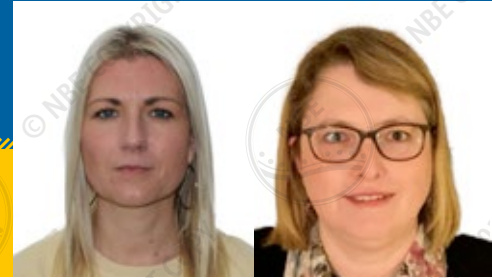


PLUS SIZE TURNING PROJECT



CAROLINE BENTON (left)
Occupational Therapy Lead

ROSE AKNAI (right)
Occupational Therapist and Clinical Quality Lead



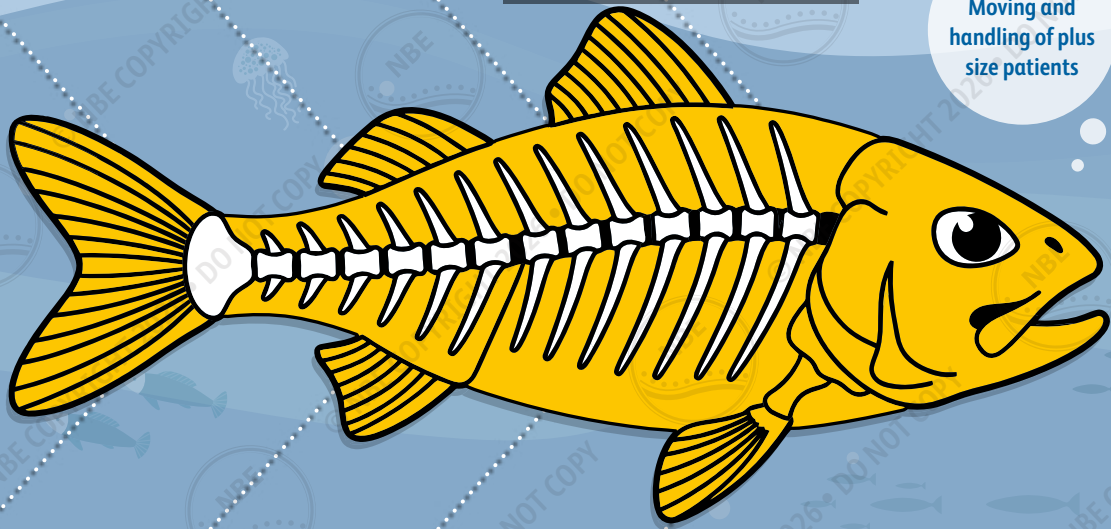
SITUATION AND BACKGROUND

One of the inpatient rehabilitation units at Hertfordshire Community NHS Trust has been the designated plus size rehabilitation unit since 2018. In 2021, the hospital underwent extensive building redesign and adaptation to better manage plus size patients' care. This included door widening for evacuation purposes, installation of track and ceiling hoisting, purpose built larger isolation rooms and adapted bathrooms. All substantial staff underwent plus size moving and handling training, plus size moving and handling equipment has been purchased and appropriately procured contracts have been set up so equipment can be rented when needed. In 2024, it was decided the unit would be commissioned to have six plus size patients in the unit at any one time, which is an increase on the four commissioned beds in previous years.

There was an increase in the number of staff-related moving and handling injuries at the unit with managing plus size patients' personal care and pad changes in the bed, and supine to sitting on edge of bed transfers. There were four nursing staff injuries and one therapy staff injury in the three-month period between May and July 2024. The Occupational Therapy Team Lead Caroline Benton and Clinical Quality Lead for inpatient units Rose Aknai were tasked with exploring equipment for plus size patients to reduce staff injuries. This report details their experience with the Etac Q2Roller®.

