



# OrthoHeal

Healing Comfortably



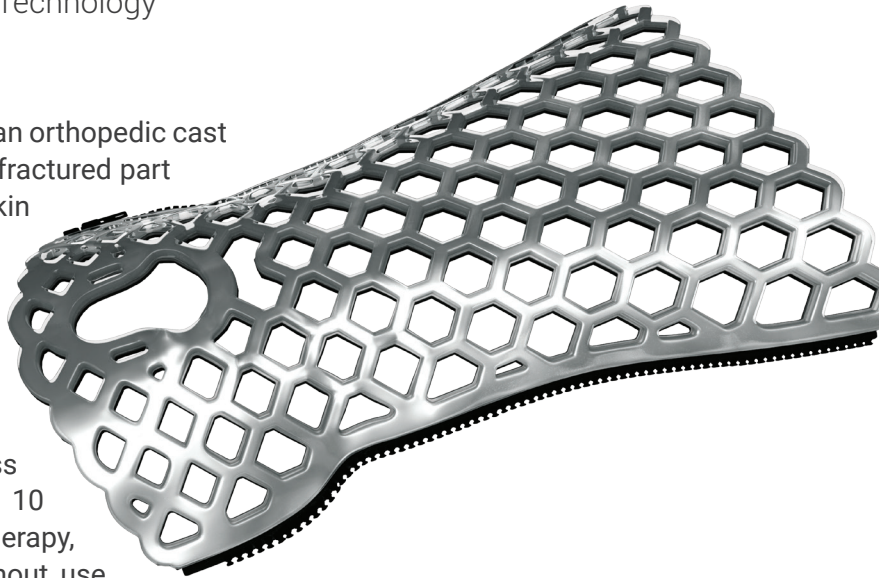
[www.orthoheal.in](http://www.orthoheal.in)

# FlexiOH™

The NextGeneration  
Orthopedic Immobilization Technology

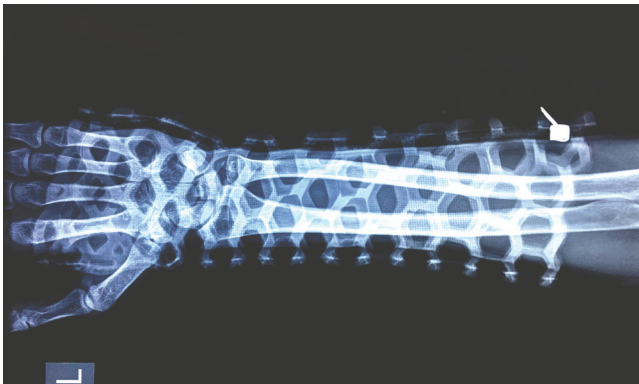
## Short Arm Cast/ Splint

FlexiOH™ is the first of its kind- an orthopedic cast that has the rigidity to hold the fractured part as well as it ensures proper skin ventilation. FlexiOH™ comes as an easy to fix wearable material on the fractured part. After wearing, light treatment completes the curing process and making the FlexiOH™ cast rigid. This process is quick and hardly takes 10 minutes. After course of therapy, FlexiOH™ can be removed without use of any other external cast cutter/spreader.



Design and material of FlexiOH™ are engineered to provide superior comfort to patient. A foam, which is in contact with the skin, is biocompatible (ISO 10993-10 certified) and

provides cushioning against hardened polymer. The cast is so designed that the intermittent hollow spaces facilitate circulation of air and evaporation of sweat / water from the skin surface.



Radiolucency of FlexiOH™ does not interfere with the radiological imaging and diagnosis.

### INTENDED USE

- Non-displaced / minimally displaced / Buckle fracture of distal radius fracture
- Carpal bone fracture other than Scaphoid / Trapezium
- As a removable splint during rehabilitation



## SOLUTIONS

FlexiOH™ provides these robust solutions for major issues related to conventional casts :



Ensuring proper ventilation to the skin that prevent skin infections.



