Oncological surgery with the CO2 laser

By Isaac Kaplan

Surgery for cancer is an admission of defeat,
Because extirpation is required when medicine cannot treat
And, when operating, the surgeon must bear in mind,
To remove all involved tissue, and leave nothing behind.
When I first started to investigate,
How, with the CO2 laser to operate,
I found that the method of ‘non touch’
Benefited oncological surgery very much.
Because, by avoiding tissue manipulation,
It prevents cancer cells from dissemination.
They are also prevented from disseminating
By the sealing of lymphatic and blood vessels while operating.
The fact that while operating, it doesn’t bleed,
Means that, not only for transfusions there is no need,
But, one can more easily distinguish between pathological and normal tissue,
Which makes leaving pathological tissue behind, less of an issue.
Besides all this, the fact that blood vessels are sealed and not coagulated,
Results in post-operative haemorrhage being negated,
While the marked reduction in post-operative pain
Is an undisputed advantage again.
Now, what with bearing all this in mind,
To recommend the CO2 laser for cancer surgery I was inclined.
As early as nineteen seventy three,
The opportunity came to me,
On six women with cancer of the breast,
To perform lumpectomies as a clinical test.
In spite of their informed consent,
And a careful follow up in any event,
After a long time, I was gratified to find
No recurrence of any kind.
Since no additional therapy was applied,
I felt that what I did was justified.
Incidentally, five of these ladies eventually died
From causes other than cancer of the breast,
While the sixth one managed to survive the rest.
Many surgeons now use the laser for cancer of the breast,
Lansafame and Ansanelli are perhaps known best.
Now, be all this as it may,
All that remains for me to say,
Is that as yet,
I have no cause to regret,
For oncological surgery to recommend
The CO$_2$ laser as a means to an end.
The laser is now used in surgical oncology
On the Glottis and vocal cords and Gynaecology.
And on the tongue and oral cavity and also in
The genitalia, the prostate the head and neck and the skin.
Although to produce a long list of names is not my intention,
Some, I feel are worthy of mention.
Like Bellina, Bandieramonte an Baggish in gynaecology,
And Aronoff and Friedman in head and neck oncology.
Where vocal cords are concerned, I always find,
That Jako and Abitbol come to mind.
With regard to surgery in malignancies of the skin
My personal involvement has resulted in
My conviction that ‘wide excision’ can be considerably reduced,
And mere vaporization of Basal Cell Carcinoma introduced.
The post-operative deformity is thus reduced
And a better cosmetic result produced.
A needle or punch biopsy, done in advance,
Will prevent a misdiagnosis being made per chance.
And so, in conclusion I wish to state,
That for surgery for cancer the CO$_2$ laser has no mate
A tribute in memory of Prof. Isaac Kaplan
A LITTLE TRIBUTE SMALL AND TENDER,
JUST TO SAY WE STILL REMEMBER.

Professor Isaac Kaplan 1919-2012
Professor Isaac Kaplan – As I Remember Him

Abe M Baruchin.

It's a year now since Isaac passed away. And it's not any easier today, then, it was on the day he died. Professor Isaac Kaplan left his distinctive mark in teaching and research concerned with Plastic surgery in general, and the surgical use of CO2 laser, with special reference to Plastic, ENT, Maxillofacial, Dermatology surgeries and in particular – not only in the national but also in the international context. As one closely associated with Prof. Kaplan for 30 years, first as a trainee, research assistant and later as a colleague, I have been specially privileged to know him as a teacher, a researcher and above all, as a gentleman. In this presentation, I shall recall some of these pleasant memories, which will, hopefully, give the audience a glimpse of this outstanding Personality. Little did we realize that he would leave us for the heavenly abode in a few months' time. It was on the 13th August, 2012 that the end came, much to the shock and bereavement of his family, his colleagues and a large number of his admirers. His Mortal remains were brought Jerusalem covered in white and yellow flowers, and his last journey began from there. Even today, as I recall that day's events, I cannot check my tears, even though I recall and appreciate what Tagore said in a song, “there is sorrow, there is death, there is the pang of separation.”
The first memorial seminar commemorating the late Prof. Isaac Kaplan was held on September 10th, 2013.

