



# Solutions

**Ermi**  Free to Move Again,  
Free to Live Again.

# The **Standard of Care** for the Non-Operative Treatment of Severe Motion Loss

## Empowering Patients to **Take Control** of Their Own Recovery

- Patient **completely controls** their stretch
- Ermi professionals **educate and follow up** with the patient
- Ermi works with the **clinical team** throughout recovery

**You can't afford the risk of complications or cost associated with a motion restoring surgery before trying the Ermi non-operative program.**



**20+**

Years of Clinically  
Proven Results

**100K+**

Severe Motion Loss  
Patients Treated

**90%**

Success Rate

**0**

Complications



# Ermi Technology

Treats **Severe Motion Loss** in the Knee, Shoulder, Ankle, Elbow, and Big Toe

Completely **Patient Controlled**

**Easy** to Use

Distinctive, **Patented Technology**

**Provides a High Intensity Stretch** to Mimic Manual Therapy Force Application

Clinically Proven Results in **Only 1 Hour Per Day**





# Flexionater® Platform

## Overview

- Utilizes hydraulic load delivery with quick-release mechanism
- Able to generate loads up to 215 foot-pounds of torque in small increments



Ermi Knee / Ankle Flexionater



Ermi Shoulder Flexionater

# Extensionater® Platform

## Overview

- Pneumatic (inflatable) air-bladder technology with quick-release mechanism
- Able to generate loads up to 40 foot-pounds of torque in small increments



Ermi Knee Extensionater



Ermi Elbow Extensionater



Ermi MPJ Extensionater

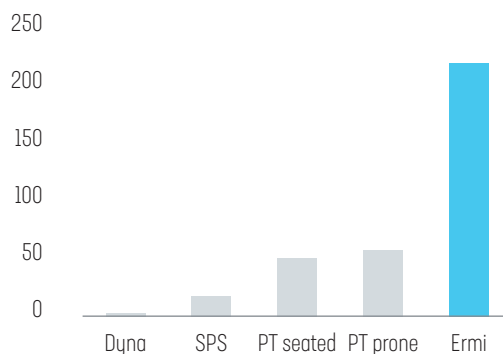


# Knee Flexionater

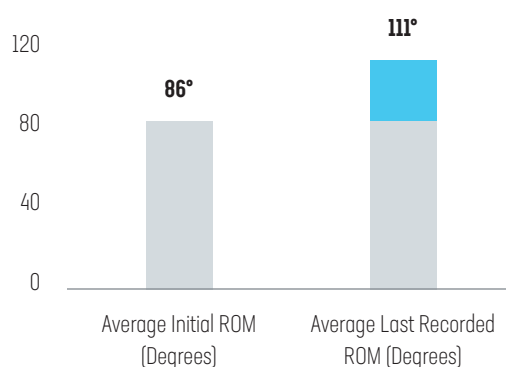
- Patient can apply a high intensity stretch to their knee nearly equal to the intensity delivered by a physical therapist.
- Uses a hydraulic mechanism
- Clinically proven to increase knee flexion
- Restores the ability to perform activities of daily living
- Introduced in 1991



