

Medical Cold Therapy System

Deliver both cold therapy and compression therapy simultaneously.



Newest clinical studies indicate:

- Cold compress can effectively reduce pain, swelling, inflammation, haematology and energy expenditure during perioperative period. It alleviates patient discomfort and reduce the dosage of analgesics and shortens the length of the hospital stay.
- It also increases patient joint activities in post-operative care, accelerates functional recovery, and improves the compliance of rehabilitation.

Principle:

- Cold compression lowers temperatures, shrink capillaries and reduces bleeding and inflammation. Compression increases extra-cellular static voltage.
- It reduces, the formation of edema and hematology, and prevents swelling of the limbs and deep vein thrombosis.

Features:

- Combines both cold and compression to reduce the related complication.
- Anatomically designed to completely fit the injured part.
- The ice bag is safe, comfortable and non-irritating.
- Ice bag can be separated from the ice container, resulting in no interruption to the treatment.
- Control of the temperature reduces the danger to tissues.

Contraindication:

Raynaud's syndrome, vascular spasm, people who cannot tolerate coldness.

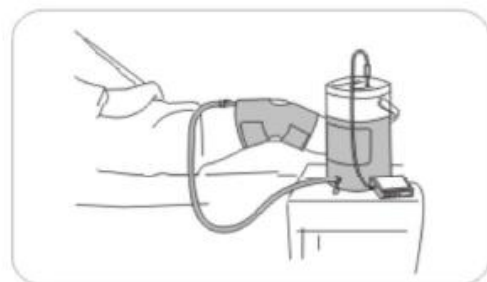
Instructions for manual filling:

1. Add the ice and the water into the cooler.
2. Centre cuff over injured area.
3. Raise the cooler no more than 40cm above the cuff.
4. Hold the cooler for about 30 seconds while cuff fills.
5. Recharge the water in the cuff after 15 or 30 minutes, then raise the cooler and repeat the filling process.

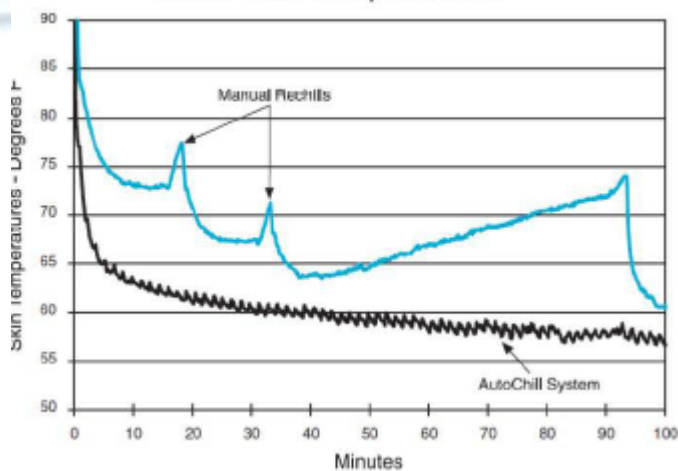


Instructions for automatic filling:

Continuous cold therapy and pulse compression automatically exchanges water from the cuff to the cooler using an electronic pump. Eliminates manual water recycling, keeping the temperature about 10°C.



Knee cuff temperature





Neck



Head



Knee



Hand/ Wrist



Elbow



Back/ Hip



Calf



Thigh



Shoulder



Ankle

The role of Pulsatile Cold Compression in Edema Resolution Following Ankle Fractures: A Randomized Clinical Trial

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Purpose

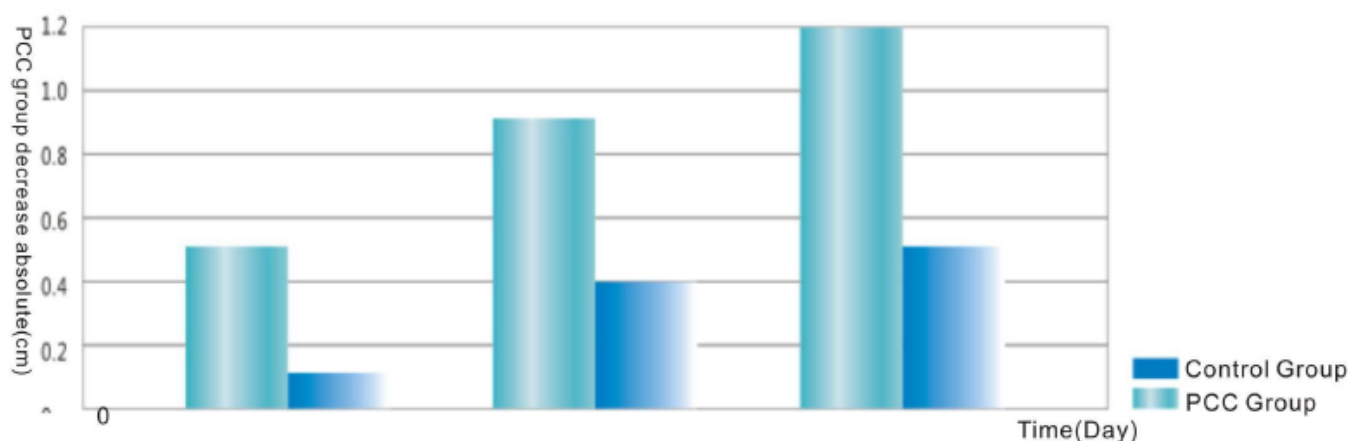
Assess the cold compression therapy device can decreased edema in ankle fractures before surgery or not.

