SCHOOL OF INTERNATIONAL BIODESIGN

Department of Biotechnology
Ministry of Science & Technology,
Government of India

BCIL

Technology Licensing

"FlexiOH™- A breathable and customizable cast for immobilization of fractured limb"

Stanford-India Biodesign program (SIB), renamed as School of International Biodesign, supported by Department of Biotechnology (DBT), Ministry of Science and Technology, Government of India is a Biomedical Technology Innovation Program, implemented at AIIMS and IIT-Delhi in collaboration with the Stanford University, USA and partnership with Indo-US Science and Technology Forum. Biotech Consortium India Limited (BCIL) with extensive experience and expertise in IP Management and Technology Transfer is the management agency for this Program. Novel medical technologies are developed under SIB to promote innovation in affordable healthcare and to train the next generation of medical technology innovators in India.

BCIL is pleased to announce the licensing of 'FlexiOH- A technology for breathable and customized cast for immobilization of fractured limb' developed by the 2014 Batch of SIB Interns, to M/s. JC OrthoHeal Private Limited, Gujarat, a start-up company formed by the Interns. The commercialization of this technology will help to solve a pressing unmet need in limb immobilization domain for patients suffering from bone fractures.

Breathable, washable and lightweight cast for immobilization of limb fractures

Unmet Need and Market Opportunity: Every year, approximately 1.4 M people suffer from wrist fractures in India[1].Total burden of this problem is approximately 7 billion INR in India every year[2]. Cast immobilization is one of the oldest method being used even today for bone healing. In spite of that, there are many problems such as breathability, washability and customizability which are still unsolved or partially solved in currently available casts. Lack of breathing under cast leads to perspiration and irritation of skin while sensitivity of conventional cast to moisture, restricts patient's routine activity like bathing, swimming etc. FlexiOH is breathable, washable and lightweight which gives patient extra comfort during immobilization of limb. Application of FlexiOH is faster and easier than conventional cast. It is applied in 3 steps. The first step involves wearing FlexiOH over fractured limb like a glove followed by positioning of limb in normal position. In last step, FlexiOH is hardened enough to support and immobilize limb by infusing hardening material into it.

Key Features

Breathable	The new and innovative design allows breathability to skin and easy monitoring for swelling or related complications.
Washable	The material of the cast is washable and allows free use of hands without fear of soiling.
Light weight	The light weight material provides the user a comfortable experience during the bone repair.

Patent Application No. 3237/DEL/2014 | **Trademark Application No. 2999502**

The Device

This customizable cast is made up from flexible material in 4-5 different sizes according to anthropometric data. The cast has peculiar geometry inspired from nature to give strongest structure. Cast shape may vary according to site and purpose of application such as short arm cast, full arm cast, barrel cast etc. for both limbs. On choosing appropriate size, this cast will take shape according to contours of patient's limb. This cast is being developed for setting within 10-15 minutes. Infusion shall be done in reduced fracture position and maintained for 15 minutes after infusion.

OrthoHeal
Hassle Free Healing

M/s. JC OrthoHeal Private Limited
96, Sara Road, Halvad-363330,
Gujarat, INDIA
Email– jcorthoheal@gmail.com
Phone- +91-8000915015

M/s. JC OrthoHeal Pvt. Ltd. is a startup company based in Gujarat, co-founded by inventors, Dr. Pankajkumar Chhatrala and Mr. Nikhi Jamdade. The mission of the company is to address the plethora of healthcare issues existing in the Indian Healthcare system especially in Orthopedics through cost-effective design based innovations. The team has plans for the technology development and validation leading to commercial launch of the product in India by mid 2018.

Inventors
Dr. Pankajkumar Chhatrala
Nikhil Jamdade
Devanshi Saksena

Faculty Inventors
Dr. Bhavuk Garg
Dr. P. V. M. Rao

Advisors and Mentors
Dr. Balram Bhargava
Dr. Harpal Singh
Dr. Sandeep Singh
Dr. Alok Ray
Dr. Prashant Jha

Technologies Available for Licensing

1. **An Integrated Cap for Neonatal Protection**
2. **Devices and Methods for Medical Prescriptions and Drug Referencing**
3. **Epi-Gastric bleeding Management Device**
4. **Intra-osseous device**
5. **Kangaroo Mother Care Kit**
6. **Kit for Medicine and Vaccine Delivery**
7. **Medical Sharps Tray**
8. **Mucous dislodging device**
9. **Sit-to-Stand Device**
10. **Trans-illumination Device**
11. **Aspiration Device**
12. **Posture Support Device**

Please Contact

Dr. Purnima Sharma, Managing Director &
Dr. Suchita Markan, Manager
Biotech Consortium India Limited
Anuvrat Bhawan, 5th Floor
210, Deen Dayal Upadhyaya Marg
New Delhi - 110002
Tel: **+91-11-23219056 (D), 23219064-67**
Email: suchita@biotech.co.in or info.bcil@nic.in

References:
1. Handoll HHG, Vaghela MV, Madhok R. Percutaneous pinning for treating distal radial fractures in adults. Cochrane Database of Systematic Reviews 2007, Issue 3.
2. Calculated considering INR 5000 average cost of treatment of one patient having radius fracture.