The seminar took place under the auspices of Professor Rachel Lubart from the department of Physics, Bar-Ilan University, Ramat-Gan, Israel.

Prof. Isaac Kaplan (1919-2012) was one of the founders of the Israeli Plastic Surgery. In 1958, he established the reconstructive plastic surgery department at Beilinson Hospital, which he headed until 1989. In 1967, he founded the first burn unit in Israel, and a year later he was sent to Saigon, in the midst of the Vietnam War, to establish a large hospital there. “He won the deep affection of the Vietnamese people,” wrote Health Minister Tran Lu Yeh to Foreign Minister Abba Eban.

Prof. Kaplan was appointed a professor of medicine at Tel Aviv University, and in 1972, together with Uzi Sharon, he developed a tool for laser surgery, the Sharplan, named after the two of them. Prof. Kaplan founded the International Society for Laser Surgery and Medicine (ISLSM) in 1975 and served as its president until 1979. The first meeting of the international symposium of laser surgery, in Tel Aviv in 1975, was attended by 65 people. That’s all we had working with lasers at the time “Kaplan said in a 2009 presentation on the history of the society.” That meeting gave rise to the foundation of the ISLSM, and by the fourth biannual meeting in Tokyo in 1981, “there were over 1000 participants from all over the world, and it gave us an indication of how lasers in surgery and medicine had developed in that short period.” That also inspired the formation of numerous regional and national societies throughout the world, “with the result that many other lasers, each with its specific application, have been introduced into the medical field,” Prof. Kaplan wrote. Aside from his international degrees, the awards he received and his many publications (among them the first book on plastic surgery in Hebrew), Prof. Kaplan instructed more than 600 doctors in various fields of surgery on working with lasers, all without pay.
Mrs. Masha Kaplan and Mrs Carmi Harel, wife and daughter of Prof. Isaac Kaplan expressed their thanks to the audience.

The certificate of appreciation especially issued by Prof. Leonardo Longo President of IALMS, presented at the meeting to Mrs. Masha Kaplan by Prof. Abe Baruchin. Mrs. Masha Kaplan presented with the special certificate Prof. Rachel Lubart, Prof. Abe Baruchin & Mrs. Masha Kaplan.
Speakers and Lectures

**Prof. Abe Baruchin**
Plastic Surgery Unit, Barzilai MC, Ashkelon, Ben-gurion University of the Negev, Beer-Sheba, Israel
KAPLAN’S ROMANCE WITH CO2 LASER: How it all started.

**Prof. Arie Orenstein**
Director of The Goldschleger Advanced Technology Center, Sheba Medical Center Department of Plastic and Reconstructive Surgery and Burns.
Light as a diagnostic and treatment tool

Director of the Laser Unit at Rabin Medical Center Petac Tqwa, Israel, and a senior lecturer at Tel Aviv University School of medicine.
Hallmarks in the history of CO2 Laser in Plastic Surgery & Dermatology

**Prof. Michael Belkin**
Director of the Ophthalmic Technologies Laboratory at the Goldschleger Eye Research Institute of Tel Aviv University and Sheba Medical Center.
Trans-scleral Selective Laser Trabeculoplasty (SLT) without a Gonioscopy lens.

**Prof. Sinvani Moshe**
Faculty of Engineering, Bar-Ilan University Ramat-Gan, Israel
Development of a novel technique for real time detection of tumor margins using photothermal imaging of targeted gold nanoparticles.

**Prof. Avigdor Zelikovsky**
Head of Vascular Unit, (Rabin) Beilinson Medical Center, Petah Tiqva, Israel.
The use of endolaser in vascular surgery with special reference to varicose veins of the lower limbs.

**Dr. Dror Fixler**
Engineering Faculty
Institute of Nanotechnology & Advanced Materials
Bar-Ilan University, Ramat Gan, Israel
Depolarization of laser light in biological tissues- theory and applications.

**Dr. Avi Reyhanian,**
Private Clinic, Netanya, Israel 1 Shaar Haemek St. Netanya 42292, Israel, a member of the academic staff at the Institute of Advanced Dental Education in Haifa, Israel.
Laser applications in Dentistry, Periodontal curettage, Cavity preparation, Implant uncoving with an Er-Yag and MD Biolase lasers