Patient Repositioning Challenges Resolved by Patient Care Staff Innovation
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Risks of Repositioning (Pulling)

From AORN Guidance Statement, Ergonomic Tool 1: Lateral Transfer:
• Pulling a patient on a draw sheet requires a pull force up to 72.6% of the patient’s weight.
• Maximum sustained pulling force limits for 75% of women: 35 lbs.
• Each team member can safely pull a weight of 48 lbs.
Is the pull force distributed equally?

Risks of Repositioning (Turning)

• The force to logroll a patient is “32% of weight.
• Vertical component of force is cosine 30° × (weight × 32)
• Maximum load for a 2-handed lift for 75% of women at full arm extension = 22 lbs. (AORN Guidance Statement)
• (Muscle endurance decreases 48% after 1 minute, 65% after 2 minutes, 71% after 3 minutes of holding.)
• Maximum recommended body weight to be logrolled by one nurse is 78 lbs.
Repositioning Challenges

• Turning
  • Wound care in narrower bed
  • Bathing, including turning in place
  • GI Lab: Repositioning during colonoscopy
  • Access between patient and turning sling
• Patients who can’t turn
• Lifting leg while turning
• Seated lifts for patients who can’t handle slings or their application
• Sterile limb lifting
• Chair repositioning

Safety Steps for Using a New Method on a Patient

1. Brainstorm / huddle with care team and relevant stakeholders
2. Design or procure, if necessary
3. Try it on a staff member with a range of staff in the room
4. Explain to the patient first
5. Try it on the patient with a range of staff in the room
6. Repeat / troubleshoot as necessary
7. Share successes

Lessons Learned:

• Build highly competent staff with problem solving skills.
  • Unit Peer Leaders active on every shift and unit can recognize and start to fix problems.
  • More well-trained people in challenging units means more experience and confidence in the room and more optimism about being able to find a safe method.
  • Everyone needs someone they can call for help.
• Supervisors drive compliance.
  • Stating their requirements to use equipment
  • Coordinating thorough training
  • Problem solving with staff
Lessons Learned:

• Loop choice and design of equipment and hanger bars matter.
  • A sling fits differently on a 4-point or 6-point bar than on a 2-point. (Bariatric hanger bars may not fit everyone.)
  • Multiple loops mean more flexibility in fit and position.
  • Multiple slings used together need to have attachment & loop length coordinated.
• Not every sling can do every thing.
  • Check with your manufacturer to make sure your innovations are safe.
  • Fabric differences and loop designs affect methods.

Bed Scenario 1:
Turning in Narrow Bed

You need to turn and hold a 360-pound quadruplegic patient for extensive cleaning and wound care.
• How do you keep the patient from running out of room on the bed and/or turning into the rail?
• How do you keep staff from getting hurt pushing, pulling, turning, or holding the patient over?
• What are the advantages and disadvantages of each choice?
• How could you lift the patient’s leg while turning?
Scenario 1B: Will you bathe this patient in a shower trolley? How? The same questions apply.

Scenario 2:
Patient Cannot be Turned

Your ICU patient has too many tubes and lines on both sides today to allow much turning. How can you do peri-care?
• What methods could give you access?
• What are the advantages and disadvantages of each choice?

Scenario 2B: Your quadriplegic patient refused to be moved for too long and now has contractures in which elbows extend straight out to both sides. How can you do wound care, bathing, and peri-care?
Scenario 3: Universal Sling Does Not Work
Your patient cannot be fit with a universal (seated) sling with leg straps, because leg sores hurt.
• What options could get the patient up to a chair?
• What are the advantages and disadvantages of each choice?

Scenario 3B: Your patient weighs 485 pounds but has lost 100 pounds already, and when you fit a universal sling as usual, the outer tissue moves first and risks shearing. What other options could you use?

Scenario 4: Turning Lateral or Prone
Your Interventional Radiology rooms cannot accommodate overhead lifts. Staff worry about the forces required to turn patients prone.
• What methods are possible, assuming you are turning from a bed/stretcher onto a table & back?
• What are the advantages and disadvantages of each choice?

