Injuries associated with patient handling activities are common in healthcare and cost the NHS more than £80m a year. Improving education and training can help prevent injury, and better communication between education and clinical areas will improve monitoring of poor patient handling practice. This article discusses Birmingham City University’s approach to patient handling education for pre-registration student nurses.

Injuries associated with patient handling have been a problem in healthcare for decades, particularly for nurses, who have the highest rates of work-related back pain among health professionals (Edlich et al, 2004). Patient handling is a skilled activity combining theoretical knowledge with practical experience, and poor technique can lead to herniated discs and other musculoskeletal injuries. However, efforts to reduce injuries associated with patient handling are often based on tradition and personal experience rather than sound educational theory. Weaknesses have been identified in the educational approaches to improving patient handling practices (Wanless and Page, 2009), and there is a growing body of evidence supporting newer interventions for reducing musculoskeletal injuries to healthcare workers (Wanless and Page, 2009).

This article discusses the methods for educational interventions in patient handling at Birmingham City University, and describes how simulation exercises can help prevent injury and promote an understanding of the principles associated with patient handling tasks.

**Training and education**

Despite strong evidence on its importance, the most commonly used strategy of teaching moving and handling – showing healthcare workers prescriptive techniques required to handle patients – has proved to be ineffective. Healthcare education for safe patient handling is shared between the university and clinical practice. Universities have a legal duty to prepare students for patient handling activities in practice. Universities have a legal duty to prepare students for patient handling activities in practice.

**5 key points**

1. **Patient handling** is a skilled activity combining theoretical knowledge with practical experience. Poor technique can cause musculoskeletal injuries.

2. Healthcare education for safe patient handling is shared between university and clinical practice.

3. Safe patient handling starts with a personal risk assessment. Every time you assist or transfer a patient you are at risk of injury so a handling procedure should only be carried out if it is really necessary.

4. Poor posture can be corrected by maintaining a neutral spine, using your legs, never twisting your back and keeping the load close.

5. Promoting good posture and positioning in nurse education will only be beneficial if patient handling is taken seriously in clinical settings.

**In this article...**

- Why safe patient handling is important to prevent injury
- The principles of safe patient handling
- Birmingham City University’s approach to patient handling education

**Keywords:** Patient handling/musculoskeletal injuries/risk assessment

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**FIG 1. A NEUTRAL SPINE**
Appropriate training

The joint responsibility for training in patient handling led to a lack of clarity over the responsibilities between Birmingham City University and the local NHS trusts. One of the primary aims of the patient handling programme at the university was to make it evolutionary rather than revolutionary. Working with other disciplines within the health faculty and being responsive to their needs, rather than imposing a system of work on them, is vital to establishing ownership of the programme and gaining commitment from other disciplines to teach the subject.

The majority of students who undertake patient handling training at Birmingham City University are pre-registration student nurses. Students are vulnerable to injury because they lack both the technical skills and muscular conditioning developed through patient handling activities (Kier and Macdonell, 2004).

Students at the university are encouraged to be active learners, working towards a set of clear learning outcomes relating to evidence-based patient handling, posture and positioning. Teaching and learning activities are tailored to the needs of students with different levels of experience. During patient handling sessions, students often say the practices and techniques promoted bear little resemblance to those undertaken in clinical settings. This raises questions about the relevance of the university’s patient handling training, and suggests students are not being adequately supervised or assessed to develop safe patient handling skills. However, the anecdotal nature of students’ comments makes it difficult to determine how widespread these views are.

Students’ experiences are discussed in the training sessions; those who are reluctant to change unsafe practices are encouraged to reflect on their methods and explore the rationale for adopting safe handling postures and an ergonomic approach to risk management. A system is now in place to address the learning needs of students who have difficulty grasping the main principles of safe patient handling, which are:

- » Risk assessment;
- » Neutral spine;
- » Use your legs;
- » Never twist;
- » Keep the load close to your body.

Risk assessment

The principles of patient handling start with a personal risk assessment. Patient handling requires a mix of common sense and adaptability to any situation that may arise, and because the load to be moved is unpredictable every patient handling task is unique. Circumstances can change quickly, so a personal risk assessment must be done before each procedure.

