

The Case for Developing a Modern Knee Brace

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Purpose:

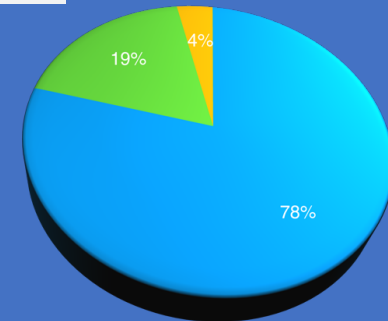
To develop a comfortable and effective knee brace that provides flexibility for cooling that will allow the modern patient to be closely adherent to their therapeutic plan and reduce their dependence on pain medications.

The Problem:

- Knee Immobilizer
 - Bulky
 - Uncomfortable
 - Uncooperative
- Cooling Protocol
 - Inconvenient
 - Hassle
- Both essential, but independent!



Survey Results:



27 Participants

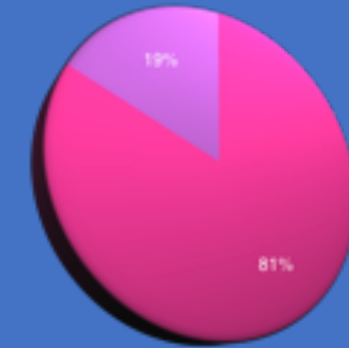
Participant Injury Type

Frequent Icing (RICE) Hassle Factor



Moderate-High Low

Participants preference: RICE versus medication



RICE Medications



Survey of Knee Injury Patients:

Consumer Profile

Age 31-44
Occupation: Teacher
Description of injury: ACL and MCL
Recovery: PT for 4 weeks, did not require surgery. Missed about 2-3 Days of work while recovering.
Pain Management and RICE: Hydrocodone Acetaminophen for 1-2 days, Acetaminophen 21 x per week.
"It was hard to keep my leg elevated."
"I want a lightweight brace"
"I used R.I.C.E. because I don't like medicine"

Survey Ratings

ADLs	before	During
Walking	1/day	0/day
Sitting	2/day	4-5/day
Standing	3/day	0/day

Pain on the Wrist: 1-10 scale (No Pain to Worst)

Using With Current Product: 1-10 scale (No Improvement to Very Improvement)

How/How Often Overall Improvement: 1-10 scale (No Improvement to Significant Improvement)

The Need

- Optimize recovery from acute knee injury
- A way to facilitate cooling while stabilizing recovering knees throughout the workday
- Empower everyday people
 - Restore family life
 - Restore work life
 - Restore recreational life



The Difference

Value Add	Standard Knee Immobilizer	Aircast Cryo Cuff	Donjoy Reaction	Comprehensive Rehabilitation System
Extension	+++	-	++	+++
Flexion	-	+++	+++	+++
Compression	+++	+++	+++	+++
Cooling	-	++	-	+++
Elevation	-	-	-	+++
Retail Price	\$19.99 - \$69.99	\$124.99	\$80.90	\$200

Importance to Physical Therapy:

This new knee brace will allow patients to closely adhere to injury and postoperative therapeutic plans while maintaining mobility for the modern world. This will aid in shorter recovery time from injury and potentially less dependence on perioperative pain medications.