Task <ul style="list-style-type: none"> Changing pad / self-care in bed Repositioning Sit on edge of bed 	Environment <ul style="list-style-type: none"> Patient's bed Possibly gym plinth Patient's home 	Patient / service user plus size <ul style="list-style-type: none"> Limited ROM in shoulders due to how they hold their weight Typical apple cities shape 	Task process <ul style="list-style-type: none"> Raising bed to correct height Rolls to right or left 2-4 staff need to help with rolling and maintaining patient position when changing pad or carrying out personal care Width of bed affects ability to hold rail Staff unable to wait for support due to patient urgent need
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Moving and handling of plus size patients



Training <ul style="list-style-type: none"> Plus size training is needed All core staff are training Bank and rotational staff may not have had the specialist training 	Equipment / resources <ul style="list-style-type: none"> Slide sheets Hoists Bed rails Use of profile function on bed 	Demand <ul style="list-style-type: none"> Frequently throughout day and night Depends on pad change requirement during day <p><i>(better sleep for patients – more energy and engagement for rehab next day)</i></p>	Workforce <ul style="list-style-type: none"> Registered nurses and HCAs Registered therapists and TIs Possibly doctors Some of these are bank, agency and rotational band 5 therapy staff or nurses from other units
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Fishbone diagram – Root cause analysis: Reducing staff injuries when turning plus size patients

These staff numbers are not always available so staff feel pressured to undertake repositioning with less than the recommended number of staff

Using the fishbone diagram, the following causes were identified as the reason for increased injuries:

- Repositioning in the bed: Plus size patients frequently have reduced range of movement in their shoulders, so are unable to reach across their bodies to grab hold of a bed lever to assist with turning themselves onto their side. They are subsequently unable to hold their weight in a side lying position in the bed. Two to four staff are needed to assist with re-positioning a plus size patient in the bed. These staff numbers are not always available so staff feel pressured to undertake repositioning with less than the recommended number of staff.
- Agency, bank and staff from other units do not routinely undertake plus size moving and handling training, so may lack the required skillset for this patient cohort.
- All the standard equipment (slide sheets, hoist, profile function on beds, rails) is used appropriately; however, due to the size of the patients, the amount of staff needed for handling was high.

Actions

- The ward manager highlighted the lack of plus size moving and handling training for bank, agency and rotational staff to lead nurse for inpatients.
- Explore equipment options which may support patients' use of shoulder movement to enable more independence and would also support nursing staff with repositioning and changing pads on the bed.
- Explore equipment options to assist with supine to sitting on edge of bed transfers to assist with safer moving and handling for therapists.

Exploring moving and handling equipment options

Three pieces of specialist handling equipment were reviewed as follows:

Option 1

Reviewed by Rose Aknai at the training event at Head Office on 27 August 2024. Safe Working Load (SWL) – 400kg (63 stone) for plus size, 228kg (36 stone) for standard patients.

The trust evaluated the cost of patient single use rollers compared to standard rollers requiring laundry costs of the sheets.

Summary of positive and negative aspects

Option 1 Advantages	Option 1 Disadvantages
Good for turning and rolling a patient in a profile bed.	Can only be used on a profile bed, not a divan or plinth for rehab.
HES provide in community (as special order) so there would be consistency.	May not be compatible with the trust's electric profiling beds.
Good for end-of-life patients and patients with no rehab goals who are returning home to be managed in bed, or hoisted into a chair.	Does not support supine to sitting on edge of bed transfers.
	Changing roller sheet is time consuming and tricky due to the roller attachments – an issue if roller becomes soiled.
	Only compatible with a hoist for transfers as rollers may get in the way of other handling devices.

Option 2

Reviewed by Caroline Benton, Therapy Lead, therapists and nursing staff on the unit on 30 July 2024.

Trailed with two patients – one plus size and one normal weight for two days before both requested the mattress to be changed.

Option 3

Q2Roller by Etac

Reviewed by Caroline Benton, OT lead, and Rose Aknai, Quality Lead, with unit ward manager and members of the unit nursing and therapy teams on 8 August 2024 and trailed with a plus size patient on the ward.

Summary

In view of the lower cost and advantages of the Etac Q2Roller, a short project was initiated to look at the costs and staffing benefits.

Data collection

All staff at the unit received training in how to use the Q2Roller prior to commencing the data collection. This training was face to face (initially given by the Etac representative to a group of staff, who then cascaded the learning to others). Training videos were also made which provided a step-by-step guide to help staff understand how to fit the Q2Roller to the bed, how to use it to turn a patient in the bed and how to use it to assist a patient with their supine to sitting on edge of bed transfers. All staff signed a self-declaration form to confirm their competence with using this item of equipment with patients. All staff were informed of the project and how to complete the data collection tools via email, in ward meetings and in daily handovers.

