



# FiberLase CR

Laser system for pain therapy & cartilage regeneration

FiberLase CR is a dual-wavelength laser platform combining a 1.55  $\mu\text{m}$  fiber laser and a 0.98  $\mu\text{m}$  diode laser. The system is designed for pain management therapy and for clinical use in neurosurgery (spine surgery/vertebrology) as well as traumatology, orthopedics, and sports medicine.

- Wide range of applicators and fiber tips supporting pain management procedures
- Suitable for outpatient (ambulatory) procedures
- Pain relief for syndromes of various localizations
- Minimally invasive surgical applications
- Reduced length of hospital stay



**Pain therapy**



**Intervertebral disc reconstruction**



**Joint cartilage regeneration**



# Pain therapy

## Contact applicators

Designed for procedures requiring direct tissue contact



**Cooling (Cryo) applicator**

∅ 15 mm  
 ⚓ to 50-60 mm



**Spacer applicator**

∅ 15 mm  
 ⚓ to 20 mm



**B1 contact applicator**

∅ 20 mm  
 ⚓ to 20 mm



**B2 contact applicator**

∅ 35 mm  
 ⚓ to 20 mm

## Non-contact applicators

Designed for procedures requiring non-contact irradiation



**Adjustable beam-forming applicator**

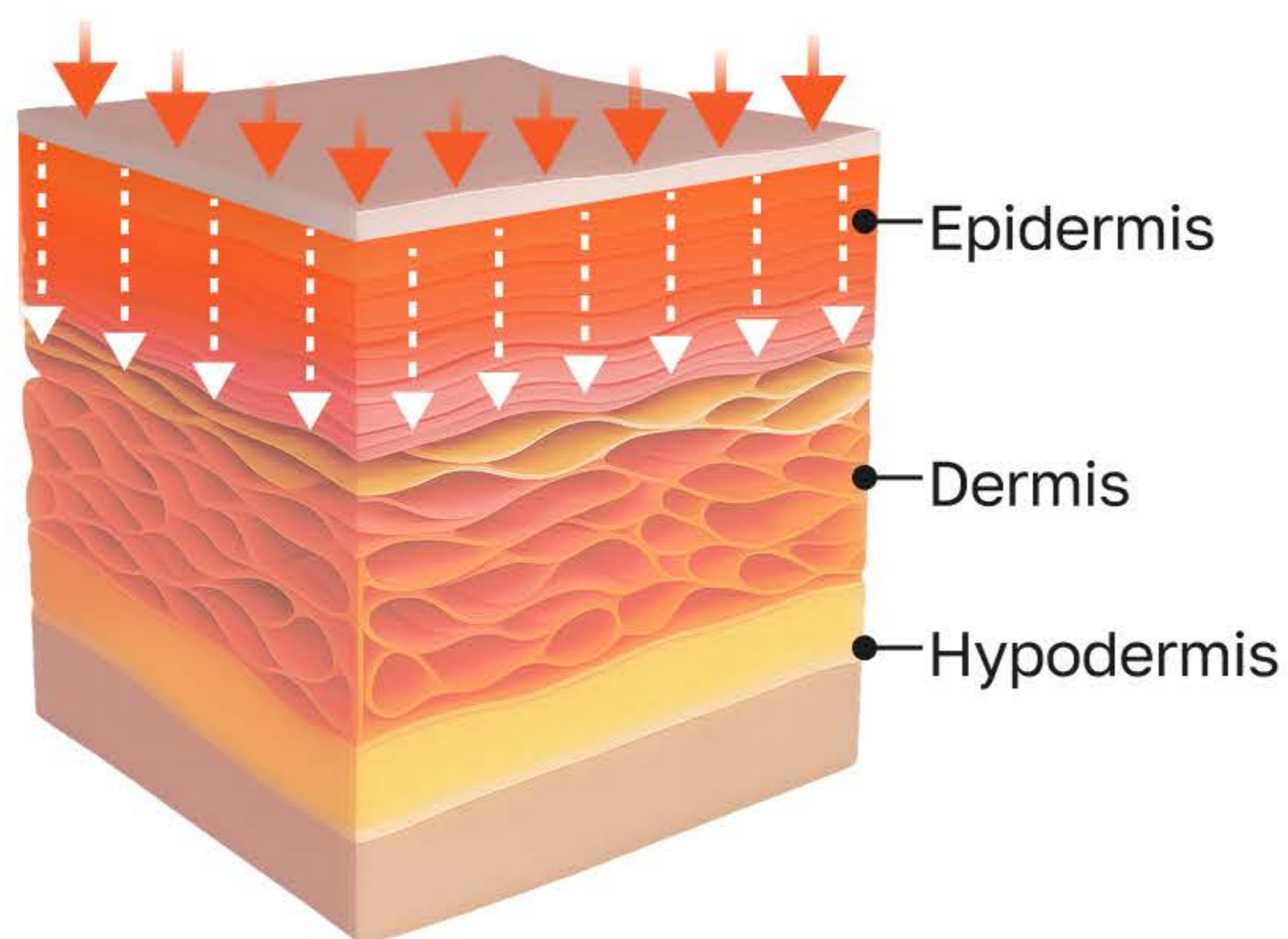
Positioned 15 cm from the patient's skin  
 Adjustable spot diameter: 35–130 mm

