



# Sweetwater Veterinary Clinic

333234 Agua Dulce Cyn. Rd.

Agua Dulce, CA. 91390

661-268-8128

[www.sweetwatervet.net](http://www.sweetwatervet.net)

# Laser Therapy

Uses of Therapeutic Laser Therapy in Large and Small Animals

- 1) What is Laser Therapy
- 2) How Does Laser Therapy Work
- 3) What are the Potential Benefits of Laser Therapy
- 4) What are the Potential Concerns With Laser Therapy
- 5) Some Examples of How Laser Therapy can be Used in Small Animals
- 6) Some Examples of How Laser Therapy can be Used in Horses
- 7) Questions

What is Laser Therapy?

Black Magic or ????

Laser is an acronym for “light amplification by stimulated emission of radiation”. Therapeutic Laser Therapy involves the use of focused infrared light. The therapeutic range of wavelengths is 650 to 1300 nanometers. This light is both able to affect the cells on the skin’s surface as well as being able to penetrate the skin to the underlying cells. The infrared light is able to stimulate multiple positive processes within the cells resulting in an increase in cell energy, repair, regeneration, a decrease in inflammation and a decrease in pain. This process is called Photobiomodulation

## How does laser therapy work?

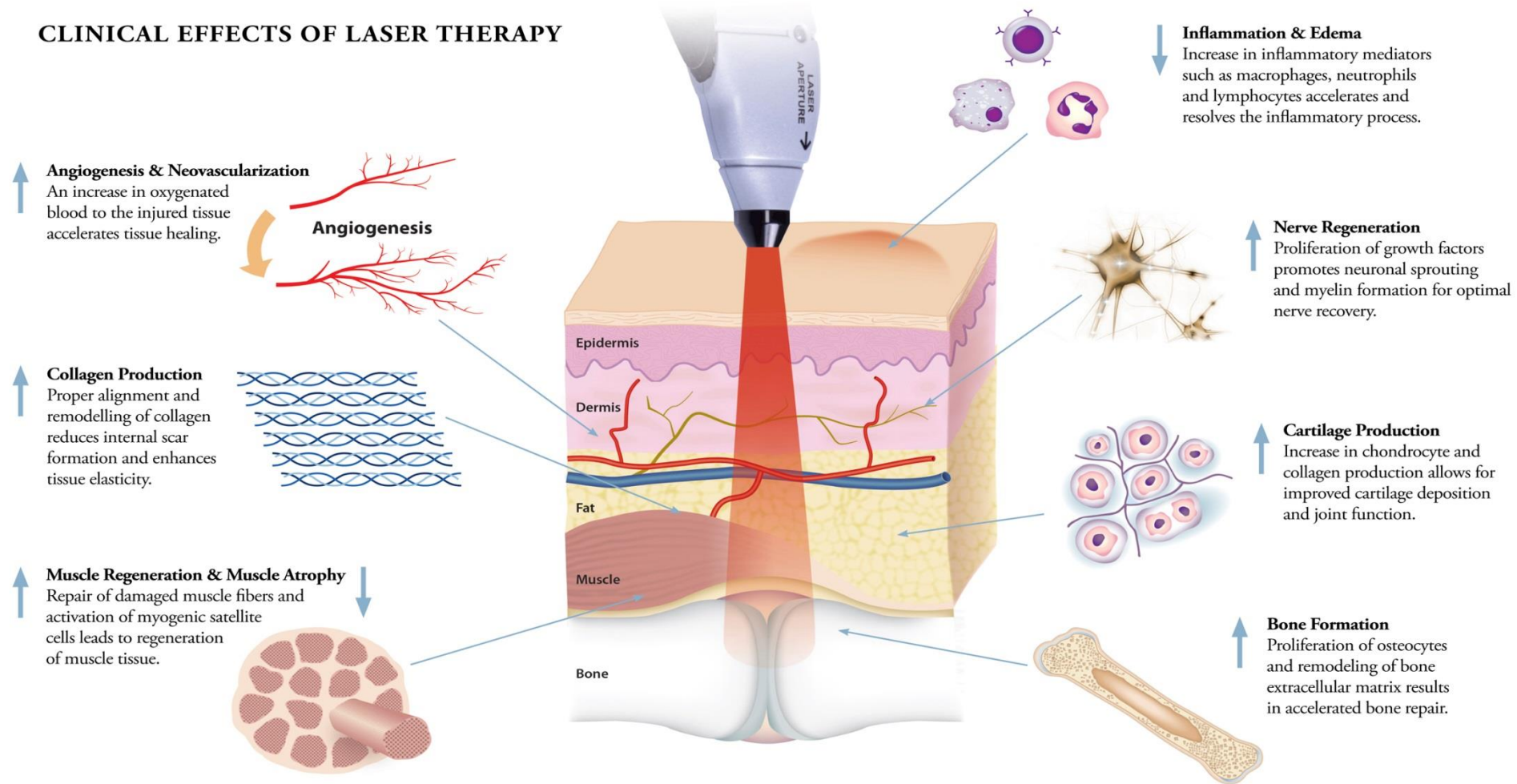


- Photons of laser light penetrate deep into tissue
- These photons are absorbed in the cells which initiates a photo-chemical response





