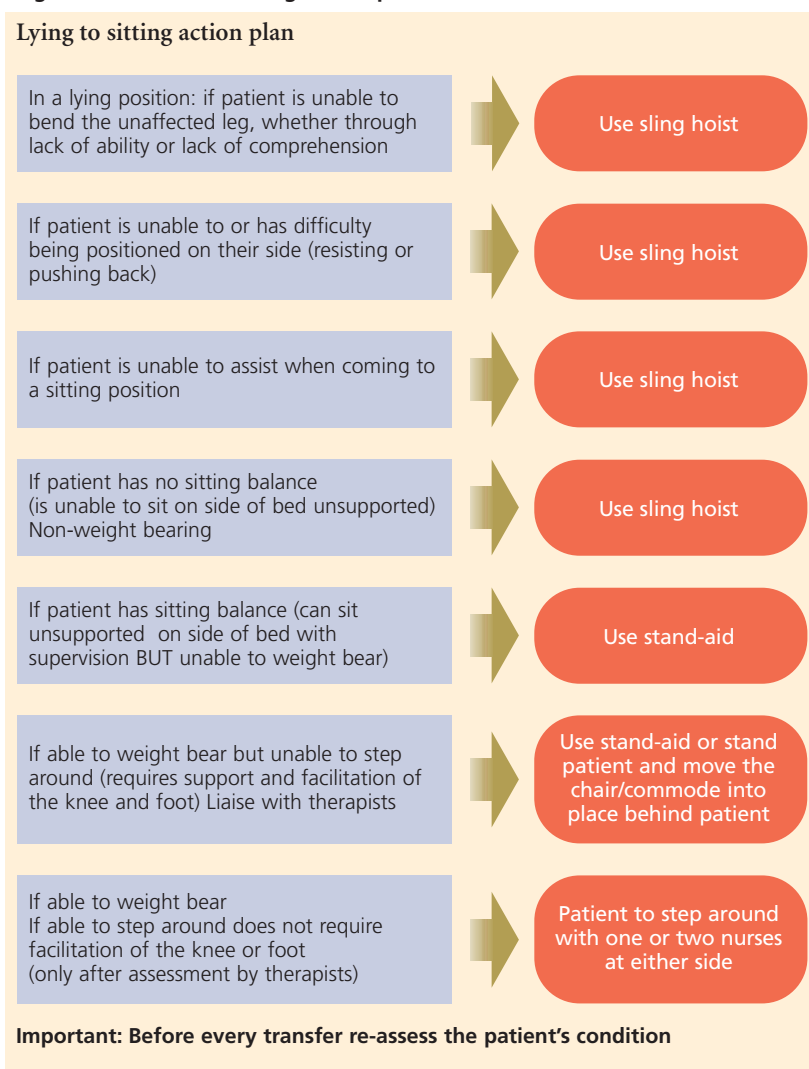
When the results were compiled, the Liko was the most preferred by staff in all categories. This stand-aid was the last to be trialled so the nurses may have been used to the idea of using a stand-aid by this time. The Liko stand-aid was considered the easiest to use (rating 75 compared to 58 for the Molift and 63 for the Arjo). It was also considered the easiest to move while the patient was on it (rating 89 compared to 60 for the Molift and 58 for the Arjo). It was adaptable to many patients (rating 75 compared to 58 for the Molift and 56 for the Arjo).

The lowest score for all three stand-aids was for how secure the patient felt during the transfer (the Liko scored 62; the Molift scored 58 and the Arjo 60). The reason for this may have been that when patients were transferred using the 'pivot' transfer they held on to a nurse (with subsequent risk of injury to the nurse). When patients used the stand-aid they could not hold onto a nurse.

The nurses were more amenable to change

**Table 2. Transfer audit**

Type of transfer	Number (pre-change)	Number (post-change)
Pivot with two nurses	77	0
Stand-aid	0	89
Step with assistance	44	0
Step with supervision	0	32
Slideboard	10	9
Rotunda	12	0
Hoist	11	3
<b>Total</b>	<b>153</b>	<b>133</b>

**Figure 1. Manual-handling action plan**

because they had now been involved in the decision-making process and believed they had a choice (Haynes, 1992). However, a further period of confusion followed the trial. Before the stand-aid trials the nurses did not know of any other

method available to transfer patients safely while encouraging rehabilitation. After the trial the nurses knew there was an option but without a stand-aid they had to revert back to the pivot transfer or the cumbersome old hoist. Patients liked the opportunity of standing while in the stand-aid and perceived the hoist as a backwards step in their rehabilitation.

This period was the most disruptive phase of the change and the nurses could easily have lost interest in the project and returned to traditional practice. Fortunately, the appropriate stand-aid was quickly purchased.

A Liko hoist was also purchased for the small percentage of patients who were not able to sit unaided and were unable to use the stand-aid. The new hoist was user-friendly, electric, had long straps, a large sling that was easy to fit around the patient and would take a patient from sitting to lying position or vice versa.