Etac agreed to give the unit some Q2Rollers to trial. Initially Etac provisioned one roller to use with a plus size patient and then sent a further supply of rollers to support data collection. Data was collected over a 2.5-month time frame.

Unfortunately, there were delays in shipment of the further supply of rollers which were needed to try with other patients and then there were inappropriate patients once

Option 2 Advantages	Option 2 Disadvantages
Reduced need for staff turning the patient – helpful for repositioning.	“Bottomed out” so uncomfortable for patients.
	Does not aid supine to sitting on edge of bed transfers.
	Does not support independence for patients.
	Does not deflate behind the patient once they have been turned, therefore not helpful for personal care / pad changes.

this supply of rollers arrived. This meant there was a delay in obtaining some of the data.

Staffing shortages with the nursing staff also meant that there was less data for some of the tasks.

A total of 32 moving and handling interventions were analysed in the following

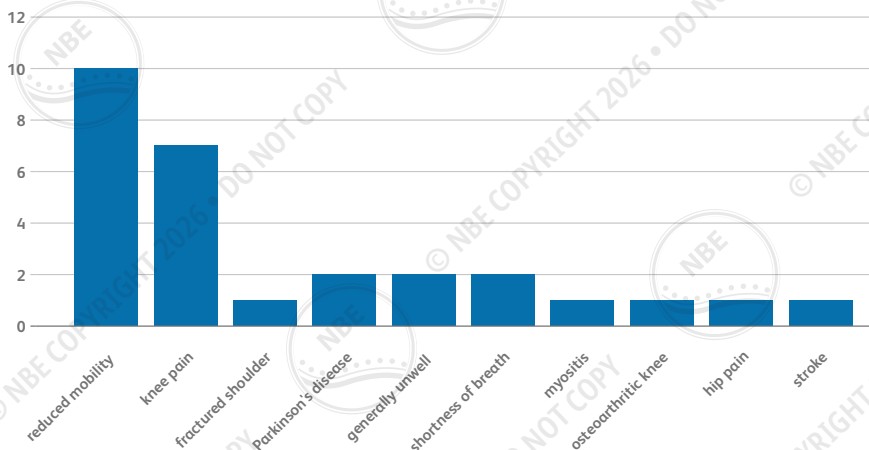
three tasks:

- Repositioning in bed – with and without the Q2Roller.
- Pad changes – with and without the Q2Roller.
- Sit on edge of bed – with and without the Q2Roller.

Option 3 Advantages	Option 3 Disadvantages
Promotes independence by improving body positioning to allow plus size patients with limited shoulder range of movement to reach the bed levers and assist with repositioning / pad changes / supine to sitting on edge of bed transfers.	Not part of local Equipment Service Specialist Equipment Framework, so cannot be ordered directly through HES for patient use but can be provisioned through Adult Care Service.
Reduces number of staff.	Roller is single patient use only.
Reduces time for staff to complete tasks.	
Reduces risk of injury.	
Can be used for a variety of tasks – repositioning, pad changes and supine to sitting on edge of bed transfers.	
Easy for staff to operate.	
Can be used for plus size patients.	
Positive staff and patient feedback.	
Pump can be used with multiple patients.	
Pump is compatible with existing Hoverjack equipment used in the units.	
Can be used on any bed.	
Can be used on plinth in rehabilitation sessions.	
Can be purchased through Adult Care Services if it reduces the need for carers under the Care Act 2014.	

Data was collected on the following: number of staff, time taken for task, and how many times performed

Patient diagnosis



Twenty-four of these interventions were with plus size patients and eight were with non-plus size patients. Some of the interventions were for the same patient, i.e. reposition and then pad change.

Data was collected on the following:

- Date
- Number of staff and staff band
- Time taken for task
- How many times the task was performed over 24 hours
- Patients' diagnosis
- If patient was plus size
- Patient feedback
- Staff feedback
- Staffing cost per task
- Staffing costs were then totalled to work out staffing cost over 24 hours.

Patient diagnoses were variable as shown in the chart above.

See Appendix 1 for data collection tools used for all tasks.