Methods

Twenty-four patients were enrolled in the study. The PCC group consisted of 11 patients, The control group consisted of 13 patients. Patients in the PCC group were placed into a cuff compression device with autochill pump after removal of their long leg casts and remained at strict bed rest with the extremity elevated until surgery. The patients in the control group remained in their bi-calved long leg cast. Data collection for both groups included measurements of ankle circumference using a standardized technique to minimize errors. at the time of enrollment(day zero) and every 24 hours thereafter (day one, day two, day three) until surgery. A satisfaction score was documented before every measurement based on a scale ranging from 1 to 4 with 4 being very satisfied, 3 satisfied, 2 dissatisfied and 1 very dissatisfied.

Results

The cuff device with the autochill pump was well tolerated by all PCC study patients, who were all satisfied or very satisfied with the device. In addition, the ratio of the decrease in circumference relative to the circumference of the normal ankle was significantly higher in the PCC group compared to the control group at all time points. So this device can be used in decreasing edema in ankle fractures before surgery.



Discussion

In summary, we found that the cuff and automatic chill system significantly decreased edema in ankle fractures before surgery compared to splintage and elevation alone. In addition, all patients tolerated the device well and satisfied with it.

Curative effect analysis about continuous cooling compression method after total knee replacement(TKR)

Purpose

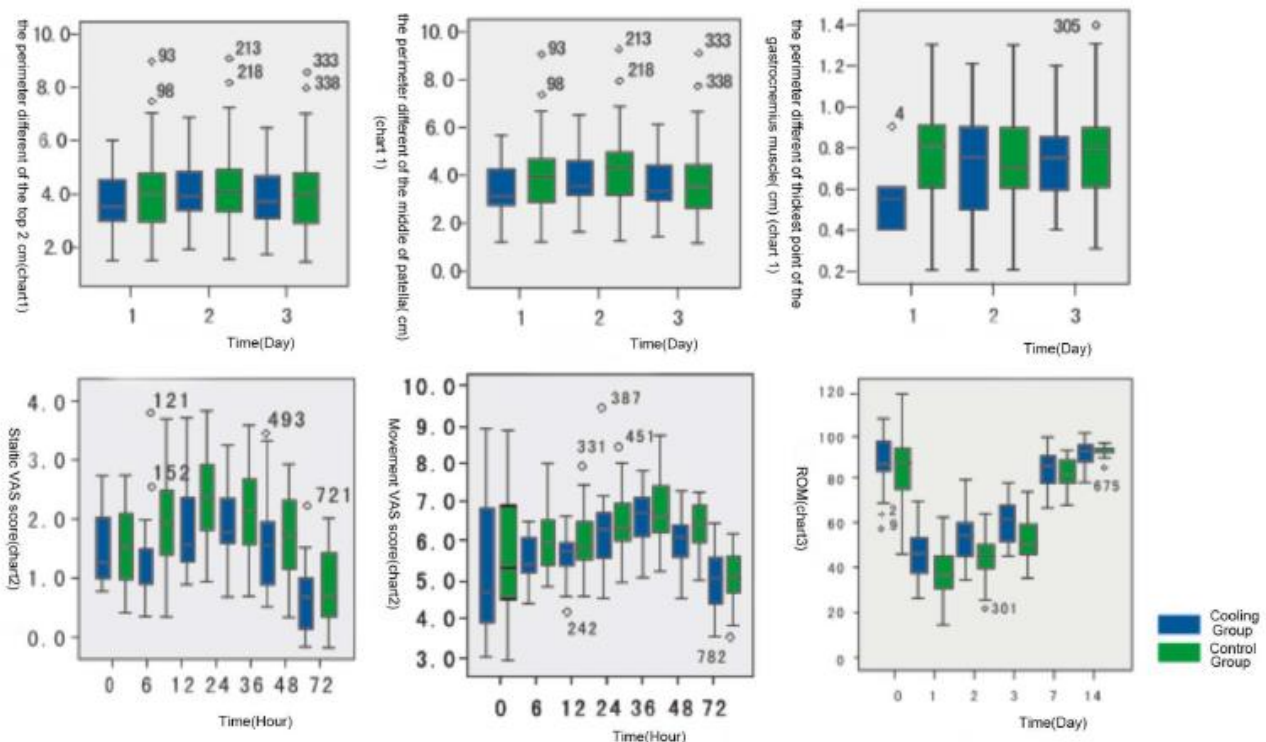
Forward-looking evaluate curative effect analysis about continuous cooling compression method after total knee replacement(TKR)

Method

The cooling compression method (updated ice bag method), involved 60 patients and other 60 patients is another group. We compare the top 2cm and middle of patella, the perimeter difference of thickest point of the gastrocnemius muscle with the two groups after operation three days. And we evaluate the pains points when stable and move with VAS after operation 6 hours, 12 hours, and 24 hours, and range of motion after operation three days.