The first consideration is always the aim and objective of the patient handling task. It is vital to remember that every time you assist or transfer a patient you are at risk of injury; a handling procedure should only be carried out if there is no other way to achieve the objective. This helps ensure the handler will not be caught unprepared, or put at risk. The following areas should be considered to ensure the patient handling procedure is carried out safely:

- » Task;
- » Individual;
- » Load;
- » Environment (Wanless and Page, 2010; Smith, 2005).

On completing the assessment, handlers should ask themselves: “Do I need to perform this procedure?” Once the risk assessment has been completed, handlers must concentrate on position and posture to reduce the risk of personal injury.

Maintain a neutral spine

Keeping the spine naturally straight allows it to act like a spring and absorb body weight, assisting the main shock absorbers and the smaller spinal muscles to work to their full potential. Using an anatomical skeleton, students are shown what a neutral spine is (Fig 1) and the facilitator highlights the sloppy “S” shape.

Students are asked to sit in what they consider a neutral spine position; the session facilitator then helps them to achieve the correct position. Students complain how uncomfortable and unnatural this feels but are reminded this is how they were born and that socialisation, as they have grown older, has affected their posture. Students are then asked to adopt the position in which they watch television or sit at a computer; this highlights how they have adopted a “C” position in the way they sit and stand.

Use your legs

The position of the feet is the secret to safe handling. The handler’s feet should be comfortably apart with one foot slightly in front of the other, giving a wider base of support and stability in all directions. Relaxing knees and hips with an offset base can improve balance. The offset feet position also creates a greater surface area as feet are kept in contact with the floor when knees and hips are relaxed.

To demonstrate the importance of this principle, students are paired up and asked to stand toe to toe with their partner. They must then stand on tiptoe, rocking backwards and forwards to see if they are in a stable position. They are then asked how they should position their feet to feel more stable. They are advised to bend their knees.
and use the quadriceps to aid stability, then practise the same movement but with feet flat on the ground, shoulder width apart. This position shows stability in a side-to-side rock, but less stability with a forward and backward movement (Fig 2).

Students then perform the same procedure with their feet shoulder-width apart, and with one foot in front of the other. This shows the importance of using the legs when performing a patient or inanimate load handling task.

Never twist

Twisting, or rotating the spine, reduces the effectiveness of the joints and muscles and decreases the body’s capacity to do work; this increases the likelihood of injury (Fig 3). If the spine has to be rotated, handlers need to reposition their feet – not doing so can cause the pelvis and shoulders not to be level.

The facilitator demonstrates this by holding their arms out straight in front and asking one of the students to push their arms from the side, highlighting the twist of the spine. Students are asked how they can stop this from happening. The facilitator asks if this is releasing the strain on their back and shoulder muscles, highlighting the importance of keeping the load close.

After being shown and practising the principles, students are asked to lift a 5kg box. Their peers watch to ensure they maintain posture and positioning using the four main principles. All students must participate in the task.

Communication

When applying the principles of practical patient handling, students are asked to choose a leader for the task. It is the leader’s role to communicate with the team. Once the patient is prepared, the handlers prepare the equipment and environment, carefully removing all hazards from the handling area and route if transferring a patient.

Students are told movement should commence on a predetermined signal, such as “ready, steady, stand”.

Training staff

Two patient handling coordinators were appointed to lead the team of trainers at Birmingham City University, providing a central point of contact for staff and students. The coordinators are members of the National Back Exchange, an organisation that supports health professionals in reducing occupational back pain in healthcare (www.nationalbackexchange.org). One of the aims of the National Back Exchange is to develop and promote common standards of training in safer handling (Williams et al, 2002). All trainers attend yearly updates to share their knowledge and experience with the training team. This helps ensure all trainers are kept up to date with any developments in moving and handling.

Conclusion

Communication between education and clinical placement areas, and monitoring of poor patient handling practice, has improved in the West Midlands. Patient handling training has also improved corporate commitment, and the faculty has ensured compliance with legislation and best practice. This will help improve student and patient experiences in this important area of practice.

University education, using the promotion of good posture and positioning, will only be beneficial if students learn to take patient handling seriously in clinical settings, and where a culture of safety exists throughout the organisation.

References