Results

Repositioning

Repositioning without the Q2Roller

Quantitative data:

- The times varied from 10 to 20 minutes, with the average being 15.9 minutes.

- The band of staff varied across bands 3-5 nursing staff.
- Two staff members were required for each reposition.
- The staffing cost per task varied from £6.56 to £17.50, with the average being £10.00.
- The total staffing cost over 24 hours varied from the lowest cost being £29.65 to the highest being £79.09, with the average cost of nurses supporting with repositioning over 24 hours being £57.28.

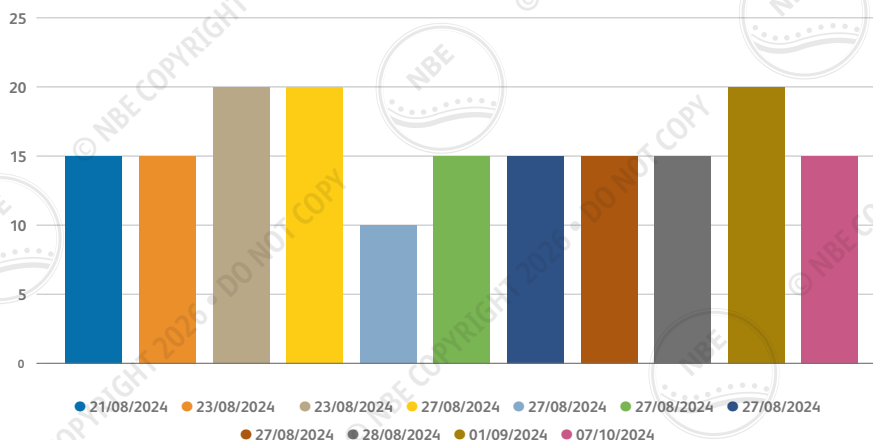
Qualitative data:

Feedback from patients was negative about this task and comments included:

- task gave them pain
- being short of breath
- sore bottom
- being exhausted.

One staff member reported no problems, but all other feedback from staff was negative and gives an insight into how

Time taken to reposition patient without the Q2Roller



difficult the task was for them:

- It was a heavy task (entered six times for different patients).
- They found it very hard to roll the patient.
- The patient was very stiff to roll (entered twice for different patients).

One staff member reported no problems, but all other feedback from staff was negative and gives an insight into how difficult the task was for them

Repositioning with the Q2Roller

Quantitative data:

- The time taken to carry out this task varied from 6 to 10 minutes with the average being 7.8 minutes. This is a significant reduction in time.
- The band of staff varied across bands 3-4 nursing staff.
- Two staff members were still required for each reposition.
- The staffing cost per task varied from £2.62 to £4.67, with the average being £3.64. This is a significant reduction in staff costs.
- The total over 24 hours varied from the lowest cost being £18.34 to the highest being £26.26, with the average over 24 hours being £22.76. Again, a significant reduction in staff costs.

- Easy.
- Comfortable x 3.
- Very comfortable x 1.
- Staff feedback was very positive, giving insight that using the Q2Roller supported them with the task.
- They viewed it as good for reducing manpower.
- They found it reduced physical stress.
- Staff felt confident and competent.
- Staff found it much quicker.

- Two to three staff members were needed for each task but were higher for the plus size patients.
- The staffing cost per task varied from £6.56 to £16.40, with the average being £10.66 per task.
- The total over 24 hours varied from the lowest cost being £26.26 to the highest being £96.24, with the average over 24 hours being £57.88.

Qualitative data:

One patient fed back that they found the Q2Roller confusing, however all other patients had the following positive feedback:

Pad changing

Pad changing without the Q2Roller

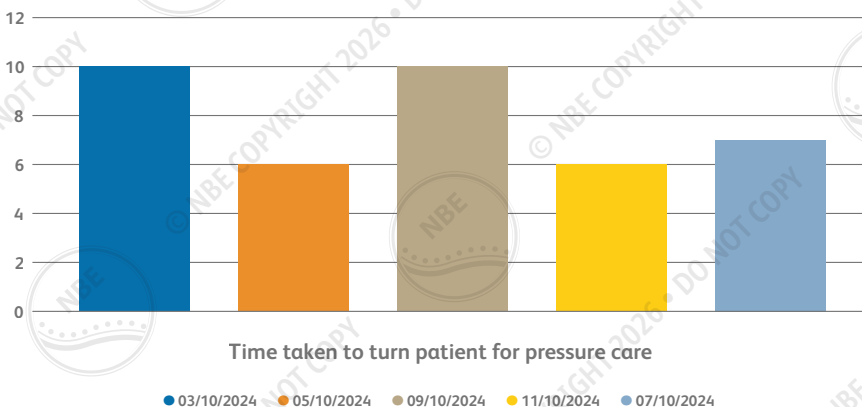
Quantitative data:

