

# THE LASER REPORT

Volume 1, Issue 1

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## MEDITECH HOSTS LOW INTENSITY LASER THERAPY WORKSHOP

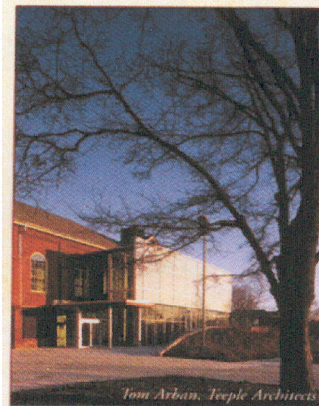
On January 31, 2003 Meditech held its third Laser Therapy Workshop at the Toronto Assembly Hall. The Workshop was attended by international guests that included medical practitioners, academics, students and the Toronto media. Presenters included:

Dr. Leonard Rudnick, DC, a renowned Arizona laser therapy specialist with experience from over 50,000 treatments. He covered insightful and pragmatic

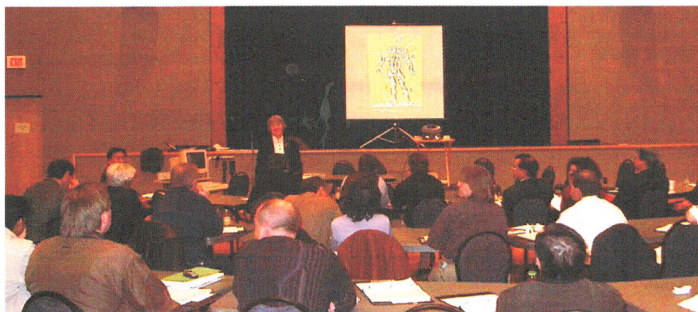
perspectives with respect to pain.

Dr. Mary Dyson, PhD MiBio; an international renowned Soft Tissue Injuries Authority from the U.K. and is a visiting professor at the U. of Kansas Medical Center. Dr. Dyson enlightened a receptive audience on the interactions between laser light and tissue cells. Both presentations were dynamic, insightful and

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Assembly Hall Toronto- Humber College Campus- Site of Meditech's LILT Development & Application Workshop



Dr. Mary Dyson lecturing on the benefits of LILT on chronic injuries.

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### Quarterly Newsletter

- Subscribe to our monthly newsletter and other updates. Send your request to [info@meditech-bioflex.com](mailto:info@meditech-bioflex.com)
- Check out our website at [www.meditech-bioflex.com](http://www.meditech-bioflex.com)
- Visit Meditech at the NATA (National Athletic Trainers' Association) Tradeshow June 25-27 St. Louis, MO.

## PRESIDENT'S MESSAGE- LETTER TO THE EDITOR- TIME MAGAZINE

In response to the Time Magazine December issue- "The Age of Arthritis....What you can do to protect yourself," Dr. Fred Kahn, CEO of Meditech responded to the Editor of Time Magazine New York.

"I recently had the opportunity to read your Time article on "The Age of Arthritis" [Dec. 9]. Although it was a well researched article it failed to acknowledge the most effective therapy for arthritis sufferers, i.e. Low Intensity Laser Therapy. I am a physician based in Toronto and discovered this technology approximately 14 years ago. I was sufficiently impressed by the potential that I began my own research and educational process. Currently we produce for the health care market the most advanced and sophisticated Low Intensity Laser Device on a global basis. Our therapeutic devices are used by MD's, chiropractors, physiotherapists and sports therapists. We treat many high level athletes and it is used by .....cont'd page 3





## FAQ'S—ALL ABOUT LASER TECHNOLOGY

**Q.** Laser is an acronym for what term?

**A.** Laser is an acronym for "Light Amplification by Stimulated Emission of Radiation."

**Q.** What is LILT Low Intensity Laser Therapy

**A.** Low Intensity Laser Therapy (LILT) is also known as Low Level Laser Therapy, Low Energy Laser Therapy and is used to describe the process of Photo Bio Stimulation.

**Q.** What is laser Therapy?

**A.** It is the use of monochromatic light emission that utilizes superluminescent and laser diodes to irradiate

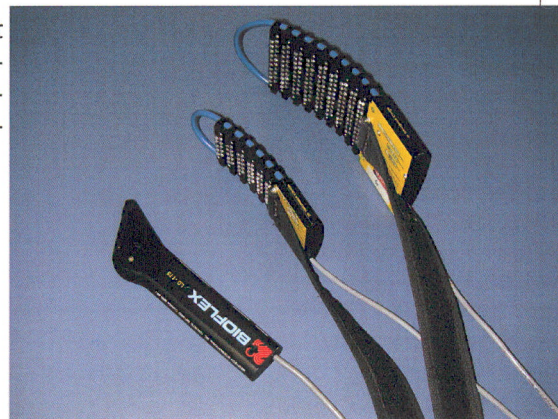
abnormal tissue with photons that are absorbed by a variety of biomolecules resulting in the conversion of light into biochemical energy.

