INCIDENCE OF SKIN BREAKDOWN IN ORALLY INTUBATED PATIENTS: COMPARING COMMERCIAL TUBE HOLDERS VERSUS TAPE TO SECURE ENDO TRACHEAL TUBES  
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### PURPOSE
Using the John Hopkins Nursing Evidence-Based Practice Model the following question was investigated: In orally intubated patients, does taping versus using commercial tube holders minimize skin breakdown?

### METHODS

• Using the John Hopkins Nursing Evidence-Based Practice Model, a PICO question was developed.  
  - **Population**: ICU patients  
  - **Intervention**: Commercial tube holders for ETTs  
  - **Comparison**: Tape for ETT securement  
  - **Outcome**: Preserved skin integrity  

• **Search Criteria:**  
  - **Databases:**  
    - CINAHL, Ovid Nursing and Ovid Medline  
    - English language  
    - Evaluation of both tape and commercial tube holders  
  - **Inclusion Criteria:**  
    - Pediatric populations  
  - **Exclusion Criteria:**  
    - Practice variance on our unit due to provider preference and patient condition  
  - **Keywords used in literature review:**  
    - “endotracheal tube” OR “endotracheal tubing” OR “endotracheal tube holder” OR “endotracheal tube securement” OR “endotracheal tube fixation” AND  
    - “oral intubation” AND  
    - “tube holder” OR “device” OR “securings” OR “fixation” OR “device” OR “securement” OR “fixation” AND  
    - “skin integrity” OR “skin breakdown” OR “ulcer” OR “decubitus” OR “skin lesions”  

• The John Hopkins Nursing EBP tool values randomized control trials (RCTs) as the highest quality evidence. Quasi experimental studies are rated as level II evidence.  
• Evidence presented in the articles were reviewed for consistency and applicability.

### RESULTS

• Sixteen articles were available from the search criteria and seven applicable to our PICO question.  
  - **Subjects** were adults, and in one case an adult mannequin, sample size ranged from 30-1522.  
  - **None of the studies found were RCTs.**  
  - Five of the articles found were quasi experimental, which is level II quality.  
  - In a comparison between tube holders and tape  
    - Three articles demonstrated tube holders resulted in less skin breakdown.  
    - One study showed tape exerted less applied forces resulting in less skin breakdown.  
    - Three articles showed no difference between the two.  
  - None of the articles referenced any fungal skin infections due to securement technique.

### IMPLICATIONS

• More research is needed before recommending a nursing practice change.  
• Studies failed to evaluate patients with prolonged oral intubation, the frequency of changing tape or tube holders, position changes of ETT, and skin preparation prior to placement. Future research could include these variables.  
• The nurse and respiratory therapist should continue to use their clinical judgment when choosing a method to secure an ETT.

### CONCLUSIONS
There is a paucity of strong evidence related to this topic. Based on our review, there is limited evidence to support a change of practice regarding ETT securement.

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