- The times varied from 15 to 25 minutes, with the average being 20 minutes.
- The band of staff varied across bands 3-5 nursing staff.
- Staffing numbers varied between 2-3 staff needed.

Qualitative data

- There was no feedback from patients on this task.
- One member of staff fed back they had no problems, but all other feedback from staff was negative and gives insight into how difficult the task was for them:
- They found it hard work (entered three times for different patients).
- That the patient becomes stiff due to Parkinson's disease.

Time taken to reposition patient with the Q2Roller



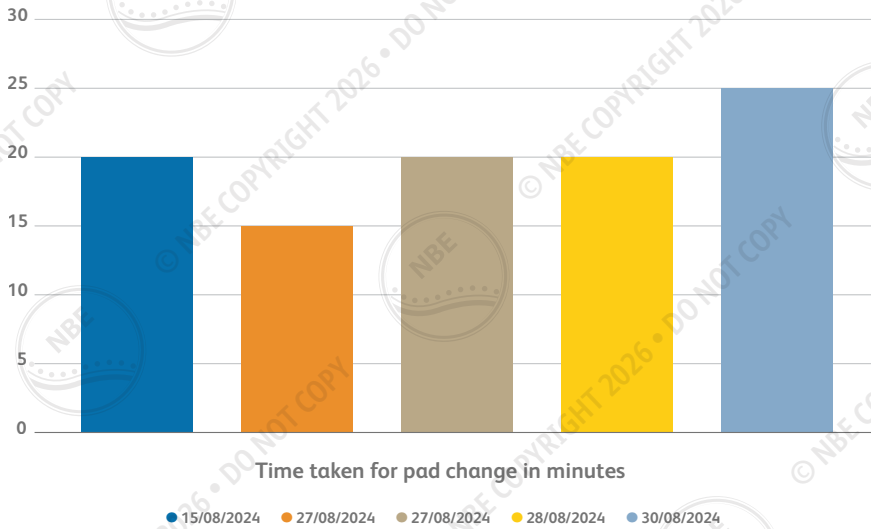
Pad changing with the Q2Roller

There was a lack of data provided for this task.

Of the provided data: Quantitative data:

- The times taken were both 30 minutes, so this was longer than without the Q2Roller.
- The band of staff varied across bands 3-4 nursing staff.
- On one occasion the task took three members of staff, on another it took two. This was for different patients.
- Costs are difficult to identify due to lack of data.

Time taken to change pad without Q2Roller



Qualitative data:

- One patient fed back that they found the Q2Roller good to use.
- Staff feedback was very positive, giving insight that using the Q2Roller supported them with the task.
- It made the task easier for the patient to assist with rolling.
- Staff viewed the Q2Roller as a back saver.

Sitting on edge of bed

Sitting on the edge of the bed without the Q2Roller

Quantitative data:

- The task times varied from 15 to 60 minutes with the average being 36 minutes.
- The band of staff varied across bands 3-6 nursing and therapy staff.
- Between two and four staff members were required for each transfer. The higher numbers of staff were required for the plus size patients.