## Torque measure of common therapies for the treatment of knee flexion deficits

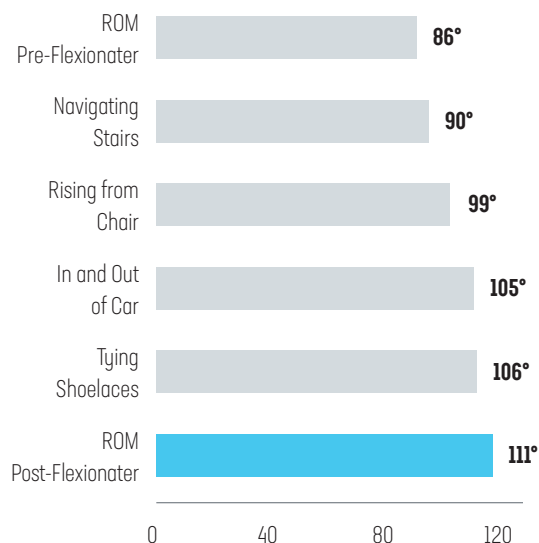


## Knee flexion range of motion measurements



Average of 44 days of treatment. Sample size: 892 patients

## Required knee ranges of motion to achieve various activities of daily living



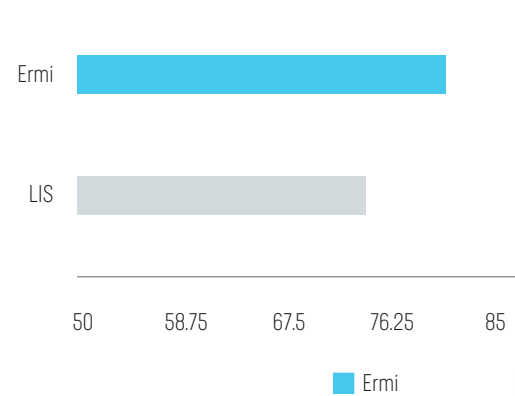


# Clinically Proven to Recover Knee Flexion without Surgery

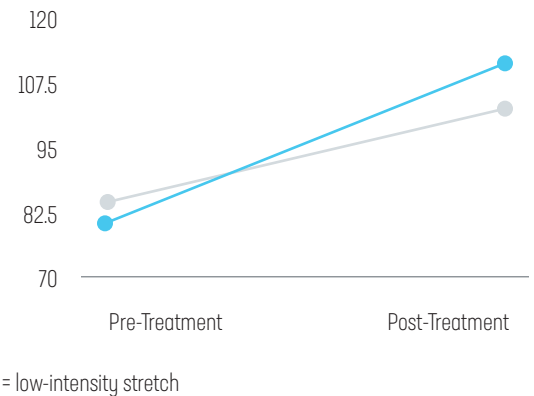
## Head-to-head Study of Ermi vs. SPS Brace (Papotto 2012, Orthop Nursing)

- Ermi patients showed significantly greater gains in knee flexion and in patient reported outcome scores
- 91% of Ermi patients achieved 110° of flexion
- 22% of Brace patients achieved 110° of flexion

### Outcome Score Improvements



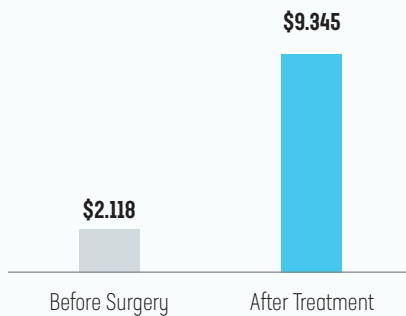
### Range of Motion Gains



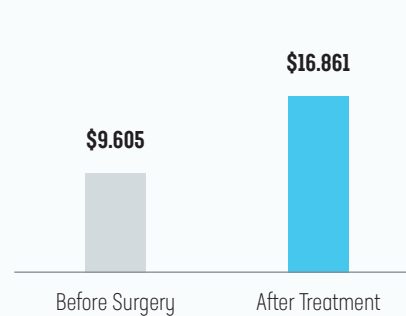
## Health Economics Study (Stephenson 2010, Current Med Res Opinion)

- Comparison of pre and post-surgical knee attributable costs between:
  - PT only;
  - PT+low intensity brace;
  - PT+Ermi
- Patients assigned to the PT+Ermi cohort presented with the most pre-surgery complications
- Treatment with Ermi demonstrated significantly reduced rates of re-hospitalization and re-operation
- Treatment with Ermi provided a significant cost savings for the most complicated patients without the associated risk of surgery or rehospitalization

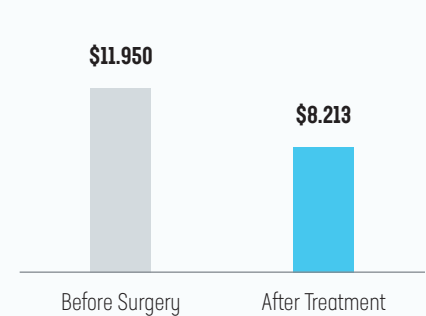
### Cost Per Patient for Physical Therapy Only