**Q.** Is laser therapy scientifically well documented?

**A.** There are over 2500 research reports published. The book "Low Level Laser Therapy - clinical practice and scientific background" is the most recent reference guide for literature documentation.

**Q.** Which type of Lasers are used in the treatment?

**A.** Red and Infrared lasers are used



in the Bioflex Professional System.

## LASER SAFETY AND REGULATORY APPROVALS

Regulatory approvals are required by Health Canada, FDA and CE as a measure to provide a high level of assurance that the design and manufacture of devices consistently meets required specifications and to minimize the occurrence of problems / defects. Generally, quality systems are designed to increase the assurance of safety and effectiveness of medical devices. Low Intensity Laser

Therapy is an accepted therapy

*The Bioflex device is clinically approved by Health Canada.*

by Health Canada. Meditech has demonstrated clinical efficacy and compliance with all required safety standards. In addition, the Bioflex Professional System device is UL and CSA approved.

The BioFlex Professional System uses Class 3B lasers as part of the system. Class 3B lasers can be a hazard if viewed directly (Which includes intrabeam viewing of specular reflections). Normally, Class 3B lasers will not produce hazardous

diffuse reflections.

Safety measures for using Class 3B lasers are as follows:

- Wearing safety glasses for the therapist, patient and bystanders,
- Never pointing the laser at a person's eyes,
- Only allowing certified personnel to operate the laser and
- Displaying laser signs outside a treatment room where the laser is being used.

## UPCOMING LILT SEMINARS/EVENTS/TRADE SHOWS

Events	SHORT DESCRIPTION
April 4-6 2003	3RD annual Conference of the North American Association for Laser Therapy—Bethesda MD
April 9-13 2003	24th Annual Conference of the American Society for laser Medicine and Surgery— Anaheim,CA
April 9-13 2003	Primary Care Today—Education conference and medical exposition Toronto, Ontario May 8-10 2003





# WOUND HEALING & LASER THERAPY

Cont'd from Page 1—TIME MAGAZINE ...numerous sports franchises such as the Miami Heat and Toronto Raptors of the NBA as well as the Toronto Maple Leafs of the NHL. Numerically, the greatest beneficiaries are arthritis sufferers. These include individuals afflicted with degenerative osteoarthritis of the knees, hands, shoulders, hips and back. Many of the patients who come to us by word of mouth are carried in or utilize canes or wheelchairs. Many have been bedridden for years. After 8 to 20 treatments which are totally nontraumatic, they become ambulatory and most lose their drug dependencies; most significantly they experience dramatic pain reduction and regain mobility and quality of life. These include patients who are taking up to 30 Tylenol per day and over the past year, have taken as many as 14 different medications at the same time. The latter in itself results in an addiction problem often worse than the basic pathology. Laser Therapy acts by converting light energy into biochemical energy, resulting in normal cell function which causes the symptoms to disappear. Aside from the elimination of inflammation, ablation of scar tissue and osteophytes, there is no doubt that clinically cartilaginous regeneration occurs. In our teaching clinic attached to our corporate headquarters, we do approximately 350 patient treatments per week and our significant improvement/cure rate exceeds 90% (this without the use of medications, all of which have a toxic factor). Patients at the completion of their treatment often state "Why doesn't my doctor know about this?" As Marshall McLuhan said, "The medium is the message". Perhaps the medium should re-evaluate its objectives. I have spent my whole life in the field of medicine and this is the most dramatic therapy that I have encountered. How can we inform the world?" Dr. Fred Kahn, M.D., F.R.C.S.(C)

**Wound Healing Seminar** presented by Dr. Mary Dyson explained the benefits of treating wounds with Low Intensity Laser Therapy (LILT).

## Principle

LILT used in addition to best clinical practice in the management of soft tissue injuries, can help improve tissue repair.

Monochromaticity is essential, producing the healing effect. Mitochondria, present in all cells, contain cytochromes that absorb red light. Some cells absorb some wavelengths of infrared radiation while other cell types absorb other IR wavelengths.

## Application

When treating a closed lesion the LILT probe can be placed in direct contact with the skin. When treating an open wound LILT is usually applied through a transparent dressing via a treatment array. This can either be placed in contact with the dressing or held above it if the wound is painful. An energy density of 4 J/cm<sup>2</sup> has been recommended. Treating the intact area around the wound margin with a single diode probe is effective. Pressing the probe against the skin reduces attenuation by temporarily displacing erythrocytes that would absorb some of the energy. The energy density applied would be no more than 10 J/cm<sup>2</sup>.

## Mechanism

The triggering of cell activity by reversible changes in membrane permeability when photons are absorbed, could be responsible for the stimulation of tissue repair

(Young & Dyson). Increase in calcium uptake by macrophages exposed to red light and IR in vitro is wavelength and energy density dependent.