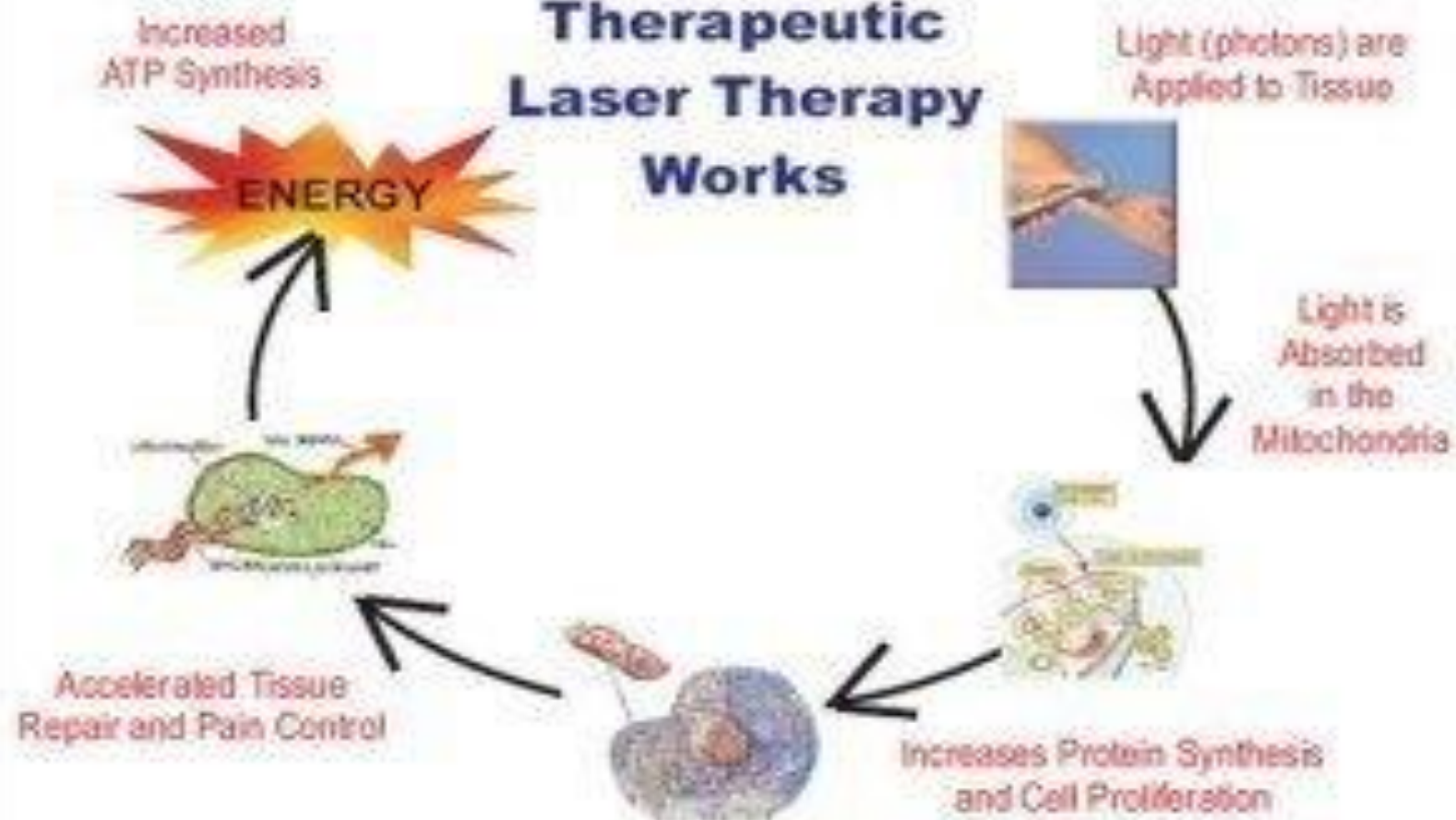
## CLINICAL EFFECTS OF LASER THERAPY



How does Laser Therapy Work?

The infrared light, at the correct wavelengths, is able to penetrate cells without being absorbed by collagen, hemoglobin, or for the most part water. Once the light penetrates the cells, it interacts with the mitochondria, the energy engines of the cells. With stimulation, the mitochondria produce an energy source (ATP) as well as other chemicals which stimulation cell growth and regeneration, a decrease in inflammation, and a decrease in pain.

## How Therapeutic Laser Therapy Works



What are Some Potential Benefits of Laser Therapy?

- At SVC, we were committed to Laser Therapy for its potential to decrease pain and inflammation with no significant side effects.
- Laser therapy is not uncomfortable
- It stimulates wound healing
- The pain and inflammation of arthritis can be reduced
- Bone, Muscle, Tendon, and Ligament injuries, and associated pain and swelling, can be stimulated to more rapid healing
- Surgical sites are stimulated for more rapid healing

What are Some of the Potential Concerns  
With Laser Therapy?

- Laser generated light, being focused infrared light, has the potential to cause damage to sensitive tissue in several different ways
- SVC uses a class 4, 15 watt laser. This is a very powerful tool and presents increased risk.
- Eye: Internal eye structures are very sensitive to focused infrared light. Retinal damage and partial or severe blindness can result. All individuals in the treatment area must wear eye protection during any procedure.
