

# Use of Cryotherapy in Reduction of Pain During Subcutaneous Heparin Administration

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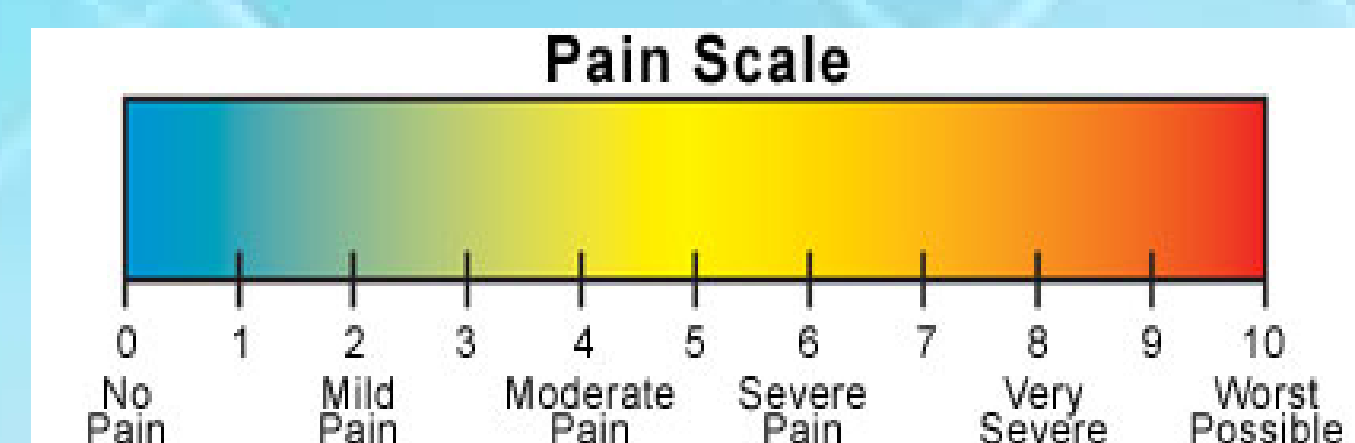
# Use of Cryotherapy in Reduction of Pain During Subcutaneous Heparin Administration

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## PICO Question

- In adult medical surgical patients 50 years of age and over, does the utilization of cold application prior to injection at injection site reduce pain compared to current heparin subcutaneous injections?



## Evidence

| Evidence Table                             |                   |   |              |
|--|-------------------|---|--------------|
| Level of Evidence                          | Number of Studies | Summary of Findings   | Year         |
| Level I<br>Experimental                    | 1                 | • 30 Second duration of cold compress to injection site decreases level of pain as well as bruising at injection site   | 2015         |
| Level III<br>Non-experimental, Qualitative | 2                 | • Application of two minute cold application can be effective in preventing and reducing the occurrence of bruising and decreases the perception of injection pain.<br>• Overall relationship of ice application (decrease 0-10) and patient's perception of discomfort is validated. | 2012<br>1995 |
| Level IV                                   | 1                 | • Less pain noted after 72 hours post injection.<br>• Bruising significantly decreased with cryotherapy   | 2006         |

## Implementation/Process

- Compiled a team consisting of Registered Nurses who practice on similar medical surgical areas.
- Selected project pertaining to patient population.
- Developed PICO question.
- Conducted research utilizing scholarly search tools and articles.
- Created survey and collected pain scores for both control group as well as experimental group.
- Organized Data.

