



# NewsLetter

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## EDITORIAL

### NOBEL LAUREATE SURGEONS

The surgical achievements that have been honored with the Nobel Prize exemplify the specific surgical approach of solving problems by circumscribed and controlled instructions into the body of individuals. An extraordinary successful strategy! It has given modern medicine new tools of serving lives and bringing relief to suffering patients though it has also drawn attention and resources away from alternative, non surgical treatment strategies.

**Theodor Kocher** was the first surgeon in 1909 to be conferred the prestigious Nobel Prize. Earlier than that surgery was still a manual craft and surgeons were barbers. It was separate from the learned profession of medicine and less prestigious. Surgeons were mainly dealing with emergencies like broken bones, lancing boils and skin tumors etc. Surgical intervention was associated with horrors of pain and infection. Once anesthesia and asepsis liberated the surgeons from the problem of pain and infection, they could start exploring the potential of their newly acquired abilities. Kocher's extraordinary technical abilities led him to his discoveries about the physiology, pathology and surgery of the thyroid gland that earned him his 1909 prize. In July 1883 he even tried to reverse the unexpected consequences of Total Thyroidectomy by reinserting thyroid tissue into the patient's body. He thus performed the first organ transplantation in the modern sense of curing a complex internal disease by replacing an organ. Thyroid transplantation became the prototype of all other organ transplants.

The peak of technical perfection was reached by the French-American **Alexis Carrel**, who in, 1912 won the Second Nobel Prize for surgery in recognition of his work on blood vessels surgery and organ transplantation. He noted that the success of allotransplant was blocked by a problem that could not be solved by surgical means. In an experiment Carrel grafted a dog's kidney from its original site to the neck making sure that that kidney survived till the time it remained within the same animal. However if the surgeon did exactly same thing between different individuals the transplanted kidney invariably died. Surgeon and Scientists of that time analyzed this phenomenon and held immune system responsible. Since the problem seemed to be insurmountable, organ transplantation was temporarily abandoned. It

took until 1945 before surgeons restarted transplant surgery. Despite continuing failures, they pursued their aim with remarkable optimism and perseverance.

In 1954, surgeon at the Peter Bant Brigham Hospital in Boston transplanted a kidney from the healthy identical twin brother to a man with severe renal disease. The transplant worked. It was considered breakthrough and earned **Joseph E Hurray** the Nobel Prize in 1990. He emphasized in his nobel lecture that he has bypassed and not solved the issue of biological incompatibility. In 1960's immunosuppressants initiated a new phase in the history of transplant surgery. Transplantation became the technological fix of choice for the growing number of medical problems.

Another such technological fix was awarded the Nobel Prize in 1949. It was given to the Portuguese **Antonio Eges Moniz** for "the discovery of prefrontal Leucotomy" a surgical intervention to relieve morbid psychiatric condition. This technical fix was appealing to practioners but fell into disgrace so much that today many people consider the Nobel Prize of Moniz an aberration. At that time psychosurgery became a strategy of solving mental disorders by surgical intervention. Once the course of mental illness was located in the brain, it seemed to be a logical step to try to solve the problem by fixing that organ. In the years following World War II, the use of psychosurgery reached its hey day, peaking at over 5000 such operations performed in 1949 alone. With the advent of tranquilizers in the 1950's lobotomy fell out of favor. Drug treatment (chlorpromazine) became the new technological fix for mental disorders; a type of reversible lobotomy.

These extraordinary Nobel Laureate surgeons had in common four significant qualities expressed in four letters, **CDFI**, representing **Commitment, Determination, Focus and Innovation**. The examples of a sustained path of accomplishment and success set by these unique personalities serve as a vivid guide for future generations of surgeons.



