

## 什麼是雷射針灸？

以相當低能量的雷射照射活生物組織，可以影響或改變其生理代謝功能，卻不會導致組織燒灼或損傷，在臨床實驗上已有相當的成果。

利用低能量的雷射照射穴道或筋肌模壓痛 區，可以解除疼痛、痙攣及其他功能性疾 痘、促進局部循環作用，此即所謂之光電磁效應或光生物調節作用 photobioregulation)或雷射針灸 (Laser Acupuncture)。

低能量雷射最早是由匈牙利 Mester 教授在 1969 年提出雷射生物刺激理論(laser biostimulation)後，便開始在東歐國家蓬勃發 展，接著在蘇聯、法國、加拿大以至全世界 各地也都跟著風起雲湧起來。

近年在世界各國已被廣為接受，並有專門的研究學會成立。

Laser therapy was not approved for any indication by the Food and Drug Administration (FDA) in the USA until 2002.

簡單來說是波長 450 nm 到 1100 nm 的其中之一，又因製程中產生雷射光束的介質不同， 相對會有不同目的使用的雷射生成。而低能 量雷射在國外的定義是輸出功率介於 10~1000 毫瓦的雷射都稱之為低能量雷射。

Laser were divided into five categories (class 1,2,3A,3B,4) according to their potential to damage to the eye.

Classes 1-3A are considered safe, whereas Class 3B involves a certain risk and Class 4 a definite risk.

The use of normal sunglasses increases the risk of eye injury!!!

依據雷射光束輸出的方式，可區分為 連續波式(continues wave)、與脈衝 波式 (pulsed wave);一般而言，雷 射的脈衝時間越短，其能量越集中， 因此，對相同能量的雷射光束而言， 脈衝時間越短者其功率越高。雷射脈 衝時間的長短會直接影響鄰近組織的 破壞程度，故脈衝時間越短的雷射對 標的物的作用將更具選擇性。

目前較常用於雷射針灸的有氦氖雷射 (波長 632.8nm)、鎗化砷雷射(波長 904nm)、雅克雷射(波長 1006nm)等低 能雷射(Low Level Lasers)。

最早的雷射為紅寶石雷射(Ruby laser)

### **Advantages of laser-acupuncture**

1. Shorter therapy duration (10-20 seconds /point).
2. Points which are difficult to treat with a needle (mucous membranes, wounds, joints, etc.) can be included in the treatment.
3. Painless therapy (for the sensitive patients, children, etc.)
4. Used in those cases for which classical acupuncture does not recommended the use of needles (asthenia).
5. Aseptic (sterilization not necessary)
6. Can be used to complement and extend the needle program if additional points are required to optimize energy flow.

### **Contra Indications**

1. irradiation of the eyes
2. over the thyroid gland and endocrine glands, testicles
3. on patients with pace makers
4. no treatment on the head on patients with a tendency for epilepsy
5. irradiation of the fetus and over the uterus during pregnancy
6. irradiation of the epiphysis (children), open fontanel
7. on patients taking zytostatics/immune suppressions
8. over cancerous or malignant areas, tumor patients
9. Regarding the treatment of cancer existing different opinions and researches. The cellular reaction after irradiation is not described sufficiently, therefore precaution is important.