∅ Treatment spot diameter  
 ⚓ Depth of tissue penetration

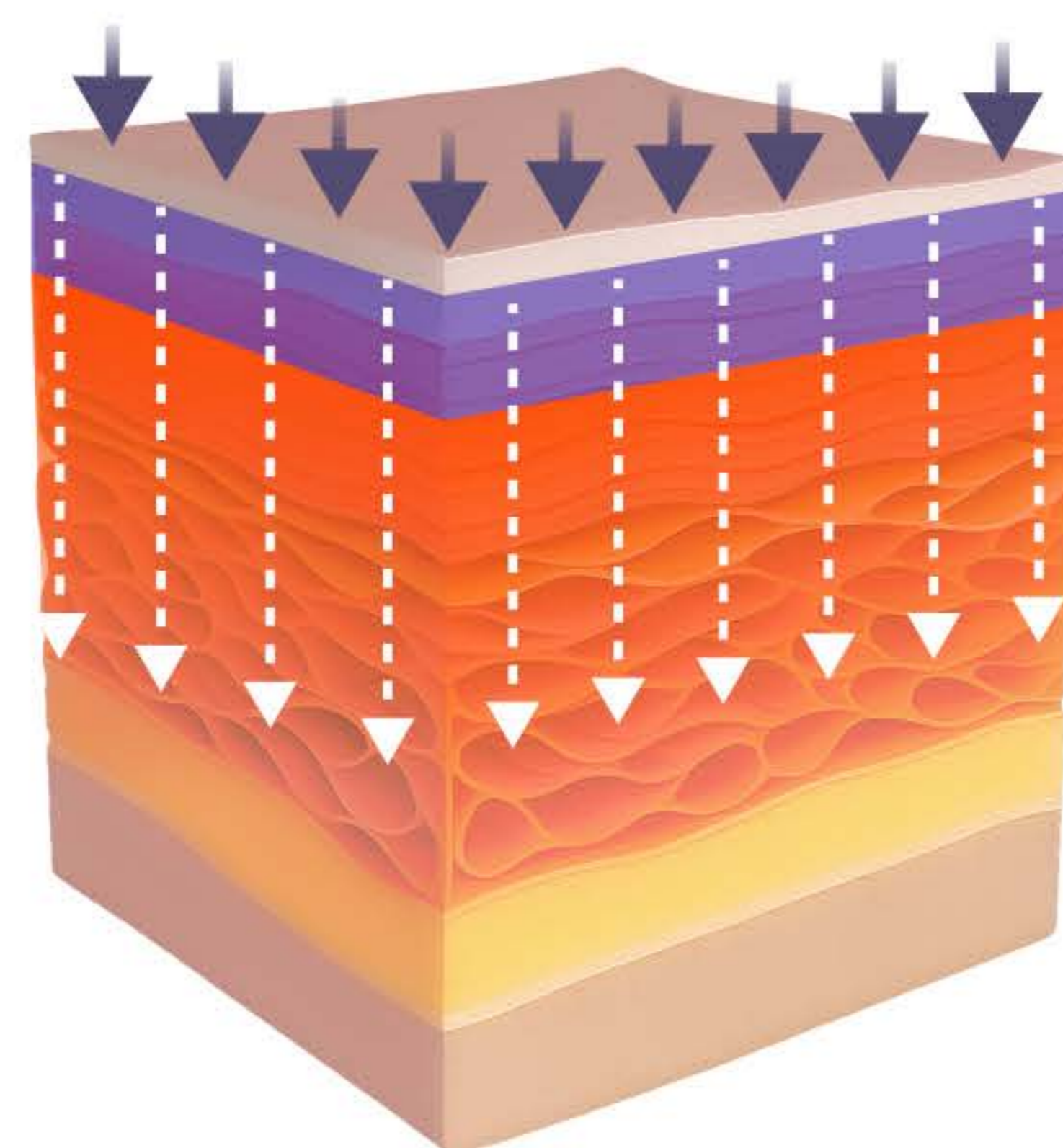
## Technology advantages

A key feature of **FiberLase CR** is efficient laser energy