

# Laser Basics

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## LIGHT

Photons that travel in a wave and are measured in the electromagnetic spectrum

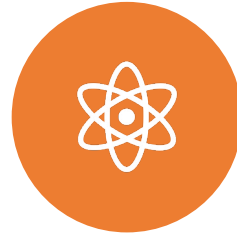
## LASER

The amplification of Light by Stimulated Emission of Radiation. As a device, a laser stimulates atoms or molecules to emit light at specific wavelengths and amplifies that light.

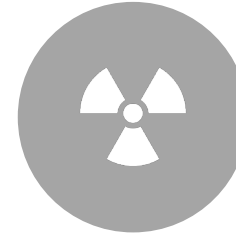


# LASER

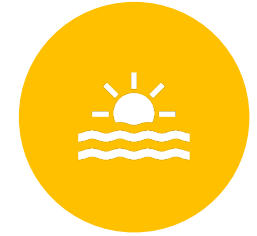
## Light Amplification by Stimulated Emission of Radiation



A DEVICE THAT STIMULATES ATOMS OR MOLECULES TO EMIT LIGHT AT SPECIFIC WAVELENGTHS AND INCREASES (AMPLIFIES) THAT LIGHT



IT TYPICALLY PRODUCES A VERY NARROW BEAM OF RADIATION



EMISSION GENERALLY COVERS AN EXTREMELY LIMITED RANGE OF VISIBLE, INFRARED, OR ULTRAVIOLET WAVELENGTHS



MANY DIFFERENT TYPES OF LASERS HAVE BEEN DEVELOPED, WITH HIGHLY VARIED CHARACTERISTICS



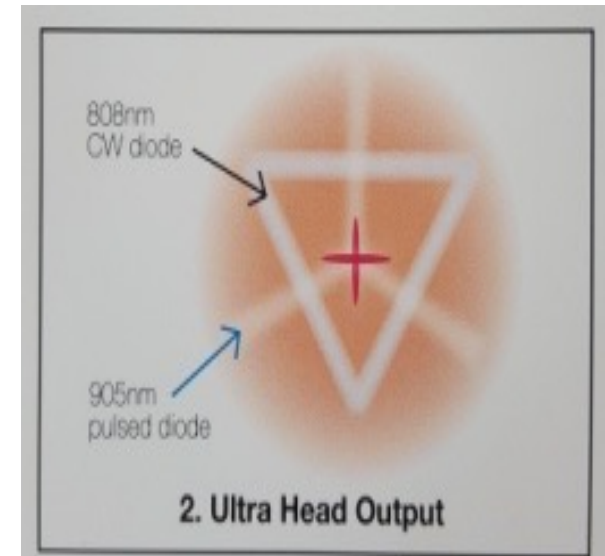
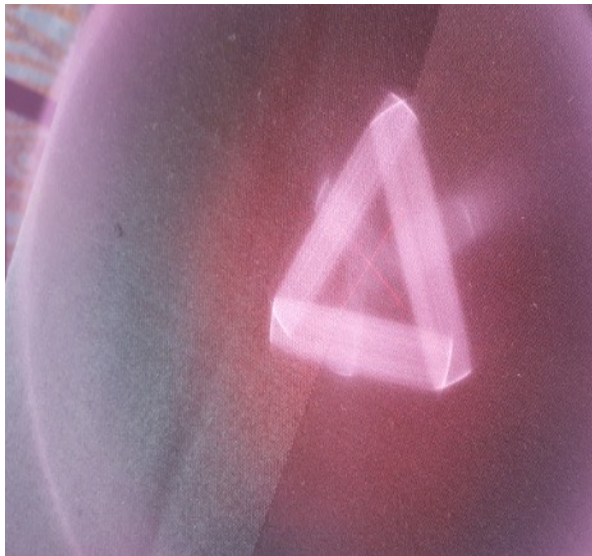
1916 THEORY BY ALBERT EINSTEIN

# Multiwave Locked System

Patented delivery system uses 2 specific wavelengths, simultaneously and synchronized: **808nm** (for inflammation and long-lasting effect) and **905nm** (analgesic and is fast acting)

Together they are very effective. Both are infrared; they are invisible to the naked eye but can be seen with a camera, or with an infrared sensor card or device

Cleared by FDA in 2002 for animal use; 2009 for human use



# MLS Wavelengths

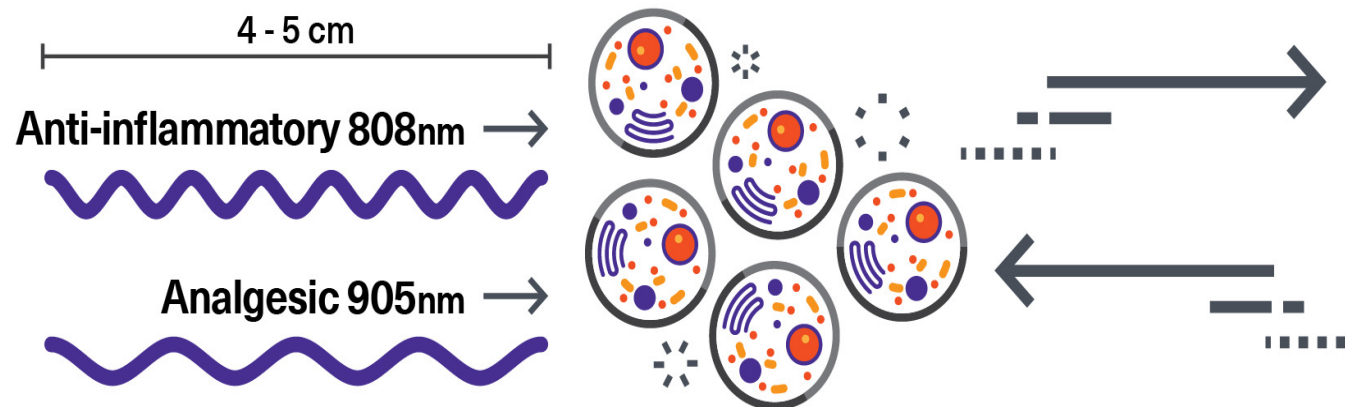
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## 905nm- pain