### Cost Per Patient for Dynamic Bracing and Physical Therapy



### Cost Per Patient for Ermi Device and Physical Therapy



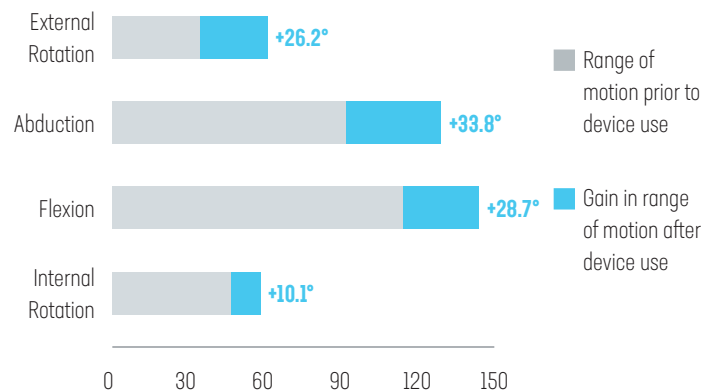
Pre-Index (6 months) Post-Index (6 months)



# Shoulder Flexionater

- Restores the ability to perform activities of daily living
- Clinically proven to increase motion in all planes including flexion
- Can stretch internal rotation and in the scapular plane
- Treats primary or secondary shoulder stiffness
- Hydraulic mechanism provides a high-intensity stretch
- Staged protocol to first increase external rotation and then abduction
- Introduced in 2001

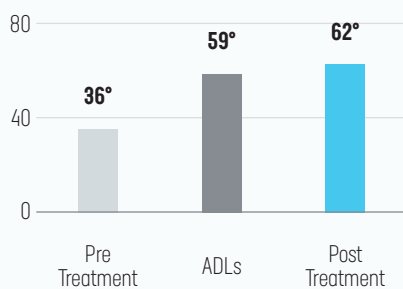
## Range of Motion gains during use of Ermi Shoulder Flexionater



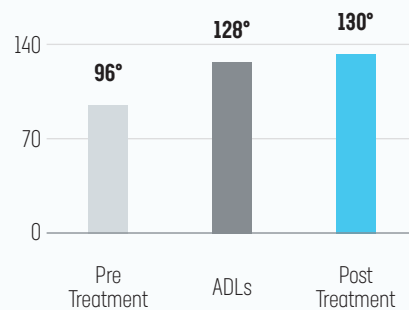
Average of 48 days of treatment. Sample size: External Rotation = 316; Abduction = 269; Flexion = 239; Internal Rotation = 130.



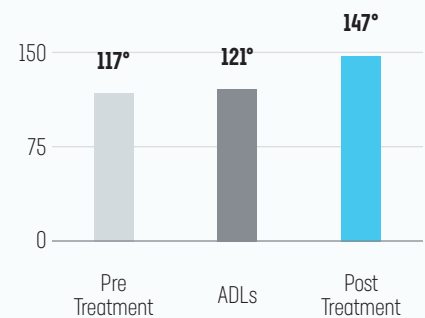
### External Rotation



### Abduction



### Flexion



Range of motion prior to device use

Range of motion after device use

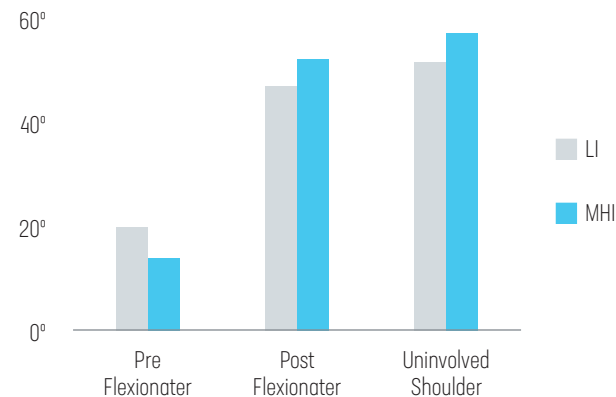


# Clinically Proven to Recover Shoulder Motion without Surgery

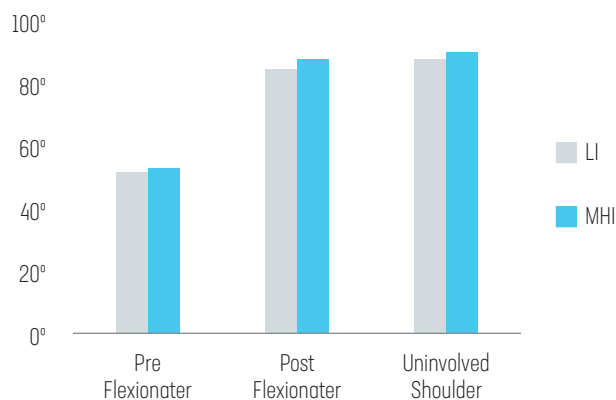
## Study 1: Dempsey et al. 2011, Am J Phys Med Rehab

