

## Surgical applications of the laser

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Some applications of the laser to the problems of general and specialty surgery are reviewed. Numerous published studies by the author since 1963, confirmed and extended by colleagues elsewhere, have made a definite place for the addition of laser instruments to operating rooms through out the world.

The surgical properties of lasers allow for therapeutic action on all tissues and include vaporization, cutting, relative hemostasis and sterilization. These are useful for removal of unwanted tissue such as neoplasms, especially when ulcerated, oozing blood or infected. Debridement by laser or decubitus ulcers and burn eschars has been shown in animals and patients to be highly effective, leaving a viable bed readily accepting rotation flaps and skin grafts.

When operated properly, the CO<sub>2</sub> and other lasers are safe for patients and personnel. There is no added risk at the site of lasing or in remote organs either immediately or by delayed action.

Rapid advances are being made in otolaryngology, gynecology and ophthalmology and further exploration in general and orthopedic surgery and the author's own field of neurosurgery can be expected. Higher power densities and newer lasers acting selectively on different tissues may be available in the future.

Illustrative slides and movies will be shown.

# 激光器的外科应用

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本文综述了激光在普通外科与专门外科中的某些应用。作者自 1963 年以来发表的各项研究成果经过世界各地同行们的证实与推广,从而使激光仪器出现在世界各国的外科手术室中。

激光器的性质使它能治疗所有组织,它能起气化、切除、相对止血与消毒等作用。这些对于切除不想要的组织,特别是溃疡性、渗血或感染的赘生物是很有用的。对动物与病人用激光所作的褥疮溃疡与烧伤焦痂清创术证明激光是很有效的,留下随时能旋转皮片与植皮的可生存的基底。

只要运转正常,CO<sub>2</sub>激光器与其它激光器对病人与医生都是安全的。对激光作用处以及其它远处的器官都不会立即或事后产生其它危险。

在耳喉科、妇科以及眼科方面正取得迅速进展,在普通外科,矫形外科和作者从事的神经外科可望获得进一步的发展。将来可能得到的功率密度更高、更新型的激光器,专门用于不同组织的手术中。