Facilitating washing of the fractured part with water without any damage to the cast/skin.



Ensuring that day to day activities done with ease because of light weight of the cast.



Zip system makes easy to apply and remove without use of any other external cast cutter/spreader.

FlexiOH™ short arm cast comes in 5 different sizes : XS, S, M L and XL. All the casts vary in terms of palm circumference, wrist circumference, and arm circumference. For the best fit of FlexiOH™ Short Arm Cast, taking the measurement of patient's hand is necessary before application.

## TECHNICAL SPECIFICATION

Materials:	Silicon rubber (USP VI), Light curable resin and Nitrile rubber foam
Weight:	~300 gms / ~10.5 Oz
Curing System:	RizyCure™ Light Device or Direct sunlight
UltimateTensile Strength:	1.25 kN (±10%)
Ultimate Compression Strength:	3.5 kN (±10%)

## SIZE CHART

Size vs Measurement:	XS	S	M	L	XL
Palm Circumference:	130 mm	165 mm	185 mm	210 mm	235 mm
Wrist Circumference:	110 mm	140 mm	160 mm	185 mm	215 mm
Arm Circumference:	180 mm	210 mm	255 mm	285 mm	320 mm
FlexiOH™ Length:	240 mm	280 mm	305 mm	340 mm	380 mm

### Notes :

- \* Above sizes fits better as per dimensions mentioned in the table.
- \* However FlexiOH™ adapts oversize at certain extend by stretchability.
- \* We advice surgeon to choose size as per patient's comfort.



# FlexiOH™

The **NextGeneration**  
Orthopedic Immobilization Technology

## Splint / Slab

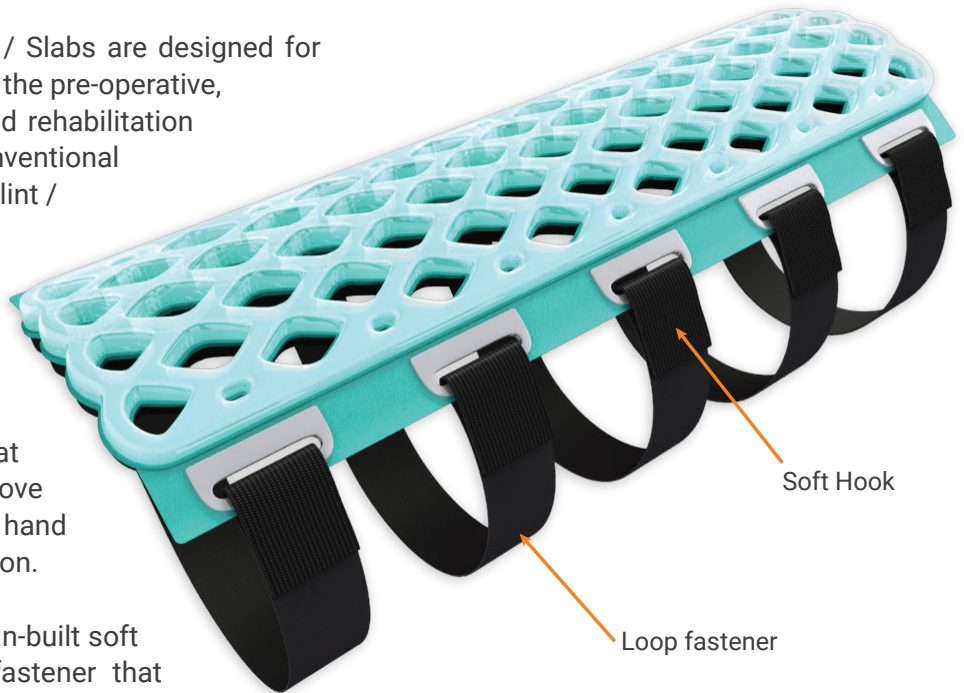
FlexiOH™ Splints / Slabs are designed for immobilization in the pre-operative, post-operative and rehabilitation period. Unlike conventional cast, FlexiOH™ splint / slab is ready to apply for immobilization.