- A clinical study compared two groups of patients: Low irritability group versus moderate to high irritability group
- Both groups showed significant increases in ROM and outcomes after treatment with the Flexionater.
- Post-treatment ROM did not significantly differ between the treated shoulder and the uninvolved shoulder
- 97% of patients avoided additional surgery to treat motion loss
- The Ermi device is safe and effective regardless of irritability level

## Glenohumeral External Rotation



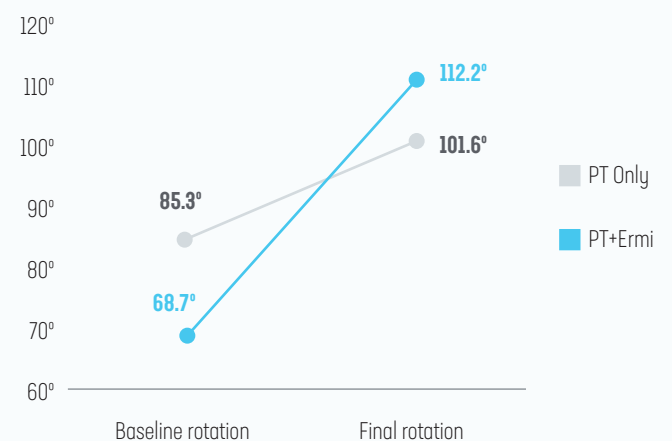
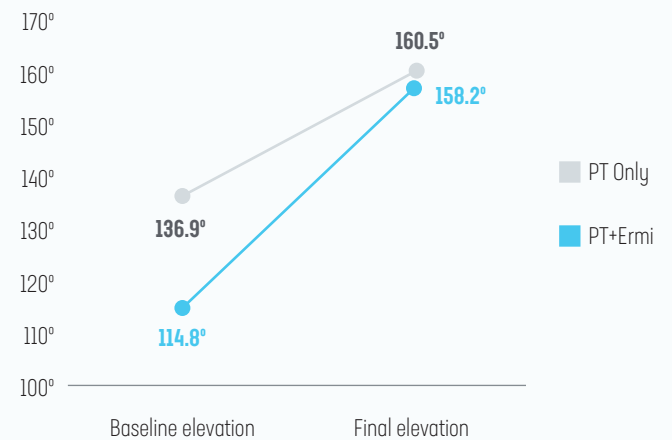
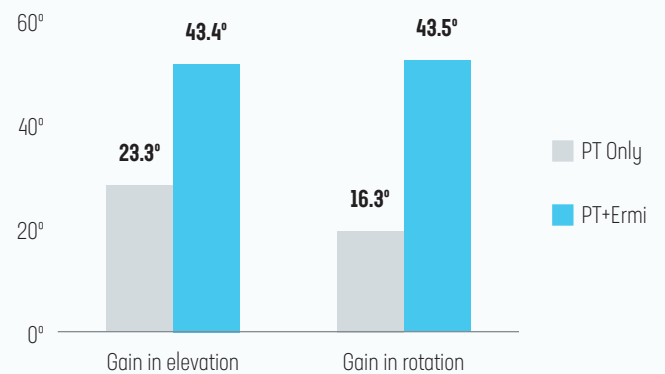
## Glenohumeral Abduction



## Ermi devices accelerate recovery in difficult patients

### Study 2: Wolin et al. 2016, Annals of Phys Med Rehab

- Compared two groups of patients with postoperative adhesive capsulitis:
  1. Patients treated with PT alone
  2. Patients treated with PT + an Ermi device
- No difference in treatment time between the groups
- PT+Ermi patients began with significantly worse ranges of motion and finished with equivalent or greater motion.