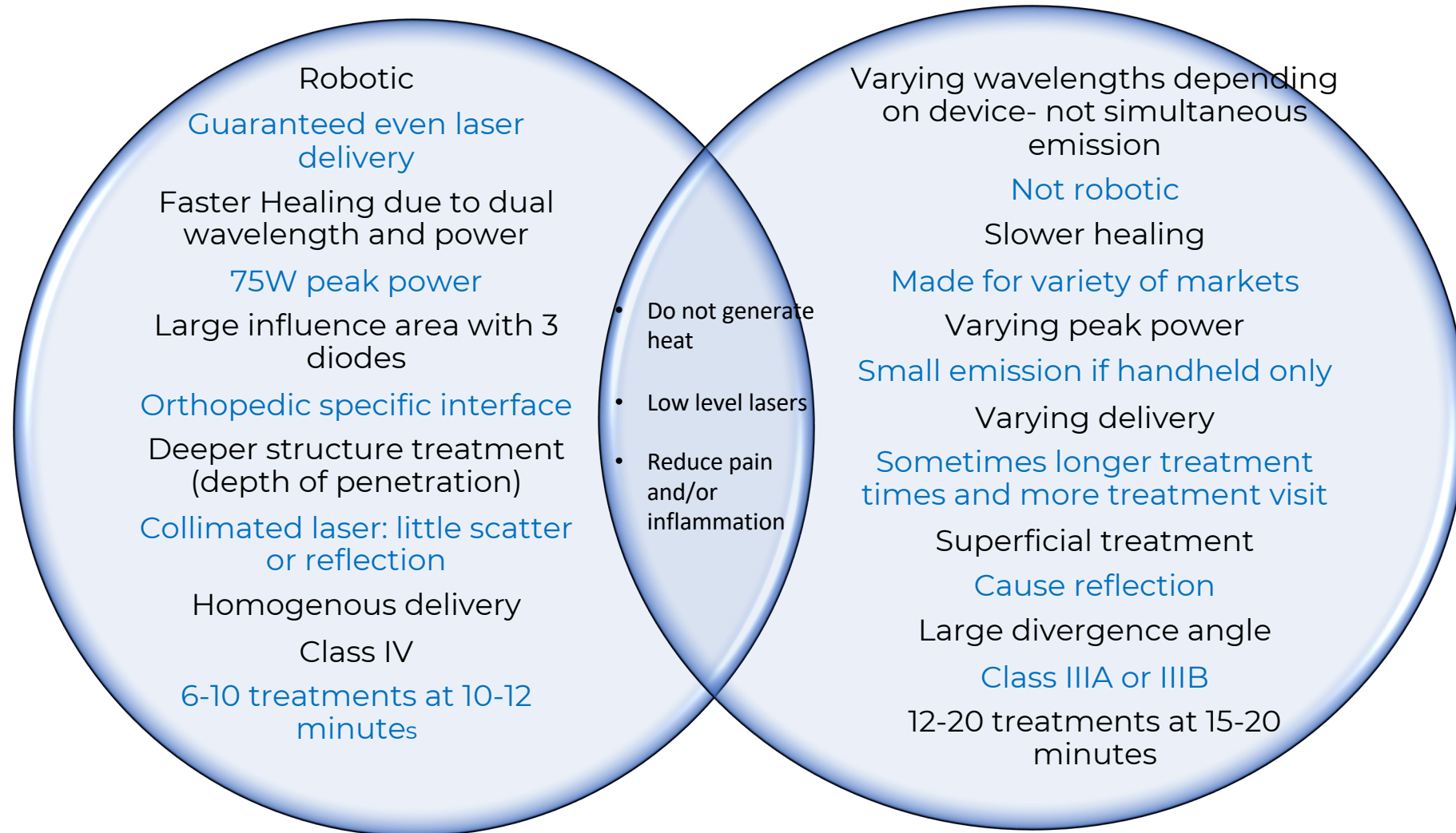
- Fast acting analgesia and accelerated healing
- Increase the activity of mitochondria respiratory chain complexes I, II, III, IV and succinate dehydrogenase
- Induces an increase in ATP synthesis that aids in healing process

## 808nm- inflammation

- Decreased edema and inflammation
- Affects the second absorption peak of cytochrome oxidase, which activates mitochondria to increase ATP production



# MLS vs Traditional LLLT



**MLS M8 Laser Therapy**

**Traditional LLLT**