Effect of Incentive Spirometry on Preventing Atelectasis: A Review of the Literature

Caitlin Powers
West Chester University of Pennsylvania

Caine Teal
West Chester University of Pennsylvania

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**Background**

- Post-operative complications, such as atelectasis are easily preventable.
- Nurses are at the forefront in preventing these complications.
- Atelectasis increases hospital length of stay (LOS).
- Atelectasis increases hospital costs.
- Incentive spirometry provides visual feedback to the patient.

**Purpose & Aims**

- To examine post-operative atelectasis in the clinical setting.
- To develop a literature review of current peer reviewed research manuscripts.

**Methods**

- Database search: CINAHL.
- Search terms: incentive spirometer, spirometry, atelectasis, pulmonary complications, pneumothorax.
- Inclusion criteria
  - Nurse authored research studies.
  - Published 2008-2014.

**Results**

- Five research articles met the criteria.
  - Overall incentive spirometry was found to be effective more often than not.
  - Two articles focused on post-operative respiratory care.
    - One article explored the effectiveness of a video game combined with breathing exercises.
    - One article discussed the effects of preoperative use of the incentive spirometer compared to only postoperative care.
    - One article explained the use of a chest band as an alternative to the incentive spirometer.

**Conclusions**

- Some found that incentive spirometry is not effective and can even go on to cause harm to the lungs.
- Others encourage the use of the incentive spirometer and believe it positively impacts the health of post-operative patients.
- Multiple interventions allow for the best results in postoperative patients, not just the sole use of incentive spirometry.

**Next Steps**

- Additional research
  - Tracking different age group progression.
  - Conduct studies on patients undergoing similar surgeries.

**Limitations**

- Difficult to find studies conducted on the same population.
- Few alternative suggestions were found in this sample.

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