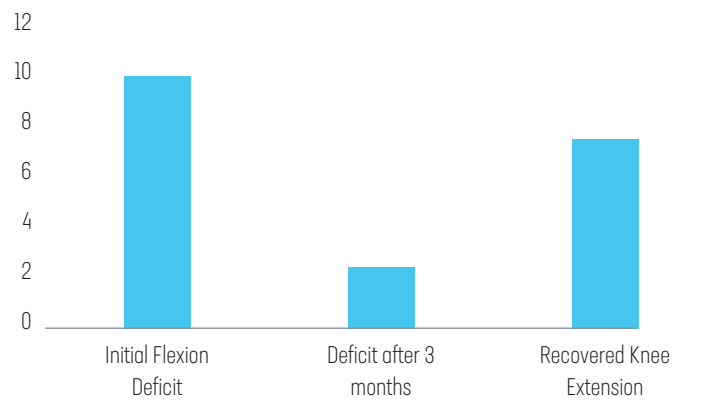


# Knee Extensionater



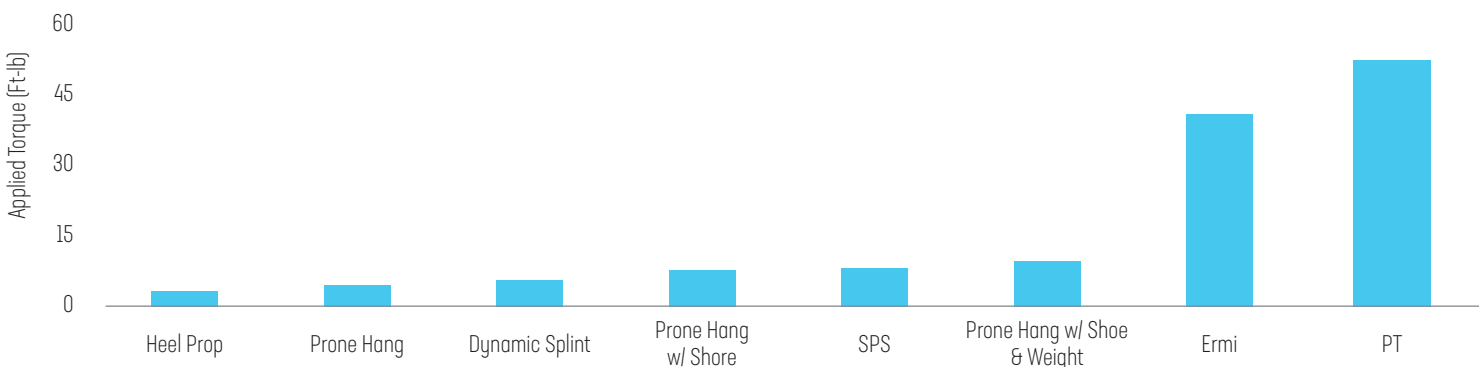
- Clinically proven to increase range of motion in the knee
- Patient can apply a high-intensity stretch nearly equal to the intensity delivered by physical therapists.
- Uses an air bag system and an aluminum frame
- Recovers knee extension which can:
  - Reduce the risk of arthritis (Shelbourne 2012, Am J Sports Med)
  - Reduce the risk of a future fall (Matsumoto 2011, Arch Orthop Trauma Surg)
- Motion gains from the Ermi device are maintained long-term
- Introduced in 1999

## Improvement in Knee Range of Motion Using the Ermi Knee Extensionater



Average of 90 days of treatment. Sample size: 56 patients

## Torque measures of common therapies for the treatment of knee extension deficits





# Additional Applications

## Ankle Flexionater

- Clinically proven to increase dorsiflexion
- Patient applies a high intensity force using a hydraulic mechanism
- Improved dorsiflexion from  $-7^{\circ}$  to  $+8^{\circ}$
- Introduced in 2007



## MPJ Extensionater

- Designed for dorsiflexion and plantar flexion
- Patient applies a high intensity force using an air bag mechanism
- Introduced in 2006



## Elbow Extensionater

- Patient applies a high intensity force using an air bag mechanism
- Introduced in 2003





We are passionate about rescuing  
patients from severe motion loss.

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