delivery into target tissues, designed to support pain reduction.

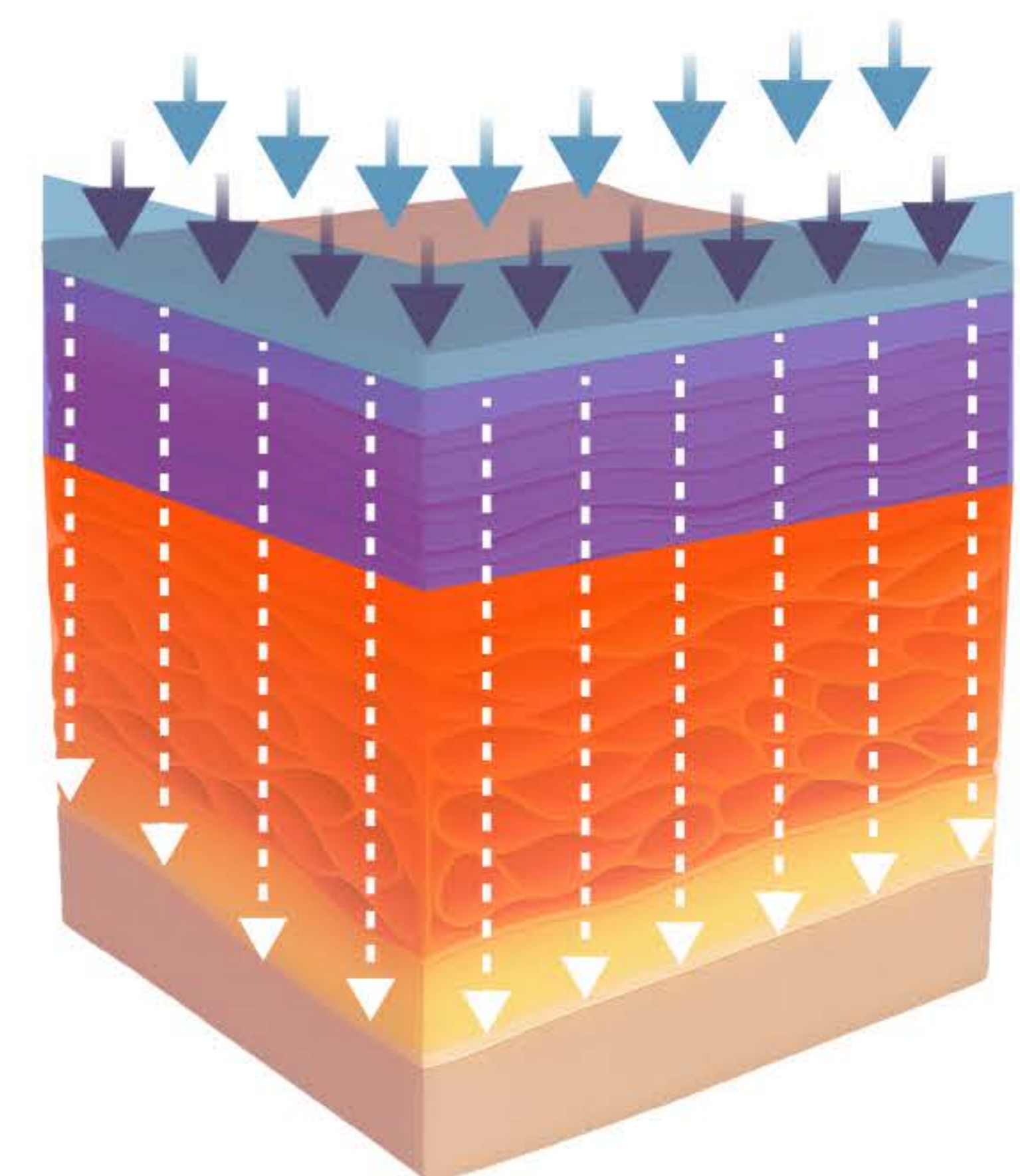
█ Photobiomodulation (PBM)  
█ Thermally enhanced photobiomodulation  
█ Cooling



