

## **Licensing and Technology Transfer Opportunity: Manipal Academy of Higher Education**

Title of Technology Available: A foam ice pack and a method of preparing thereof

Brief Description of Invention: The present invention relates, in general, to a foam ice pack and a method of preparing a cold pack to be used by patients. In particular, the invention relates to the method of preparing a foam ice pack which is simple to manufacture, cost effective, reusable and safe for use. It can be afforded by patients falling in a low profile income segment and can be supplied in all the hospitals in India with less expenditure.

Brief Background of Invention: Various kinds of cold packs are available in the market to soothe the pain and to reduce the swelling, and many people have found them effective. In addition to soothing pain, these cold packs are very crucial for providing relief to patients and improving their quality of life in case of illness or in case of post-surgery.

- A variety of ice packs prepared with different ingredients exist in the market. Although in India, such ice packs are not prescribed to the patients as they are quite expensive for the patients to afford it. Thus, ice cubes are given to the patients for the application due their cost effectiveness.
- The drawbacks of conventional ice packs are that they are inconvenient to use, less effective and non-recyclable. As the ice melts, water starts to drip, drenching the patient's clothes thus causing discomfort. Further, ice packs are also less effective as once the ice is exposed to room temperatures or applied against the skin, it starts to melt faster, as these ice packs are not insulated enough to keep them functional for a longer period of time. Under normal conditions, ice begins to melt when its surrounding temperature rises above its freezing point, that being 32 degrees Fahrenheit (0 degrees Celsius). Apart from the above, several other factors can also cause ice to begin melting, even at very low temperatures. Adding salt or even sugar causes normally stable ice to begin melting, either until the added substance is sufficiently diluted or the surrounding temperature lowers to the freezing point of the new solution. In consequence of this, the ice packs are less productive and non recyclable.

- To overcome the shortcomings of the conventional type of ice packs given in the hospitals in India, there is a need of an ice pack which is not only cost effective but also more efficient recyclable and safe for use.

Describe the final product: A foam ice pack comprising:

- a foam block
- an airtight bag, wherein the foam block is soaked in water and disposed inside the airtight bag wherein the airtight bag containing foam block is frozen in a refrigerator
- A method of preparing a foam ice pack, the method comprising the steps of:
  - cutting a piece of foam block in a predetermined dimension;
  - soaking the foam block in water;
  - placing the soaked foam block in an airtight bag; and
  - refrigerating the airtight bag containing the foam block for a predetermined time till the foam is frozen.
- The method, wherein the foam ice pack is re-refrigerated for a predetermined time for subsequent use.

Technological Domain (Keywords): Ice Packs, Foam ice packs, Iso-propyl alcohol water based ice packs, Aids used for the reduction of swelling after extractions, remedies for ice packs.

Proof of Concept:

The present invention discloses a foam ice pack and a method of preparing a foam ice pack that is simple to manufacture, cost effective, reusable and safe for use. The foam ice pack of the present invention comprises a foam block which is soaked in water and is disposed inside an airtight bag. The airtight bag is then refrigerated for a predetermined time so that the foam block is completely frozen and can be readily used on the affected area(s) of the patient body. Due to presence of foam, ice pack remains functional for a longer period of time and can be reused many number of times by refrigerating it. The frozen foam ice pack can be directly applied to the

affected area(s) of the patient's body without causing leakage of water on the patient's body and clothes.

Stage of Development: Ideation/Prototype/Advanced Prototype/Market Ready product:  
Prototype

Provide Information on Competitors who manufacture and/or sell similar products:

At present, many university hospitals do not use ice packs. Instead, they use ice wrapped in a glove bag which inspired me to work on this idea. Large private hospitals and dental clinics will charge high prices for ice packs or will ask you to buy them from outside vendors.

The list below are of manufacturers that sell the ice packs at competitive prices.

Gel Frost Packs - Kalyani Enterprises, Chennai

Snow Gel Ice Pack - Oceanic Healthcare, Coimbatore

D S Polar Packs - D S Enterprise, Bengaluru

What are the unique advantages your innovation has compared to the competition:

The present invention discloses a foam ice pack and a method of preparing a foam ice pack that is simple to manufacture, cost effective, reusable and safe for use as compared to other ice packs present.

Have you approached any company/industry to manufacture/license/and sell your invention?:

No.

If yes, Provide details of the company/organization and the contact person

Any other information that might be useful:

Intellectual Property Status: Provisional patent application filed.