A Systematic Review of Repositioning and Turning of Patients: Effects on Skin Breakdown and Pressure Ulcers

Danielle Avery, Courtney Ball, Jill Cutting, Taysha Demetro, and Krista Tincher
Importance of Skin Breakdown and Pressure Ulcer Prevention

• The incidence of pressure ulcer development and treatment has been an increasingly important issue with doctor and nursing staff, hospital management and medical insurance organizations.

• The practice of turning and repositioning has been used by nursing staff for several years based on an assumption this alleviates skin pressure especially on bony prominences.
Repositioning and Turning to prevent Pressure Ulcers

• Turning patients regularly to reduce pressures and prevent pressure ulcers is considered a standard of care (Peterson et al 2010).

• Pressure ulcers are thought to develop when soft tissues are compressed between bony prominences and a firm surface for prolonged periods of time (Black & Hawks, 2009).
Search Strategy

• Randomized Controlled Clinical Trials

• CINAHL, Google Scholar, Electronic Journal Center and Cochrane Databases were used.

• Terms searched: Repositioning patients, turning patients, pressure ulcers, and skin breakdown.
Purpose of Research

• Review the effect of repositioning and turning on skin breakdown and the incidence of pressure ulcers
• Increasing important patient, hospital and insurance related healthcare topic
• Create systematic review of relevant trials related to repositioning and the development of pressure ulcers
Research Studies

- Total of 8 studies of varied design.
  - Two reviews. One narrative and one systemic.
  - Six clinical studies. All were quasi-experimental and quantitative in design.
    - Three studied the effects of hospital policies.
    - Three studied body dynamics and pressure ulcer development.
Review Results

- Sonenblum & Springle, 2011
  - Complex variables – no single support works for all people.
  - Sitting is a “dynamic activity.”
  - Repositioning is the most common and most expensive way to prevent pressure ulcers.
  - No solid evidence for turns every 2 hours. Some may need more frequent turns!
  - Those in wheelchairs are taught to shift their own weight periodically.
Review Results

- Chiang and Winkelman, 2010
  - No recommendations about frequency of position can be made.
  - Studies typically had small sample sizes and “inconsistent” time frames.
  - The mattress type is important.
  - Turns may not relieve sacral pressure if HOB is elevated.
  - Individual patient variables are important!
Clinical Study Results

- Three studies on hospital procedure
  - ALL three studies utilized nurse specialists on pressure ulcer prevention to help staff.
  - Found that prior prevention protocols were not utilized consistently.
  - Found inconsistencies in documentation.
  - Staffs lacked time and support to implement patient repositioning and conduct thorough assessments.
Clinical Study Results

- Three studies on effects of positioning on patients.
  - One study of 269 patients over 65 years old found **no** connection between frequent repositioning and pressure ulcer formation (Amr et al, 2010).
  - The second study with 14 healthy adults and a sensor array pad found that conventional side to side turning may not relieve pressure in the perisacral area (Peterson et al., 2010). See image below.
Clinical Study Results

- Three studies on effects of positioning on patients.
- A third study with 230 nursing home residents with wheelchair cushions, found that the type of cushion and wheelchair maintenance was important (Allegretti et al., 2010).
Common Results

- The type of support matters.
- Time for pressure ulcer development varies depending on the patient’s personal characteristics.
- Consistent documentation of skin assessments is important.
- Thorough skin assessment makes a difference.
Common weaknesses noted:

- It would be unethical to do a study where turns were intentionally done less often than current standard of care practices.
- Inconsistent medical documentation.
- Small sample sizes and limited study time.
- Variables in patient conditions.
Current Practice

- In the United States, traditional belief is that repositioning every two hours helps prevent skin breakdown and pressure ulcers.
- Origins of this practice are unknown (Winkelman & Chiang, 2010).
- Scientific support of this belief is difficult to identify (Sprigle & Sonenblum, 2011).
- Despite unknown origins or scientific support, practice has been accepted and adopted.
- Use of Braden Scale to identify the level of skin breakdown risk.
Newer Trends

- Current research suggests that combining a regular turning schedule with additional interventions could help decrease incidence of skin ulcers and pressure ulcers in at risk patients.
Additional Interventions

- Change in support surfaces
  - Appropriate Bed Surfaces per patient need (Ackerman, 2011)
  - Skin Protection Cushions for wheelchairs (Brienza et al., 2010)
  - Pressure-Relieving Air Mattresses (Courtney et al., 2006)

- “In general, creating successful support surfaces is challenging because of the differences in individual risk factors…” (Sprigle & Soneblum, 2011)
Additional Interventions

- **Protocol Changes**
  - Skin Care Resource Nurse (Ackerman, 2006)
  - Standardized Assessments (Courtney et al., 2006)
  - Consistency in Charting and Documentation

- **Increased Education**
  - Low percentages of patients who are actually turned every two hours suggests lack of knowledge
  - Interventions should be used together rather than as substitutions for each other
Special Considerations

- **Elderly Patients**
  - Majority of patients with pressure ulcers are older (Gunningberg & Stotts, 2008)
  - Tend to be weaker, with more co-morbidities, fewer reserves to fight skin breakdown

- **Mechanically Ventilated Patients**
  - Manual turning addresses many different issues
  - Can cause cardiovascular compromise
  - Oxygenation can be impaired
Suggestions for Future Research

- The imperative question ??????

- What is the exact cause and/or reason a patient has developed a pressure ulcer or skin breakdown?
Who, What, Where, How, Why, and When?

- Who...study patients of different ages?
- What...study the exact cause of pressure ulcers and skin breakdown?
- Where...study multiple floors of different hospitals?
- How...the researchers would investigate the nurses?
- Why...to determine the most frequent reasons (why and how)?
- When...study over a period of 3-6 months?
The Study

- What do the researchers want to find?
References