**Low-Intensity Laser Therapy (LILT)**

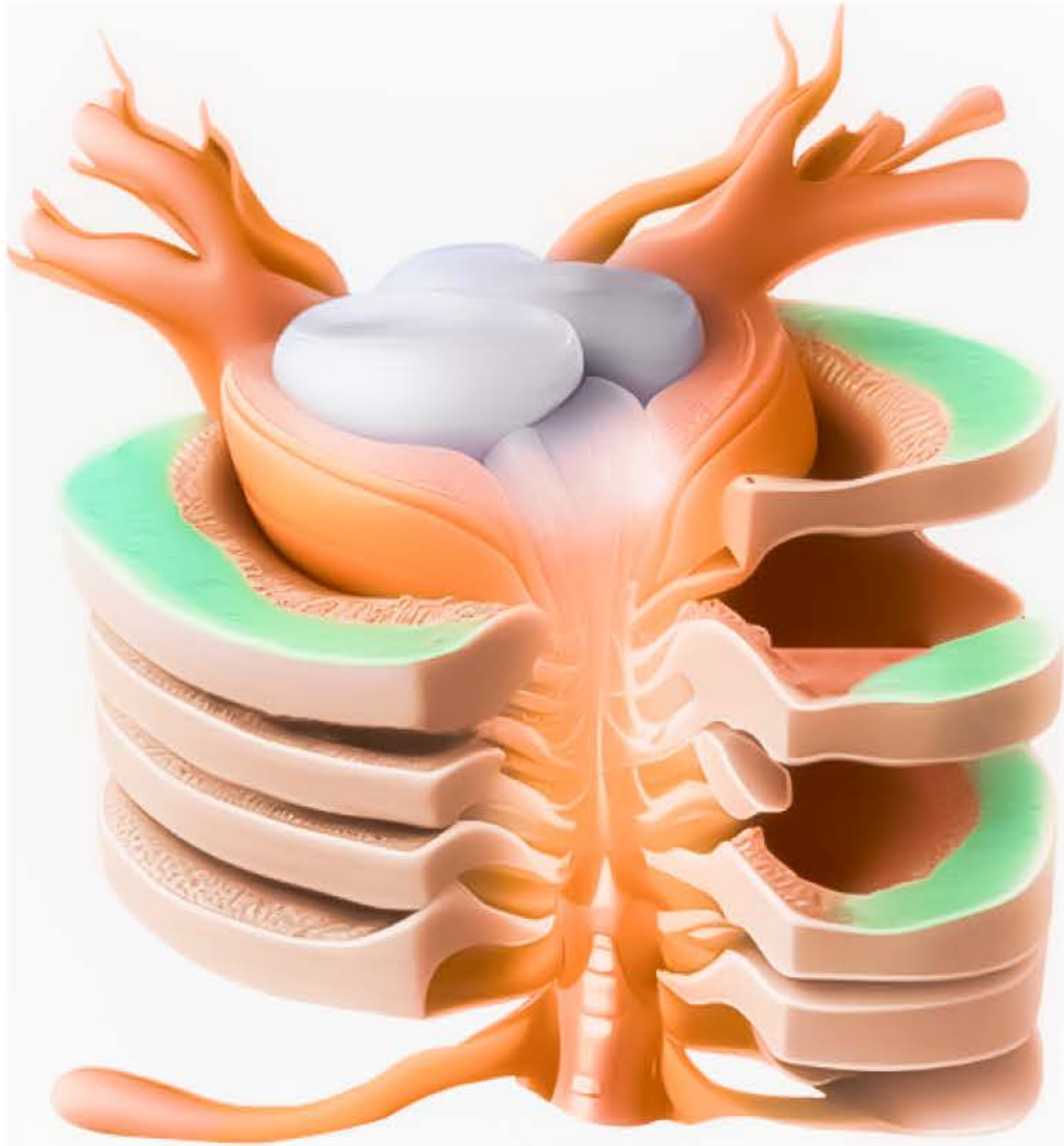


**High-Intensity Laser Therapy (HILT)**



**High-Intensity Laser