Positioning isn’t just for Daytime: Learn about a New Intervention Called Nighttime Postural Care

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Introduction NTPC

What, how & who
- Intervention aimed to affect health and function through use of sleep care positioning systems for persons with impaired mobility or those non-ambulant
- Best intervention outcomes likely depend on
  - Person Factors (the right fit, habits & routines), Contextual factors (time, competence of care provider) & choice of technology (Wynn & Wickham, 2009; Gericke, 2006)
  - Whether used in combination with daytime postural care (seating/position with wheeled mobility & stander) (Pountney et al., 2002; 2009)
  - Use of care pathway & specialist as a part of service delivery (Gericke, 2006; Humphreys & Pountney, 2006; Humphreys et al., 2012)

Objective to Learn about Nighttime Postural Care (NTPC)

- Who might benefit
- State of the evidence
- Risk factors and how to monitor
- Sleep systems in U.S.
- How to position the person
- Measuring outcomes
- Funding

Who Might Benefit & Why

Who
- Persons at level III to V on the Gross Motor Function Classification System & persons with impaired mobility that rest in asymmetrical postures (Gericke, 2009; Postural Care CIC, 2009)

Why
- Persons with impaired mobility have body shape distortions (Hames, Brock & Morgan, 2018)
- Postural issues and body shape distortions make it difficult for people to change positions and cause pain (Pruitt & Tsai, 2009; Dutt et al., 2015)
- Pain leads to poor sleep (Braun & Carnefeld, 2011; Engel et al., 2005 & Peterson et al., 2011)
- Supportive daytime positioning is not enough to address health issues

Sleep Care Positioning Systems have
Modular components for entire body support
Base layer for secure placement of supports

(Images: 2017, own images)
State of the evidence: 8 Publications Impact of NTPC

Examine Affect On
• occupations (sleep)
• body functions (sensory, muscle, respiratory)
• body structures (hip joint integrity)
• Number of medical procedures
• caregiver burden

Results
• Sleep either improved or stayed the same
• Pain decreased or stayed the same, muscles relaxed & respiratory function did not show immediate change
• Hip migration percentages decreased & hip integrity preserved
• Number of medical procedures decreased
• Caregiver burden depended on level of competence

(Dawson, 2013; Goldsmith, 2000; Hankinson & Morton, 2002; HE. Parker, Allen, Paul & Petch, 2005; Mc et al., 2012; Pountney, 2002; Pountney, 2009; Underhill, Bryant, & Pountney, 2012)

State of the Evidence: Tracking Results of Intervention

Montana Postural Care Project Reports

Results
2016
5-6 months of part-time sleep system use resulted in
• Improved body symmetry for more than 80% of users
• Reduced pain for more than 50%
• Improved sleep quality for nearly 80%

2017
7-8 months those completing the program showed
• Improved body symmetry for all
• Improved Sleep for majority
• Reduced pain for majority

(Kittelson-Aldred, 2017; Kittelson-Aldred & Kittelson-Aldred, 2017)

Risk Factors & Monitoring

Risks
• Sleep Disruption
• Temperature Regulation
• Breathing
• Swallowing
• Pain
• Pressure

Monitoring Methods
• Sleep assessment or record
• Body temperature
• Respiration & oxygen sat.
• Secretions & coughing
• Pain assessment or scale
• Skin checks & mapping device

Managing Risks with Health Safety Plan

Consider Person, Context, Occupation & Assistive Technology

• Sleep disruption – graded approach
• Temperature regulation – control of room temperature, choice of materials or sleep system
• Breathing & Swallowing – ensure open airway, elevate head of bed
• Pain & Pressure – proper placement of parts, full body positioning, supported supine

Sleep Systems in U.S.

Symmetrisleep
Jenx Dreama
Simple Stuff Works

Symmetrisleep requires a separate mattress, is portable, can mostly be washed in machine & is accessible / resourced in MN

(Hutson, 2017, own images)
Jenx Dreama

Jenx Dreama includes a mattress, is not portable, can mostly be wiped down to clean & is somewhat accessible in MN

Simple Stuff Works

Simple Stuff Works requires a separate mattress, is portable, can all be washed in machine, but is least accessible in MN

Position the Person

Supine, Aligned & Supported
Not with Pelvic Obliquity or Unsupported
Not with Spinal Rotation or Unsupported

Measuring Outcomes

Sleep
- Sleep Disturbance Scale for Children
- Pittsburg Sleep Quality Index
Pain
- Paediatric Pain Profile
- Face Legs Activity Cry Consolability Scale
- Posture or Body Shape
- Posture and Posture Ability Scale
- Goldsmith Indices of Body Symmetry

Goal Attainment or Self Perception of Performance
- Goal Attainment scaling
- Canadian Occupational Performance Measure

How to Fund

- Coding
- Payers

Conclusion

- NTPC is an intervention aimed to affect health and function through use of sleep care positioning systems for persons with impaired mobility or those non-ambulant
- A variety of factors must be considered for the intervention to meet client’s needs and affect health
- Some important factors include: Who might benefit, evidence, managing risk factors, choice of sleep system, method of positioning the person, outcome measures being used and funding
- New interventions require close monitoring and support from the entire team
References


References