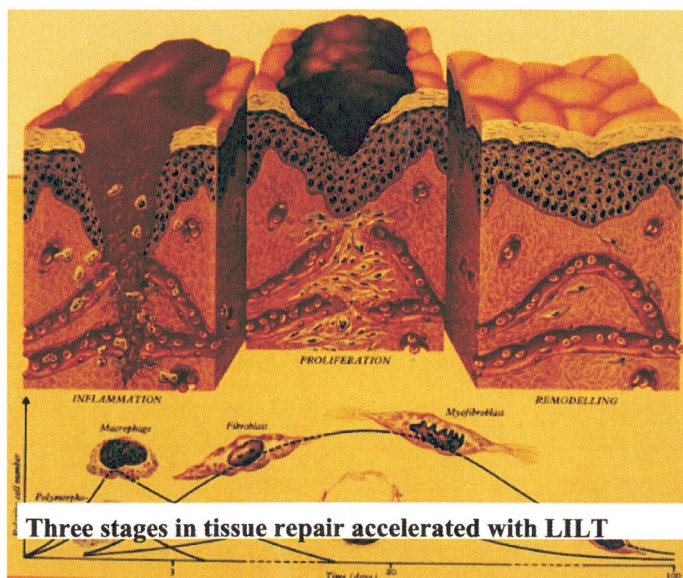
Following a reversible change in membrane permeability to calcium ions, the cell responds...in the case of macrophages...to produce growth factors and to phagocytose debris whereas mast cells degranulate, releasing histamine and other substances.

The molecular mechanisms by which LILT affects cell activity begin with photoreception, when the photons are absorbed... followed by signal and growth factor transduction, amplification and a photo response, e.g. cell proliferation, protein synthesis production, all of which may assist in tissue repair.

## Clinical Points

- Red light will affect all the cells involved in healing
- IR light is more selective
- Cells vary in their sensitivity to phototherapy

Successful clinical cases (48 cases) of wound and acute injuries are presented under 'Trauma' cases (F. Kahn, MD et. al, 2003) indicating a success rate of 93%.



For more detailed LILT treatment information, contact Meditech International Inc.



## **Chiropractic Perspective:** **Shedding light on Laser Therapy**

At the Meditech Rehabilitation Centre, we average seventy treatments a day. Some of the conditions we treat are sports injuries, repetitive strain injuries, arthritic conditions and wound healing. Low intensity laser therapy (LILT) can be used as an effective modality for various pathologies that are articular, neural and musculoskeletal in nature. Oezdemir et. al, evaluated the use of LILT administered to 60 patients with cervical osteoarthritis. Patients were randomized into 2 equal groups and given LILT or a placebo laser treatment. A double blind trial was conducted without the doctors knowing who received the placebo or laser treatments. The results indicated improvement in the measure of muscle grasp and range of neck motion.<sup>1</sup> LILT is a safe, painless and noninvasive treatment that produces effective results.

1. Oezdemir, F., Birtane, M., Lokini, S. The clinical efficacy of low- power laser therapy

We're on the Web  
[www.meditech-bioflex.com](http://www.meditech-bioflex.com)

## **Meet the Meditech Clinic Team**

At the Laser Rehabilitation Clinic, our expertise is in administering Low Intensity Laser Therapy. The mission statement of our clinic focuses on key patient care principles:

- Eliminate pain
- Restore normal range of motion
- Improve the quality of Life
- Obviate the need for drugs / surgery

We have a qualified team of health-care practitioners who have successfully treated many types of medical conditions. The BioFlex laser therapy is curative and thereby

eliminates symptomatology, (i.e. pain, edema etc.) while being safe and effective. Our commitment in clinical practice is to provide excellence in care with superior results.

Treated conditions as approved by the HPB ( Health Canada's- Health Protection Branch) are as follows:



- Repetitive stress injury
- Carpal tunnel syndrome
- Ligament / tendon tears
- Soft tissues / fractures
- Tendonitis / myositis / synovitis
- Osteoarthritis
- Wound healing
- Fibromyalgia
- Temporomandibular joint problems
- Bursitis
- Rheumatoid Arthritis.

### **Continued—page 1**

were exceedingly well received by the large audience. Dr Fred Kahn, MD, FRCS, founder and CEO of Meditech International Inc. with over 14 years experience developing LILT discussed patient assessments, protocols and the results of almost 500 consecutively discharged patients.

### **Progress in Development & Application of Low Intensity Laser Therapy Friday Jan 31, 2003 Workshop Program**

- Dr. Kahn, "Low Intensity Laser Therapy, The Foundation and Clinical Indications"
- Leslie Perrin & Mark Slonchka, "The BioFlex Professional System: Treatment & Safety Aspects"
- Dr. Mary Dyson, "Introduction to, and development of, photo-therapy as a clinical modality"
- Dr. Mary Dyson, "Bioeffects of LILT relevant to therapy"
- Dr. Mary Dyson, "How LILT stimulates tissue repair: basic mechanisms"
- Dr. Leonard Rudnick, "The Physiological & Personal Aspects of Chronic Pain and the Effects of LILT"
- Dr. Fred Kahn, "Assessment of Cases and Application of Treatment Arrays: Patient Presentations"
- Dr. Mary Dyson, "Effects on LILT on acute and chronic injuries, edema reduction and pain relief"
- Dr. Leonard Rudnick, "The Social & Economic Aspects of Chronic Pain and the Effects of LILT"