Scenario 4B: Your GI lab in the standalone outpatient clinic has to turn sedated patients in place on stretchers. What options, advantages, and disadvantages apply?

Scenario 5: Patient Refusal
Your 680-pound patient, who cannot move their own weight, has decided after 2 weeks not to allow the repositioning sling to be used any more. The patient will allow only an absorbent pad and draw sheet and avoids letting staff turn and clean.
• What course of action should your staff take?
• What options could be offered instead? What are the advantages and disadvantages of each?

Scenario 5B: Are there other tactics that could work on a 350-pound patient in the same situation?
Scenario 6: Chair Repositioning
Your patient slips down in a chair repeatedly, and staff encounter them in the hall needing to be pulled up into position.
• What options do staff have to reposition? What are the advantages and disadvantages of each?
• What options could prevent the patient from slipping down? What are the advantages and disadvantages?

Scenario 6B: The chair design makes sling application difficult. What alternate solutions could help?

We’re still looking for solutions:
• OR limb elevation methods
• Pressure during colonoscopy
• Agreement on repositioning slings with air-fluidized “sand” beds

Methods Illustrated
The following slides contain examples of methods staff have identified to help them handle patients.
• Not all brands of sling will work the same way. Check with your manufacturer.
• Not all methods will work on all patients.
• Make sure your staff know how to watch for patient safety, including skin pressure and shear as well as fall risk.
• This mannequin is not designed exactly like a person.
• Each organization is encouraged to do its own risk assessment for new uses of existing equipment or interchanging lifts with other manufacturers’ slings.
Repositioning in Bed
Without Manual Patient Handling
Pictures taken in 2017

Repositioning slings stay under the patient to allow turning, transfer, and repositioning. You can turn with just 2 loops, and leave a part loose for easier access there.

You can use the hanger bar across or parallel to the patient’s body. Across the body allows more space but may leave feet on the bed. Connect all straps with equal slack from head to toe and side to side.
The Twin Turner sling is placed under the small of the back, connected to structure under the bed, and lifted with the lift from the other side. This allows more access.

If the patient has trouble moving their leg, a limb sling can be added. Be careful of position and comfort!

Limb slings can elevate legs for cleaning, wound care, repositioning, or range of motion. They can lift one or both legs.
Depending on patient needs, leg straps can be attached around both legs (cradle), crossed between legs, or uncrossed. **Be careful:** uncrossed legs are less stable, and cradled legs are pushed together.

Loop choice changes patient position. Short loops raise a body part; long loops lower a body part.

Once a seated sling is in, connecting only the uncrossed leg straps can raise and separate the legs. **Be careful** that the patient can handle the position.
One easier way to remove a sling in bed without turning: Pull the leg straps underneath themselves to minimize shear, raise head of bed, and pull one shoulder under the rest of the sling.

Inserting a Sling Underneath a Patient using a Slide Sheet
Pictures taken in 2017

Roll the slide sheet up, and push it under the shoulders with the loose end up and pointing to the head.
With a partner, hold onto the top loose piece and roll the bottom side out under the patient’s body, one fold at a time.

Keep unfolding all the way with your partner. The slide sheet should be under the hips and shoulders.

Push the end of a leg strap under the slide sheet at the small of the patient’s back, or wherever else you can easily put it.
Keep pushing the leg strap under, making sure the inner side of the sling faces in/up toward the patient’s back.

Pull the handle out from the other side. The slide sheet will make this easier/slippery and avoid skin shear.

Pull the leg strap through and toward the patient’s knees, until the base is at the coccyx and the leg straps are equal on both sides.
Pull the shoulder section of the sling through and make sure it is even on both sides, keeping the sling base at the coccyx.

Pull the leg straps through. If this is a Guldmann amputee sling, put both straps under both legs like a cradle – not between the legs – and connect through the side straps.

Remove the slide sheet before lifting. If you can, find the corner with the least weight on it and pull that corner out diagonally underneath the rest of the slide sheet.
Once the slide sheet is out, you can use the lift to lift the patient.