

Welcome to the 21st Century in Veterinary Laser Surgery. As growing numbers of veterinary clinicians are beginning to appreciate the many ways in which a laser can benefit their patients and their practice, Aesculight has designed a family of fine surgical CO₂ laser systems that combine state-of-the-art laser science with the latest advances in digital technology.

In certain procedures, better hemostasis and visibility will reduce overall surgical time. The skin of the perianal region is thin and sensitive. The carbon dioxide laser is very effective in controlling hemorrhage from vessels smaller than 0. This is sufficient in controlling most hemorrhage caused from the rich blood supply of the perianal region. The perianal region is contaminated with bacteria. The carbon dioxide laser photothermally vaporizes bacteria, so that bacterial numbers are decreased, which helps reduce the risk of postoperative infections. These factors help the patient recover quicker and return to function sooner. The light emitted from a carbon dioxide laser has a wavelength of 10, nm, which is in the far-infrared light spectrum. This wavelength of light is highly absorbed by water, creating a thermal effect. Because all soft tissues in the body are composed mainly of water, the carbon dioxide laser penetrates very shallow into tissue, and there is very little collateral thermal damage. This interaction makes the carbon dioxide laser a useful tool for incising, excising, and photoablating soft tissue and allows for fine, controlled dissection of tissue. Finally, the carbon dioxide laser seems to have a lower learning curve when compared with other types of lasers. Conjunctiva treatment, cherry eye, distichia, ectopic cilia, lacrimal punctotomy for epiphora, entropion, meibomium gland excision, eyelid tumor removal, hemangioma removal, scleral corneal mass removal, keratectomy, mast cell tumors, squamous cell carcinoma removal, and epiphora. CO₂ lasers intended for dental applications are CW lasers. The CO₂ wavelength is absorbed by the water content of oral tissues. Thermal necrosis zones of to 1m at cut tissue edges are typical, providing better oral structure safety compared with other lasers neodymium: YAG], argon, and diode , which may penetrate up to several millimeters. YAG laser where no immediately visible change appears in the tissue surrounding the zone of vaporization. YAG laser, it is difficult to estimate the true extend of thermal necrosis. This advantage of replacing traditional excisional techniques with CO₂ laser ablation permits removal of the damaged epithelium with as little as 0. CO₂ lasers are used for oral, soft tissue procedures, such as gingivectomy, gingivoplasty, frenectomy, and biopsy. Tissue vaporization is more efficient with the CO₂ laser than with other lasers discussed because of the direct absorption of this wavelength by water.. Acral lick granuloma ablation, cutaneous masses: This laser is the primary laser in use today in veterinary dermatology. The operator can easily control the device for use in three ways: It can be readily controlled for precise microsurgery or can be used for ablating larger lesions. Because of its high absorption by water, there is little to no collateral tissue damage with this laser when used properly.

Chapter 2 : Laser Surgery for Pets | Animal Medical Hospital, Charlotte NC

Veterinary Laser Surgery benefits surgeons and patients. Unlike steel blade scalpel-based techniques, there is no mechanical contact with the tissue when the CO2 surgical Aesculight or Luxar veterinary laser is deployed.

How the Aesculight CO2 laser cuts: Interaction of laser light with the living tissue provides a fundamentally different approach to surgery than conventional scalpel procedures. The CO2 laser emits an intense beam of light that, because of its wavelength of 10.6 micrometers, is absorbed by water in the tissue. The resulting concentration of laser energy into a shallow, well-defined volume of penetration, unique to the CO2 laser, ensures safe, efficient and predictable tissue removal, while minimizing the zone of necrosis at the margins of the cut. The CO2 laser beam has little or no effect on the tissues beyond the target area. How the Aesculight CO2 laser ablates and coagulates soft tissue: The tip does not mechanically touch the tissue. When the tip is held just above the surface of the tissue, the laser is ready for incisional work; small blood vessels, capillaries and nerve endings are sealed as the laser beam proceeds along the target. Moving the tip even farther away enables the coagulation of larger blood vessels. The many uses of Aesculight veterinary lasers: The Aesculight CO2 laser system is used for incision, excision, vaporization, ablation, and coagulation of soft tissue in various veterinary practice types, such as general small animal practice, as well as specialty and referral practices dermatology, ENT, ophthalmology and other specialties. Aesculight also has application in ano-uro-genital procedures, orthopedics, oncology, elective procedures such as spays, neuters, dewclaw removal, etc. You can read about clinical outcomes of Aesculight laser surgery in the Case Studies section of this website, which is compiled of real cases published in the Educational Series of the Veterinary Practice News. A rapidly expanding use of the CO2 laser technology is in removal of unsightly warts and cysts. Many pet owners were previously reluctant to subject their pets to the trauma of surgery, even for these minor procedures. Now they can be performed quickly and easily, with very little pain. Reduced pain and swelling promote a quicker recovery. Less bleeding simplifies surgery, shortens it and may reduce the need for and the duration of anesthesia. Instant sterilization of the wound lowers risk of infection. Minimized overall trauma for the patient. Moreover, there are certain laser surgery procedures that veterinarians consider laser-specific, as the technology is easy to maneuver and it permits quick debulking with control of bleeding. Noteworthy named among such lesions oral tumors, odontogenic tumor epulis around the teeth, eosinophilic granulomas at the base of the tongue, some facial tumors because appropriate margins are not always possible, and perilaryngeal tumors. Aesculight laser products are successfully used for incision, excision, vaporization, ablation, and coagulation of soft tissue in many veterinary specialties. Briefly, Aesculight offers the following essential features: The Aesculight team has used this technical expertise to devise and manufacture its next-generation flexible fiber CO2 laser systems. The outcome was an efficient, powerful, precise, and overall excellent surgical laser. Over 12,000 physicians, dentists and veterinarians across the world have enjoyed numerous clinical benefits of the Aesculight CO2 laser products. Please read what your colleagues say about their experience with Aesculight CO2 surgical lasers. Maximum accessibility The Aesculight pen-like handpiece is used in close proximity to tissue, providing a natural, intuitive feel and superb accuracy. Aesculight patented flexible fiber waveguide technology ensures the ease of access to hard-to-reach surgical sites – the issue that would be difficult or impossible to address with an articulated arm system or scalpel particularly ear, nose and oral cavity, airways, etc. Aesculight even has accessories that bend the beam around corners! Importantly, the Aesculight flexible fiber waveguide is light and quite easy to maneuver, which allows the surgeon to move during the surgical procedure and does not fatigue the operating hand and shoulder, unlike articulated arm systems. Made in USA The Aesculight team takes great pride in the highest quality and precision of our veterinary surgical laser systems. Aesculight veterinary laser products are designed, built, and serviced in Bothell near Seattle, Washington. The Aesculight technical support service is located right at the manufacturing facility, prepared to deal with any questions or concerns veterinarians may have about their laser systems. Conclusion Aesculight is an excellent surgical laser with greater precision, versatility and ease-of-use than scalpel or electrocautery. It is specifically designed to help the clinician improve the quality of patient care and facilitate