- Skin: On higher power settings with a class 3 or class 4 therapeutic laser, extreme care must be taken to avoid prolonged exposure to one specific area. Otherwise, skin trauma and thermal burns can result.
- Pregnancy: Multiple organs in a developing fetus can potentially be affected by light trauma. Therefore, extreme care must be taken exposing a pregnant individual to therapeutic laser light.
- Tumors: Laser Therapy should not be used as may stimulate negative growth









Some Examples as to How Laser Therapy can  
be used in Small Animals

- Post tooth extraction in Dental procedures
- Difficult to heal wounds
- Inflamed ears
- “Hot Spots”
- Inflamed anal glands
- Stimulating surgical incisions for faster healing
- Stimulating delayed bone fracture healing
- Injured tendons and ligaments
- Arthritis

















Some Examples as to How Laser Therapy can  
be used in Horses

- Gingivitis
- Stimulating healing in difficult to heal wounds
- Muscle soreness
- Sore Backs
- Sore Upper Legs
- Stimulating healing in tendon and ligament injuries
- Arthritis







- If laser therapy is not effective in treating an appropriate condition, either therapy has not occurred long enough or frequently enough or an additional condition exists





Questions

# Thank You

- The Staff and Doctors at Sweetwater Veterinary Clinic
- The Staff at Acton Agua Dulce County Library
- Acton Town Council
- Los Angeles County Board of Supervisors
  
- Everyone who makes the time and effort to attend our talks!