Prevention of Infection in Pin Sites

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Prevention of Infection in Pin Sites
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PATIENT CARE ISSUE

External fixation: skeletal apparatuses that attach to wire or pins that penetrate the bone. Used for complex fractures and limb deformity. Allow stability and early mobilization/weight-bearing.

-11-100% of patients with external fixation develop some sort of infection

Purpose of the study: to determine whether the measures taken to prevent infection are effective

Infection can cause osteomyelitis and even sepsis, so it is essential nurses know how to properly care for these unique wounds

REGISTERED NURSE INTERVIEW

Interview with Lesley D., RN at Miami Valley Hospital

- No official policy concerning pin site care at Miami Valley Hospital.
- It is stressed to the RN’s to continually assess the site for any infection.
- If signs/symptoms present, report the findings to the surgeon.
- Scabs should be left in place.
- Crusts may be removed with small q-tip as long as no further damage is caused.
- Cleanse the site if necessary using normal saline.
- Showering is acceptable.

SYNTHESIS OF EVIDENCE

In a review of 10 sources, the most common recommendations concerning pin site care and prevention of infection were determined.

- Alcoholic chlorhexidine solution should be used to cleanse the site around pins
- Cleansing should occur at least every seven days, unless there are signs/symptoms of infection, which would indicate that more frequent cleaning is needed
- The site should be kept covered, preferably with a foam dressing
- Showering is acceptable; bathing is not
- Light compression should be applied

EVIDENCE-BASED PRACTICE RECOMMENDATIONS

No official guidelines were found for pin site care and there is a decided lack of research in this area.

It is recommended that:

- More higher level research (randomized control trials, etc.) be done
- National and hospital guidelines be set based on further research findings

RESULTS

A total of 15 articles were gathered. Only 9 were referenced within the paper. The consensus among the sources is that six categories need to be addressed when discussing pin site care. These include frequency of cleanings, types of cleansing, solutions, bathing/showering, types of dressing, compression and management of crusts.

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<thead>
<tr>
<th>Author, Date</th>
<th>Types of Articles</th>
<th>Level of Evidence</th>
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<tr>
<td>Amanti et al., 2012</td>
<td>RCT</td>
<td>Level 2</td>
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<tr>
<td>Bell et al., 2008</td>
<td>Clinical Guidance Article</td>
<td>Level 2</td>
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<td>Camathias et al., 2012</td>
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<td>Lee et al., 2011</td>
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<td>Lethaby et al., 2011</td>
<td>Systematic Review</td>
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<td>Timms et al., 2011</td>
<td>Descriptive</td>
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<td>Timms et al., 2012</td>
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<tr>
<td>Walker et al., 2011</td>
<td>Clinical Guidance Article</td>
<td>Level 2</td>
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REFERENCES


LIMITATIONS

- Limited number of randomized control trials done on the subject
- Many factors to be considered including age, gender, location of pins, number of pins, length of time pins are in place, and the method by which the pins were inserted
- Many studies are flawed and lack validity due to inability to control all of these variables
- Wound site is precarious, as it is percutaneous and open to the outside world