FlexiOH™ splint /Slab is designed in such a way that patient can remove or apply with one hand during rehabilitation.

FlexiOH™ has an in-built soft hook and loop fastener that secures splint over limb which is

very comfortable for skin contact. With unique FlexiOH™ technology, this splint gives better patient comfort along with breathability and washability. Compared to POP slabs, FlexiOH™ Splint / Slab is quite lighter in weight.

For application of FlexiOH™ Splint / Slab, doctors need to apply it on the patient's hand with the soft hook and loop fastener and then cure it with the Rizycure™ light device for 3-4 mins. Once it is 100% cured, it will take the shape of the patient's hand for support during rehabilitation.



### INTENDED USE

- Acute swelling of fractured / injured limb / joint
- Pre-operative stabilization
- Post-operative support after surgery
- Ligament sprain / soft tissue injury
- Support during rehabilitation

FlexiOH™ Splints / Slabs are available in different sizes : 3 in X 10 in, 3 in X 12 in, 3 in X 15 in, 4 in X 12 in, 4 in X 15 in, 4 in X 18 in, 5 in X 12 in, 5 in X 15 in and 5 in X 18 in. All the Splints / Slabs vary in terms of length and width.

### TECHNICAL SPECIFICATION

Materials:	Silicon rubber (USP VI), Light curable resin, Nitrile rubber foam and Skin soft hook and loop
Weight:	~200 gms / ~7.05 Oz
Curing System:	RizyCure™ Light Device or Direct sunlight
Ultimate Tensile Strength:	1.25 kN (±10%)
Ultimate Compression Strength:	3.5 kN (±10%)

### AVAILABLE SIZES

3 in X 10 in	4 in X 12 in	5 in X 12 in
3 in X 12 in	4 in X 15 in	5 in X 15 in
3 in X 15 in	4 in X 18 in	5 in X 18 in



The Portable Rechargeable Light Device

Rizycure™ is the handheld light system which is high intensity portable blue light, developed by OrthoHeal Private Limited. Rizycure™ is visible blue light device, specially designed to cure FlexiOH™ - an innovative orthopedic cast. It is very easy to use and has been made for the doctors' convenience.

One full charged, Rizycure™ Light System can cure 3-4 FlexiOH™ cast in a row without recharging. Once it indicates half battery, you need to charge it again for ~120 minutes for uniform intensity.

### APPLICATION OF RIZYCURE™ LED LIGHT SYSTEM

Use of RizyCure™ Light System is to cure FlexiOH™ cast with high intensity uniform blue light, which gives deep and smooth curing. You need to just expose the uncured region moving slowly and firmly over every corners and regions and make sure that it has been cured properly and becomes rigid. Recommended time to cure the cast with light is 4-5 minutes.

- Before using of RizyCure™, check the battery level indicator.
- Press ON/OFF button to operate the Light.
- Use only provided charger with RizyCure™ Light System.
- It is recommended that after curing 3-4 FlexiOH™, Charge again before using it.




## PRECAUTIONS:

- If you determine that the RizyCure™ becomes hot or you observe change in color or shape, switch it off immediately. The device must not be used again and needs to be replaced.
- Do not use RizyCure™ while connected to the charger or in case of low intensity/ Low battery .
- Do not open the RizyCure™ Light System or charger.
- Keep away from children / Do not let children to play with this.
- Use goggles while using Rizycure™ to avoid eye fatigue.

## SAFETY GUIDELINE

- Before switching “ON” light, put on **Z87 +EN166 standard (yellow colour)** goggles provided with the Rizycure™ Light system.
- Do not see the light directly with naked eyes as it may create slight discomfort for few minutes.

