

Miknee: A chondroprotective knee health monitoring orthosis for Osteoarthritis Elderly

APPLICATION

A portable Biophysically stimulated Therapeutic device for persons with knee osteoarthritis

COMPANY NAME

Swayogya Rehab Solution Pvt Ltd

TECHNOLOGY READINESS LEVEL (TRL)

TRL: 6 (Currently under the field trials)

INTELLECTUAL PROPERTY

Patent No: 202011055694

A Granted Design patent on Magnetic Knee brace

FOUNDERS' NAME

Pooja Jha & Vikash Jha

PROBLEM ADDRESSED

Knee Osteoarthritis KOA is a degenerative joint disease that affects 40-50 million adults in India over the age group of 50 or above. The major complaints of persons with KOA disease are joint pain and mobility impairment. Despite of availability of numerous treatment modalities, a large proportion of KOA population suffers from chronic pain and in more severe cases undergoes joint replacement surgeries.

ABOUT THE TECHNOLOGY

This novel technology focused upon a portable, non-invasive medical device with knee orthosis to slow down and monitor the rate of cartilage degeneration in persons with osteoarthritis. To overcome the lacunae by providing a multidimensional approach that consists of a novel knee orthosis coupled with an extremely portable PEMF stimulation technology which will generate chondroprotective effect at knee joint. Additionally, the orthosis is added with knee health monitoring features to quantify pain and mobility parameters. This work also proposes the quantification of the magnetic field intensity for different grades of KOA disease. Consequently, this work aims to design and develop a cost effective, extremely portable and novel knee orthosis for KOA population.

FUNDS RAISED/ACHIEVEMENTS

- Startup Odisha Product development fund- INR 15 Lakhs
- BIRAC BIG grant of INR 49.8 lakhs grant-in-aid from.
- DST Nidhi Prayas Grant of INR 6 Lakhs
- BIRAC BIPP of INR 48.96 Lakhs
- BIG BIRAC SEED investment fund of INR 25 Lakhs matching with BIRAC BIPP scheme

PRODUCT IMAGE



USP

- Lower costs compared to existing players in global market scenario.
- Wireless real time monitoring of the patient's pain using IoT based sensors.
- It's a Non-invasive device which improve functionality with added features to monitor health digitally compared to available treatments.

END USERS/CUSTOMERS

- Adults with Knee Orthosis, Patient with Patellofemoral Injuries.