## Purpose/Background

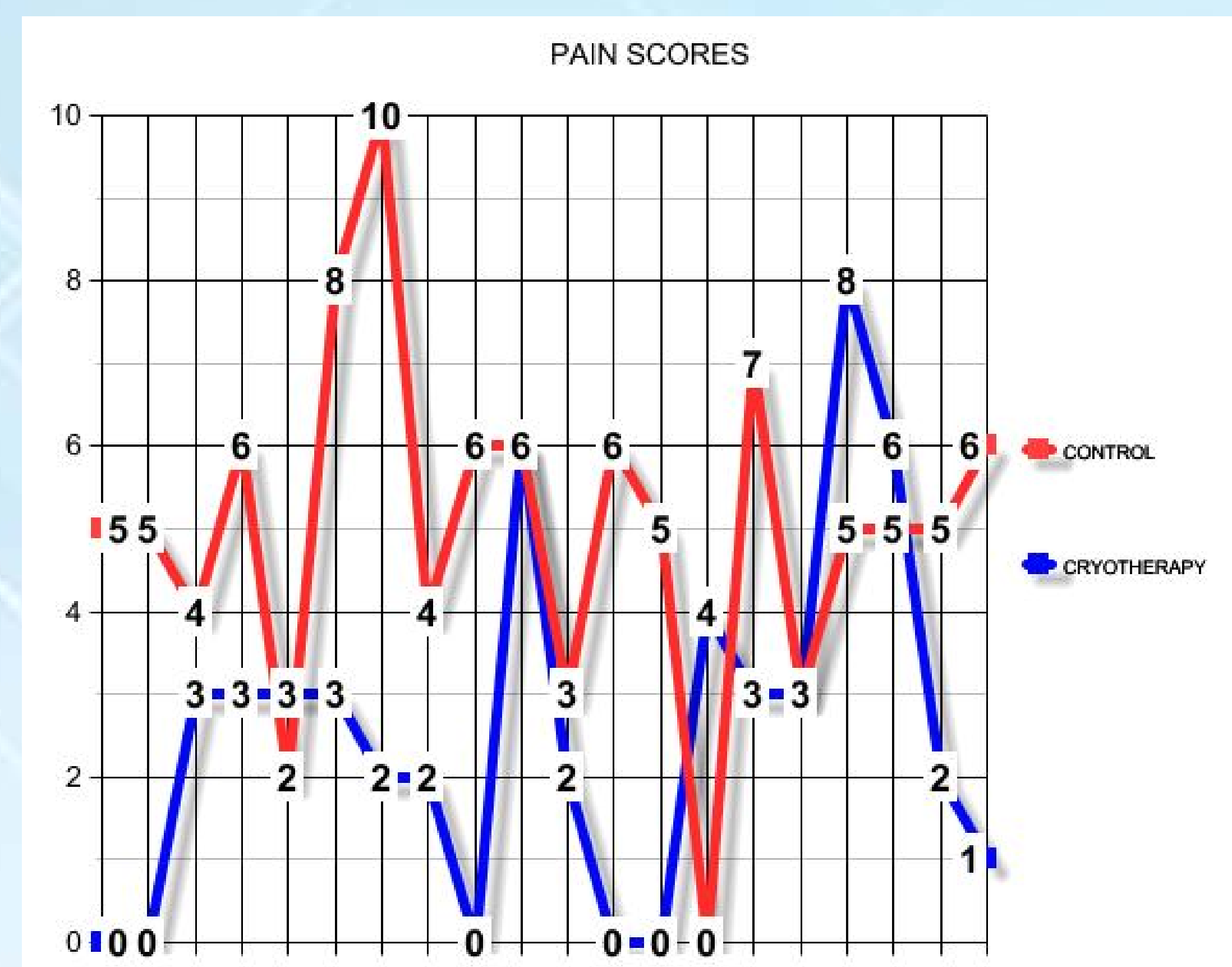
- Many patients are prescribed heparin injections prophylactically multiple times throughout a day. This may cause discomfort and agitation, therefore decrease patient satisfaction. Many studies have showed utilizing ice therapy before injection reduces pain scores (0-10) for patients receiving heparin subcutaneously.
- Currently at LVHN, there are no established best practice protocols to utilize cryotherapy for subcutaneous injections.

## Conclusion/Recommendations

Applying ice to injection site prior to subcutaneous heparin injection decreased overall pain scores for explored patient population. An overall decrease in pain has potential to increase overall patient satisfaction while hospitalized.

The biggest drawback was time management, which may decrease nurse compliance with ice therapy.

More research should be conducted, including variation of time of application in correlation with pain reduction.



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