## TECHNICAL SPECIFICATION

Weight of light	128 gms
Weight of charger	56g
Dimension of light	128mm x 78mm x25.5mm
Equipment class	Class I
Battery type	Li-ion 18650 3.7v/2000mAh
Battery charging time	Approx. 120 minute/2 Hrs.
Battery life	<300 cycle
Output Power	~3 Watt
Light intensity	~20-30 mW/cm2
Light charger Input	110V-240VAC,50Hz
Light charger Output	DC 5V-1Amp(max)
Operation control	ON/OFF
Operating life of light	Approx. 35 minutes
Protection from shock	Type B 
Operating and Storage temperature	0 to 104°F (0° to 40°C) 10% to 85% relative humidity(non-condensing) 0.5 atm to 1.0 atm(500-hPa to 1060-hPa) atmospheric pressure.

# APPLICATION PROCESS

FlexiOH™ short arm cast application process is really quick and faster than other casts -

Measurement FlexiOH™ Cast	S (Small)	M (Medium)	L (Large)
Circumference:	170 mm	195 mm	215 mm
Length:	160 mm	170 mm	190 mm
Wrist Circumference:	210 mm	240 mm	285 mm
OH Length:	280 mm	295 mm	345 mm

Short Arm Cast which fits best  
If you are minimum, FlexiOH™ can be used in 10-15% larger circumference.



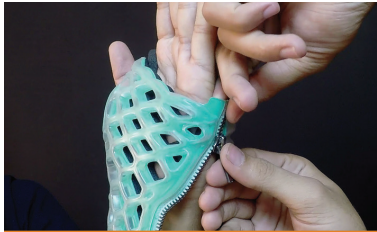
Choose the appropriate size from given chart



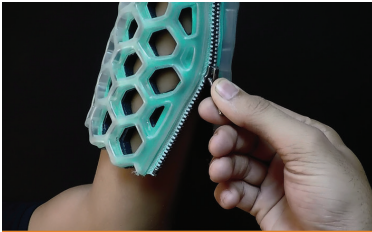
Apply cushioning to thumb to give extra comfort to pressure points



Place cast over the fractured hand anchoring thumb



Lock the zip with placing insertion pin into retainer box



Pull the puller of the zip till end



As it adapt the shape of hand, start reduction process



Take fully charge RizyCure™ Light Device



Start curing around the thumb to give initial support to the broken bone



Expose 3-4 mins thoroughly and check every corner harden, it's done

FlexiOH™ provide 46% open area of skin to breathe, wash and exposure to sunlight which are necessary to maintain healthy skin.



Patient will be able to take bathe as it is completely washable



Enabling washability facilitate to flush out any unwanted /dirt

# REMOVAL PROCESS



It's very simple, just unlock the zip



Apply little force and pull out hand from the cast

## SUPPORTED BY



सत्यमेव जयते

Department of BioTechnology  
Ministry of Science & Technology



SCHOOL OF INTERNATIONAL  
BIODESIGN



## ACKNOWLEDGEMENT

STANFORD  
BUSINESS  
SCHOOL OF  
BUSINESS



LOCKHEED MARTIN



## MEDIA PARTNERS



#startupindia



## AWARDS AND RECOGNITION



DST-LOCKHEED MARTIN  
India Innovation Growth Programme 2015



FlexiOH™ has been developed under the Department of Biotechnology, Ministry of Science and Technology, Government of India, supported School of International Biodesign Program (SIB) being implemented at All India Medical Science (AIIMS), Indian Institute of Technology, Delhi (IIT-Delhi) in collaboration with International partners and techno-legally managed by Biotech Consortium India limited (BCIL).



All Right Reserved © OrthoHeal PVT. LTD. 2019

OrthoHeal Private Limited, GF-33/34, Classic Towers, Near Akota Garden, Akota, Vadodara, Gujarat, India. 390020.

Email: [contact@orthoheal.in](mailto:contact@orthoheal.in)

Web: [www.orthoheal.in](http://www.orthoheal.in)

Phone: +91 265 2350 003