**Dr. A. K. Dewan**  
Director - Surgical Oncology

## LIMB SALVAGE SURGERIES (LSS)

Sarcomas are rare type of cancer. Sarcomas grow in connective tissues - cells that connect or support other kind of tissues in our body. These tumors are common in the bones, muscles, tendons, cartilage, nerves, and blood vessels of our arms and legs, but they can also happen in other areas of our body. Although there are more than 50 different types of sarcoma, they can be grouped into two main kinds: Soft tissue Sarcomas and Bone sarcomas. Usually out of all cancer cases, 1-2% in adults & 12-15% in pediatrics are of bone & soft tissue sarcomas.

Limb Salvage Surgeries (LSS) means resecting these tumors while preserving the limbs. This implies resecting the tumors with wide margins in soft tissue sarcomas, and resecting the bone along with cuff of normal soft tissue for bone sarcomas.

LSS has become the standard of care for patients with these tumors in last 2-3 decades. This was possible due to advances in diagnostic radiology / pathology, chemotherapy and radiation therapy, improvement in the surgical techniques, availability of microvascular tissue transfers and modular megaprosthesis.

### Limb Salvage Surgeries for Bone Sarcomas

Aim of LSS for bone sarcomas is resecting the tumors with wide margins and an optimal reconstruction to preserve function. As primary bone sarcomas usually affects adolescents and young adults, the reconstruction modalities chosen are very important so as to last for next 4-5 decades while maintaining function.

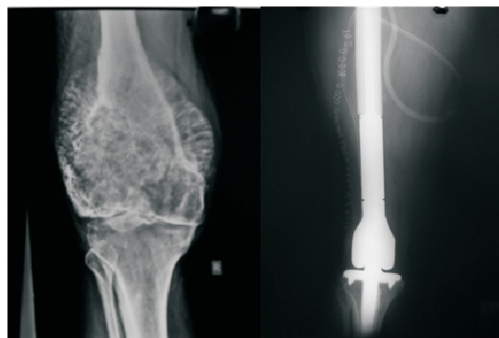


Fig. 1: Reconstruction with Modular Megaprosthesis

As most of the primary malignant tumors of bones occur in the metaphysis region and close to the joint, Tumor Megaprosthesis are commonly used reconstruction option (fig 1). With the availability of modular megaprosthesis (which are assembled on table depending upon the length on bone resected) in the last decade or so, the rates of successful LSS has improved. Now, almost 90% of patients with bone sarcomas undergo LSS.

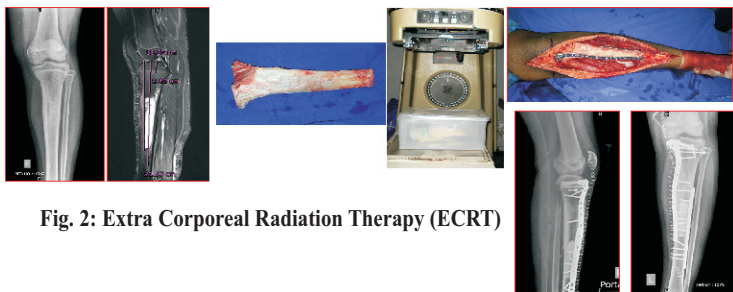


Fig. 2: Extra Corporeal Radiation Therapy (ECRT)

Extra-corporeal radiation therapy (ECRT) is a technique in which high dose radiation is given to the tumor bone outside the body and the same tumor bone is re-implanted back in the patient (fig 2). This serves as age and size matched graft to fill the bone defect without the need for

advanced tissue bank or reconstructive surgeons. Now, many patients undergoing joint sparing resections are treated with this technique.

### Limb Salvage Surgeries for Soft Tissue Sarcomas (STS)

LSS for soft tissue sarcomas are the most common surgeries performed for these tumors. The aim is to resect the tumors with wide margins. As most sarcomas grows in a pushive and not infiltrative pattern, there are certain natural barriers to tumor spread which have to be kept in mind while resecting these tumors.