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the growth of the veterinary practice. For a laser demo in your office call 1 Want to learn more about Aesculight laser surgery? Please fill out the form below and we will be in contact with you as soon as possible.

Chapter 3 : Veterinary Lasers designed for use in Veterinary Surgery - Excel Lasers

The SMARTm range of diode lasers from Lasotronix is available in 15 W and 30 W powers at www.calendrierdelascience.com state-of-the-art lasers are suitable for all types of veterinary laser surgery and laser therapy.

Laser Surgery I just want to let you know that having my master take me to see Dr Duclos at the Animal Skin and Allergy clinic is just about one of the best things that ever happened to me. Thanks so much, Sam. Duclos when we rescued him in February. He had a horrible skin problem, especially around his neck and paws. He has been healed by the power of Dr. I took him to see Dr. Duclos who tested him for what he was specifically allergic to and got him just that right medicine to take care of his allergies! Duclos and his team you are the best! His underside was red and sore, he was very uncomfortable. Her skin broke out in rashes and lesions, and she was itching so badly that it kept the entire house up at night. Since Sydney started seeing Dr. Maggie, our mini-labradoodle, developed an uncommon disease that our regular vet was unable to diagnose. Dr Duclos recognized it immediately and his treatment regimen has given us back our little friend with gusto. Thank you Dr Duclos! The Vet was super nice and took care of her the same day. Took our golden retriever, Duke to see Dr Duclos. Duke had been scratching for almost 2 years. Dr Duclos did some skin testing and prescribed allergy shots with some medications. Duke is now itch free and a happier dog. Animal Skin and Allergy Clinic does not provide any veterinary medical services or guidance via the Internet. Veterinary Website by Beyond Indigo Pets.

Chapter 4 : Veterinary Laser Surgery | Surgical Vet Laser Equipment | Aesculight

*Drs. Noel Berger and Peter Eeg, practitioner pioneers in the development of laser use in veterinary medicine, have further contributed to the advancement of the technology with their book *Veterinary Laser Surgery – A Practical Guide*.*

Chapter 5 : Veterinary surgery laser - All medical device manufacturers - Videos

"The CO2 laser proved to be an excellent choice for laser surgery because of the ability to limit the zones of damage to microsurgery with little to no collateral damage. This laser is the primary laser in use today in veterinary dermatology.

Chapter 6 : Castle Pines Veterinary Clinic - Pet Surgery - Veterinary Surgery

Currently co2 laser has been widely used in veterinary surgery procedures. Laser surgery can be used for dogs, cats, rabbits, horses, ferrets, birds, and exotic animals. The common clinic applications of CO2 laser include declaws, tumor removal, spays and neuter, and amputations.

Chapter 7 : South Bergen County NJ Animal Clinic: Laser Surgery & Therapy

Carbon dioxide (CO2) lasers have become a standard of care in veterinary surgery. Delivering the ideal wavelength (10.6µm) for all soft tissue surgery, CO2 lasers provide increased precision and result in reduced hemorrhage, swelling, pain and tissue trauma. CO2 lasers also facilitate many laser.

Chapter 8 : Laser Surgery for Cats, Dogs, Birds and Exotic Pets at Ridgewood Veterinary Hospital

Veterinary Laser Surgery: A Practical Guide is a fascinating look into new technology that is within the grasp of most veterinarians and research personnel. The guide provides an excellent foundation for the physics behind laser energy in addition to underscoring the importance of safety for the staff and patients alike.

Chapter 9 : Crane Medical Class 4 Diode Veterinary Lasers for Therapy & Surgery

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The 40 Watt CO2 Laser System sets a new standard in veterinary laser surgery by combining the advanced features of previous models with new technology for clinical effectiveness, operator convenience and lower cost of ownership.