Results

The conclusion is that postoperative the first day the point about the top 2cm and middle of patella, the perimeter difference of thickest point of the gastrocnemius muscle for cooling compression group is lower than another group (chart 1). So do the pains points,when static and movement with VAS score after operation 6 hours,12 hours,and 24 hour (chart 2). And the effect of the range of motion after operation three days is better (chart 3).



Discussion

The cooling compression method can relieve swelling and pain, improve range of motion, reduce complication, promote the postoperative recover soon.

Conservation treatment of degenerative joint of the knee using cold compression therapy Introduction

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Background

Degenerative joint disease (DJD) can be an extremely disabling condition affecting both young patients after trauma and elderly patients. Patients with DJD of the knee present to their physician because of restrictions on activity secondary to pain and swelling. The pain is usually felt during or after activities. Few effective first-line treatment alternatives exist. These can be categorized into pharmacological and non-pharmacological of both complications of medications and questions regarding their efficacy, attention has been focused on alternative non-pharmacological measures.

Purpose

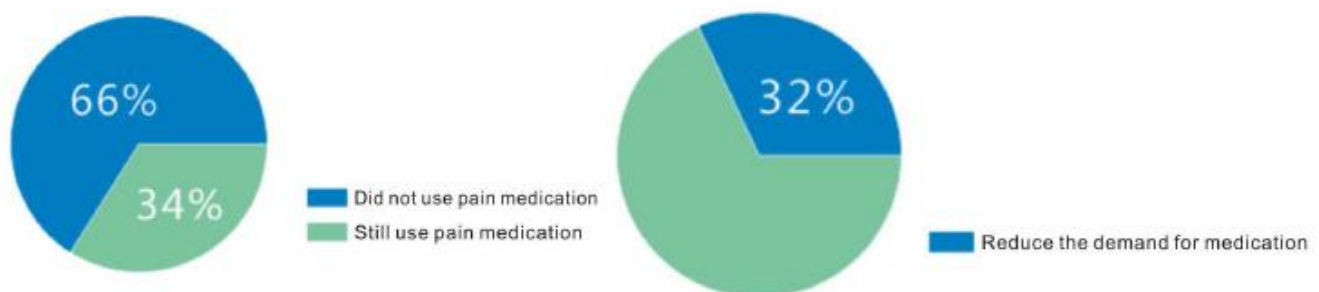
The purpose of this study was to evaluate subjective symptomatic relief with the use of a cold/compression (Cuff) in the management of patients with symptomatic DJD of the knee.

Methods

All patients had radiographically confirmed grade II, III or IV degenerative OA of the knee. The patients had previously been treated conservatively with a variety of measures including non-steroidal anti-inflammatory drugs (NSAIDs), activity restriction and quadriceps muscle strengthening exercise. Each patient was given a Cryo/Cuff and instructed to use it when necessary for control of swelling and pain. 131 answered the questionnaire at average of 24 months (range 18-49 months) after receiving the Cuff therapy.

Results

Eighty-seven patients (66%) did not take supplemental medication while using the Cuff. Of those who were still taking medication, 14 out of 44 (32%) felt that the Cuff decrease the need for medication.



Discussion

It is easy to use, effective and without any side-effects. It decreases the requirements for potentially dangerous NSAIDs, improves the symptoms effectively and has a high patient compliance. We suggest that the cold/compression therapy be considered as a first-line treatment alternative for symptomatic DJD of the knee in an active patient population.

The clinical efficacy about cold compression can reduce intra-articular temperature of after arthroscopic knee surgery

Purpose

We will measure the temperature of the knee cavity, and then see if the temperature will reduce when we use cold compression equipment after arthroscopic surgery.

Methods

17 patients divided into two groups: among 12 immediately accepted cold compression. The rest is group without cold compression after postoperation one hour. Firstly we put thermocouple probe into patients' knee cavity, and then last 2 hours in cold compression About the rest, we did nothing. In the first hour, and in the second hour we use pressurized nothing in the first hour, and in the second hour we use pressurized cold.

Results

The body temperature of treated group decreased significantly to 2.2 °C after one hour, while body temperature of the untreated group increases 5 °C in the first hour. The temperature difference is 7.2 °C. The temperature decreased 1.79 °C in the second hour (sixty to one hundred twenty minutes) for the treated group. The total average temperature is 3.0 °C in one hundred twenty minutes. While body temperature of the untreated group increases 5 °C in the first hour, the body temperature decreased significantly in the second hour with cold compression. The body temperature decreased 4.0 °C after cold compression. This also explains the cold treatment is better for articular.

Discussion

The data show pressurized cold is better for articular. The temperature difference is significant whether pressurized cold or not.

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