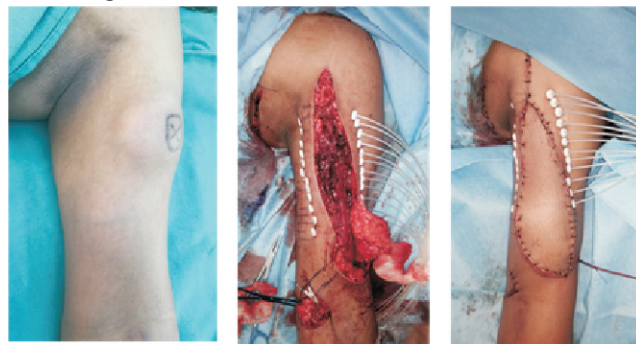


Fig. 3 & 4: Wide Excision STS with Brachytherapy with Free Flap

In many of the STS cases, the overlying skin is involved and hence a pedicle or a free tissue flap reconstruction is required to cover the defect (fig 3). All high grade sarcomas require adjuvant radiation therapy after a successful LSS. Brachytherapy is a technique of radiation where radiation tubes are placed in the tumor bed after tumor excision and radiation is given through the radiation catheters placed in these tubes (fig 4). In this way, radiation is finished in 7 days as compared to 30 days and there is minimum radiation to surrounding tissues and hence a better function.

### Challenges in Limb Salvage Surgeries

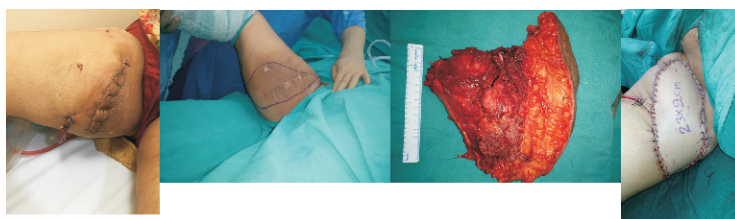


Fig. 5: Previous Inappropriate Surgery with Large Transverse Scar - Reconstruction with Free Flap

We as Musculoskeletal tumor surgeons face many challenges in a successful limb salvage for a patient with these tumors. Many of these challenges are dictated by the tumor itself like involvement of surrounding muscles, neighboring joint or a major motor nerve. Some are faced in view of particular age group like expecting a significant limb length discrepancy or in view of socio-economic conditions. A previous inappropriate surgery remains one of the most important challenge faced in our scenario (fig 5). An inappropriate surgery poses a notable issue as it can lead to change in the reconstruction plan, higher need for flaps for wound cover, significant increase in the cost of treatment and sometimes precluding the chances of successful limb salvage surgeries.

**Dr. Manish Pruthi**

Consultant – Musculoskeletal Oncology

## DOCTORS' DAY CELEBRATION 2018



Doctors' Day was celebrated with much fervor on Monday, 2<sup>nd</sup> July 2018 at Hotel Crowne Plaza, Rohini, Delhi. The opening remarks were delivered by Mr. Rakesh Chopra, Chairman and Mr. D. S. Negi, CEO. In healthcare organizations, all over the world, this day is recognized for contributions of physicians in saving human lives. In India, the date coincides with the birthday of the legendary Bharat Ratna awardee Dr. B. C. Roy. The day was marked by celebrations in the evening with mimicry performance of various bollywood actors performed by Dr. Kundan Singh Chufal, Sr. Consultant – Radiation Oncology, mouth organ played by Dr. Sunil K. Khetarpal, Chief of Operation and Medical Superintendent and Dr. Rajan Arora, Sr. Consultant - Cosmetic, Plastic and Reconstructive Surgeon, piano played by Dr. Narendra Agarwal, Consultant – Hemato Oncology &

BMT. Dance performed by Dr. Divya Sehra from Surgical Oncology, songs sung by Dr. Rajpal from Radiation Oncology and Dr. Soumya Dutta, from Radiation Oncology and Ms. Priyanaka Chawla were appreciated by all. Skit was performed by Dr. Neelam Sachdeva, Sr. Consultant – Micro Biology, Dr. Shalini Mishra, Consultant – Pediatric Surgical Oncology and Dr. Shagun Bhatia Shah, Consultant – Anesthesiology. The said performances were very well appreciated by the gathering. At the end, the closing remarks were delivered by Dr. Sudhir K. Rawal, Medical Director.