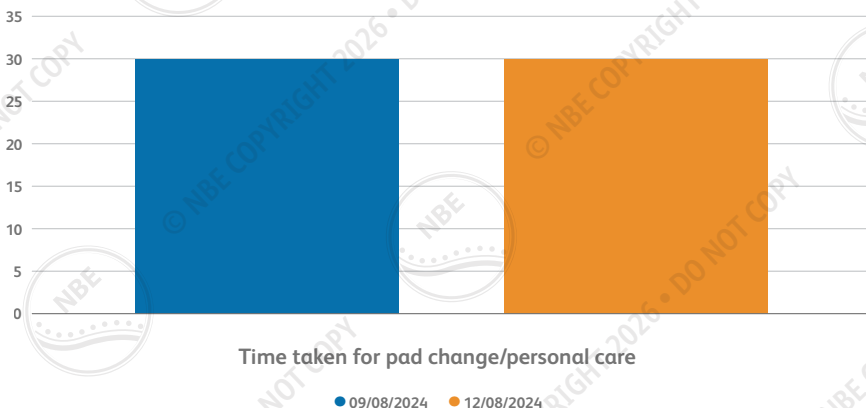
- The staffing cost per task varied from £62.94 (when four staff members were required) to £8.75 (when three staff members were required), with the average being £32.55.
- The total staffing cost over 24 hours varied from the lowest cost being £17.50 to the highest being £125.88, with the average cost of nurses and therapists supporting with this transfer over 24 hours being £65.07.

Qualitative data:

Feedback from patients was negative about this task and comments included:

- Task too hard and tiring.
- Too hard and complained of pain.
- Out of breath and very difficult to get to the edge of the bed.
- Struggled and tired.
- Feedback from staff on this task was all negative and gave insight into the difficulty of this task, especially with plus size patients:
- Staff fed back that the task involved too much moving and handling. On one occasion they had to abort and use a ceiling track hoist.
- Staff viewed the task as hard work – with risk of back pain for them.
- Staff advised that they had to give the patient a lot of help to roll to the edge of the bed.
- Staff advised that they needed extra time to complete the task.

Time taken to change pad with Q2Roller

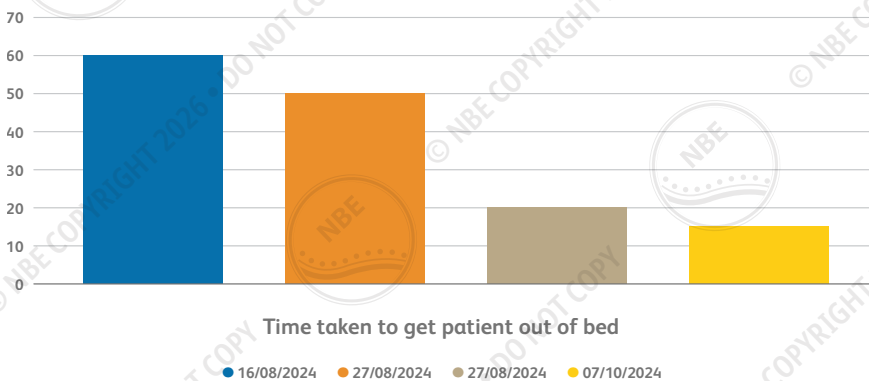


Staff viewed the Q2Roller as a back saver



There have been no reported nursing or therapy staff injuries carrying out moving and handling tasks since the Q2Roller has been trailed on the ward

Time taken to sit patient on edge of bed without Q2Roller



- They found it amazing and reduced pressure from falling back.
- Quick and comfortable.
- Staff feedback was overwhelmingly positive:
- They fed back that it initiated the roll and bed transfers allowing the patient to use his upper limbs and be more independent.
- Since using this, staff felt that patients' arm strength and range of movement improved.
- Staff found it quick and easy to use.

Sitting on the edge of the bed with the Q2Roller

Quantitative data:

- The times carrying out this task were significantly less than without the Q2Roller and varied from one minute to eight minutes, with the average being 4.12 minutes – this is a significant reduction in staff time.
- The band of staff varied across bands 3-6 nursing and therapy staff.
- Staff members reduced to 1-2 for each task.
- The staffing cost per task varied from 63p to £3.28, with the average being £1.72. This is a significant reduction in staff costs.
- The total staffing cost over 24 hours for this task varied from the lowest cost being £1.76 to the highest being £6.56, with the average over 24 hours being £3.52. Again, a significant reduction in staff costs.

Qualitative data:

One patient fed back that they felt breathless, all other patients were very positive about using the Q2Roller:

Staff injuries

There have been no reported nursing or therapy staff injuries carrying out moving and handling tasks since the Q2Roller has been trailed on the ward.

Time taken to get patient to sit out of bed with Q2Roller