Therapy (HILT) with a cooled (cryo) applicator**

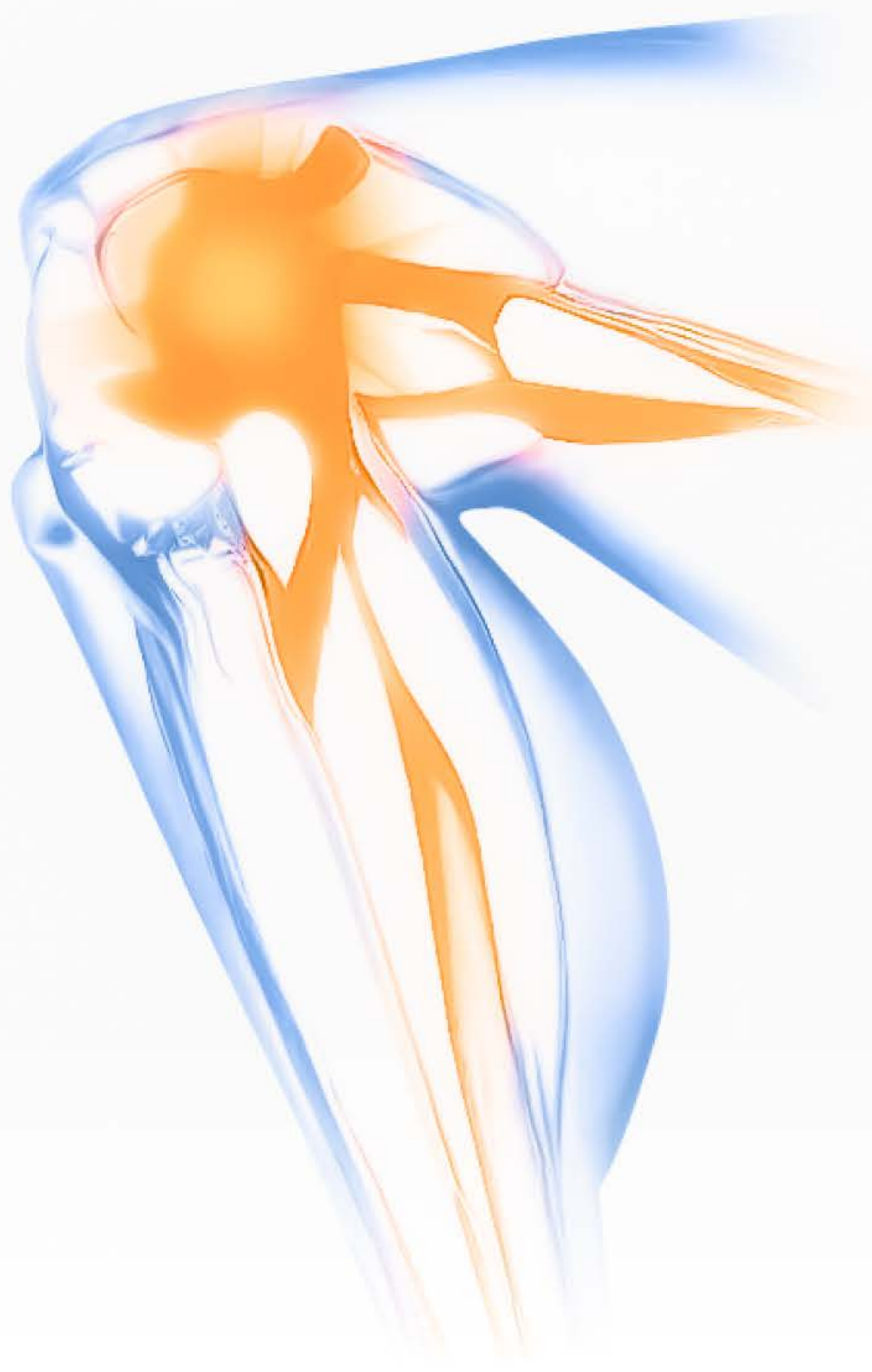
# Minimally invasive cartilage tissue regeneration