#### Assessment of transfers technique

A quantitative assessment was undertaken to monitor the number and types of transfers the nurses performed before and after the change in transfer techniques (Table 2). This was based on the number of transfers carried out on a sample of seven patients in a 24-hour period both before and after the change in practice.

#### Before change

- Fifty per cent of patient transfers involved the pivot transfer, which made the job physically demanding. It consisted of many repetitive movements, while the HSE manual handling regulations advocate that lifting is kept to a minimum
- Only 22% of all transfers used a transfer aid (slideboard, rotunda or hoist). This was mainly because the nurses believed that such transfer aids did not encourage rehabilitation
- When using the Bobath technique, the patient would have been transferred at least three times, for example, from bed to wheelchair, wheelchair to toilet and toilet to wheelchair. Different nurses, each with a slightly different technique, could have performed each transfer
- More patients were able to take a few steps with assistance because the nurse supported the patient's knee to help them, thus taking some of their weight
- The nurses were in control of the patient's transfer and continued to support the patient, possibly for longer than required. ▷

### Box 2. Patient/relative evaluation

Patients and relatives were asked the following questions:

1. What are your views regarding the use of the stand-aid?
2. Have you had any problems with the stand-aid?
3. What do you like about the stand-aid?
4. What benefits, if any, have you felt since using the stand-aid?
5. Has the concept of rehabilitation been affected? How?

### After the change

- A major difference was that the stand-aid was used for 67% of all transfers, increasing the percentage of transfers using an aid from 22% to 76%
- There was a reduction in the total number of transfers. By using the stand-aid the patient could be transferred from the bed to the toilet and back to the chair, which was classed as one manoeuvre
- The stand-aid was quick and easy to use and often required only one nurse so saved time as the patient did not have to wait for another nurse to be free to assist
- The stand-aid provided consistency for all transfers
- More patients were able to take a few steps to get into position unaided and required nursing supervision only
- The nurses liaised more closely with the physiotherapists
- The stand-aid supported the patient's weight and it appeared that patients moved on to step transfer sooner, thus encouraging their recovery.

### Evaluation

Some months after the introduction of the Liko stand-aid as an alternative to the Bobath technique for transferring patients a small survey was carried out to assess the benefits and/or disadvantages. Six nurses, six patients, two physiotherapists and two relatives were asked to complete a questionnaire (Box 2). Overall the views of all respondents were positive.

**Nurses and therapists' response** The response rate from nurses and therapists was 93% (13 out of 14) and overall the views were very positive. The nurses felt less tired at the end of a shift owing to the reduction of physical strain and effort. Although in the past sickness due to backache had not been a significant problem in the unit, the nurses admitted to taking less analgesia since the introduction of the stand-aid. The nurses found the stand-aid adaptable and suitable for the majority of patients.

The most significant comment from the evaluation was the request for a second stand-aid to use in the ward, clearly showing a preference and acceptance by the nurses for the new practice. The nurses thought rehabilitation was encouraged by the stand-aid as the patients were standing and taking as much of their own weight as their condition allowed. The physiotherapists claimed there was no detrimental effects on

patients' progress while using the stand-aid.

**Response from patients and relatives** The patients preferred the stand-aid as there was greater consistency in all the transfers. They felt they had an opportunity to stand and stretch instead of sitting and being bent all the time. One patient said it made them feel 'normal' to be the same height as others.

Relatives liked to see the patient 'stand' and improve, although interestingly they thought nurses contributed less towards rehabilitation because the stand-aid was used.

### Manual-handling action plans

Manual-handling action plans were developed as a protocol to ensure the same standard was followed by everybody, including student and agency nurses. The action plans were simple to follow and were placed around the ward for easy reference to indicate which transfer method to use (Figure 1). These plans acted as an assessment tool to ensure safe patient handling (Owen, 1998).

### Conclusion

The change in transfer technique in the stroke unit was successful because there was active involvement by everyone concerned. Although it was initially difficult for the concept to be accepted, all the nurses agreed to the need to change. During the months it took for the implementation to occur, the nurses adopted a problem-solving approach, overcame barriers, accepted the need for change and learnt to respect each other. The most important benefit was the development of a team of nurses working together to establish a new standard of care.

Recently, at a national stroke conference the subject of manual handling and minimal risk transfers arose. It was interesting to hear the same debate that had initially taken place in our stroke unit.

Manual handling has major implications in all aspects of patient care, in hospital and community. In the past patients and relatives expected nurses to comply with their wishes, regardless of the long-term damage that may have been caused to the nurse.

As a group, nurses have the largest incidence of back problems (Love, 1993; Owen, 1999) and must start looking after themselves. The belief that a change in traditional practice cannot be undertaken can be overcome, as the staff in this small unit have proved. □