## CME – IMA PANIPAT, HARYANA

RGCIRC organized a CME in association with IMA Panipat on Wednesday, 4<sup>th</sup> July 2018 at Hotel Gold, Panipat, Haryana. Dr. Vineet Talwar, Director - Medical Oncology delivered a lecture on Current Management of Metastatic Renal Cell Cancer in First Line and Dr. Kundan Singh Chufal, Sr. Consultant - Radiation Oncology spoke on Advances in Radiation Oncology: from Cure to Quality Life in the said CME.



## CME – EAST DELHI ORTHOPEDIC ASSOCIATION



RGCIRC organized a CME in association with East Delhi Orthopedic Association on Saturday, 8<sup>th</sup> July 2018 at Park Plaza, Vishwas Nagar, Shahdara, Delhi. Dr. Gauri Kapoor, Medical Director - RGCIRC, Niti Bagh & Director - Pediatric Hematology Oncology delivered a lecture on Medical Management of Bone Tumors – Case Based Discussion and Dr. Manish Pruthi, Consultant – Musculoskeletal Oncology spoke on Approach to Patient with Bone Tumors and Interesting Case Discussion – Pathological Fracture in the said CME.

## RADIOLOGY ONCOLOGY CONFERENCE AT DUBAI

RGCIRC participated in Radiology Oncology Conference held on Tuesday, 17<sup>th</sup> July 2018 at Dubai, UAE. Dr. A. K. Chaturvedi, Chair – Radiology & Imaging delivered a keynote lecture on “Judging Response to Cancer Therapy RECIST and Beyond in the said conference”. It was a virtual presentation and was highly appreciated.

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## 6<sup>th</sup> CHEMOPORT TRAINING COURSE



The Department of Surgical Oncology, RGCIRC successfully organized the 6<sup>th</sup> Training course in Chemoport Insertion on 16<sup>th</sup> and 17<sup>th</sup> July 2018. This 2 days course was held for doctors from various oncology centres who desired to learn this technique. It entailed interactive sessions by the faculty of RGCIRC as well as hands on training in the operating rooms. The topics covered were Chemoport Insertion, Hickman's Catheter

Insertion, Pediatric Port, Arm Port and Peritoneal Aort Insertion. The course was highly gratifying and we received an excellent feedback.

## WELCOME TO RGCIRC FAMILY – DR. (PROF.) ISHWAR CHAND PREMSAGAR



Dr. (Prof.) I. C. Premsagar has joined as Sr. Consultant and Chief of Neuro & Spine Surgery. He is an alumnus of King George's Medical Institute of Medical Sciences, Lucknow, UP. He received gold medal during M. Ch. (Neurosurgery). He carries a rich experience of more than three decades in the specialty both in India and abroad. He was Prof. & Head of Neurosurgery at Dr. Ram Manohar Lohia Hospital and Post Graduate Institute of Medical Education and Research, New Delhi and also at Safdarjung Hospital, Delhi. He also worked in the best centers in the world like Cleveland Clinic, Cleveland, USA, Detroit Medical Centre, Detroit, USA, Frenchay Hospital, Bristol, UK & Thumbay Hospital, Dubai, UAE. He has many publications in national and international journal to his credit. He is expert in all types of brain & spine surgery. He operated complex brain tumor cases, two of them were published in UAE's national newspapers like Gulf News and Khaleej Times.

Mr. D. S. Negi (C.E.O)  
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(Medical Director)  
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Dr. Swarupa Mitra  
Dr. Mudit Agarwal  
Dr. Lalit Sehgal  
Dr. Manish Pruthi  
Dr. Sunil Kr. Khetarpal



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Editor: Dr. A. K. Dewan