## Laser Reconstruction of Intervertebral Discs (LRD)

LRD is a minimally invasive cartilage reconstruction procedure using laser-induced micro-injuries to stimulate chondrocyte activity.

- Minimally invasive procedure
- Performed under local anesthesia
- Applicable to all regions of the spine
- Short rehabilitation period
- Procedure time: < 25 minutes
- May be used prophylactically in early stages
- Supports cartilage repair/regeneration



## Laser Reconstruction of Knee Joint Cartilage (LRK)

LRK is a minimally invasive knee cartilage procedure performed under spinal or local anesthesia. FiberLase CR uses dedicated laser parameters to support chondrocyte activity, improve cartilage nutrition (via microchannel formation), and promote cartilage repair/regeneration.

Stimulation of chondrocyte activity (cartilage-producing cells)

Improved cartilage nutrition through the formation of microchannels

As a result, support of cartilage tissue restoration in the joint

- Minimally invasive procedure
- Short rehabilitation period
- Procedure time: < 30 minutes
- No incisions and no scarring
- Intended to support cartilage tissue regeneration

### Optical parameters

Wavelengths, $\mu\text{m}$	0.98	1.55
Max power, W	25	10
Pilot laser wavelength, $\mu\text{m}$	0.65	0.52

### Technical specifications

Weight 15 kg

Fiber core diameter, $\mu\text{m}$	365 ... 550
Supply voltage, V	220 $\pm$ 10%
Dimensions (H $\times$ W $\times$ D), mm	272 $\times$ 272 $\times$ 273



# Pioneering precision laser technology

VPG LaserOne LLC (formerly IPG IRE-Polus Ltd.) is a vertically integrated company established by an outstanding Soviet scientist, Valentin Pavlovich Gapontsev, the founder of the international scientific and technical IPG Photonics Corporation.

VPG LaserOne is a globally recognized leader in fiber lasers and amplifiers, and devices and systems based on them. Drawing on deep expertise and decades of experience, VPG LaserOne LLC designs and supplies medical laser devices and surgical fiber for a wide range of applications.

VPG LaserOne develops advanced medical laser devices through a full-cycle process that includes device engineering, development of clinical application protocols, in-vitro research in its laboratory and clinical trials conducted with leading clinical centers.



**1991**

Year of establishment



**>1M**

Patients treated annually



**50+**

Patents in laser  
medical technologies



**>3000**

Medical laser systems  
installed worldwide since 2017