



# ASSOCIATION OF RADIATION ONCOLOGISTS OF INDIA

Quarterly Newsletter

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**Bid Invited for Best of Astro, 2020**

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This newsletter is edited by Gautam K Sharan on behalf of Association of Radiation Oncologists of India  
The views expressed are that of authors/ contributors

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## **BRACHYTHERAPY: AN EMERGING OR DECAYING MODALITY**

**Dr. Rajeev Kumar Seam**

### **Introduction**

Brachytherapy consists of placing radioactive sources within or directly adjacent to the tumor in order to deliver highly targeted and conformal radiation dose in shortest possible time. It aims to sculpt the optimal isodose on the tumour volume while sparing normal tissues. The benefits are fourfold: patient cure, organ preservation, time sparing and cost-efficiency. Despite these benefits Brachytherapy is lacking its vitality in the modern era. It needs to be reiterated that Brachytherapy was the first radiotherapy modality to be used for treatment on cancer patients, much before the first teletherapy machine was invented. In early 20th century this fine art evolved under the guardianship of stalwarts like Madam Curie, Paterson, Parker, Fletcher, Deutrix, to name a few.

Since its inception in 1895, Brachytherapy has been driven by constant technological advances. We have evolved from radium to iridium, from manual loading to remote after loading, from LDR to HDR, from Xray to CT-MRI based planning & advanced dose calculation & optimization tools. These advances have made the Brachytherapy treatment more efficient & well tolerated in order to preserve function, cosmesis, quality of life, together with the potential to realize lower utilization of health care resources and associated costs. The efficacy and tolerance of

However such achievements, of major importance for the treatment & cure of cancer patients, have been neglected during the past decade by technology driven modern EBRT techniques & computer-savvy generation. Teletherapy has made phenomenal strides which have seemingly buoyed radiation oncology to a super fast and supersonic era. More recently these developments were further suppressed by barging in of hoax data of market driven clinical researches on proton and particle beam therapy, newer chemotherapy and targeted therapy without achieving much clinical benefit as was seen during the Brachytherapy era.

This article reviews the time line of 100 years of radiotherapy with a focus on breakthroughs in the field of Brachytherapy physics, technology & applications during the past two decades, and the associated clinical benefits along with the recent disturbing reports and trends of an alarming decline in the utilization of Brachytherapy worldwide. It also addresses some of the strategies to bring back the lackluster of this unique form of radiotherapy which involves art, science, skill, and judgment: all that is needed to stand out in the competent & challenging world of oncology practice.



Ex.Prof. & Head, Deptt. of Radiation Therapy & Oncology IGMC Shimla,  
Presently, Prof. Deptt. of Radiotherapy, MMIMSR, Ambala



## **History of Brachytherapy**

Brachytherapy is not a new technique. If we explore the illustrious history of Radiotherapy, it started in the form of Brachytherapy & since then it has actually been around for over 100 years.

Many of our technological discoveries are distinctly marked & credited in history. Two of these discoveries launched the start of the radiation oncology era. Wilhelm Roentgen discovered X-Rays in November 1895, and shortly afterward, Henri Becquerel accidentally discovered radioactivity. Pierre and Marie Curie in 1898 extracted Radium & Polonium and gave birth to radioactive sources. Soon after its discovery, the biological effects of radium were beginning to be observed and understood giving rise to the belief of its potential therapeutic virtues. Very soon after these first steps, new pathways were explored to apply these radiations in the first treatments of patients. The first medical experiences belong to Danlos and Bloch in 1901 of Paris and Abbe in 1904 of New York for the treatment of skin cancers. The Radium Biological Laboratory was created in Paris in 1906, and Finze in London started treatments of cancer with radium in 1909.

Initially the Brachytherapy application were largely led by clinical observations and from experiences rules were developed to avoid errors in clinical application which lead to systems or schools. The basic rules & principles of Radium226 use in Brachytherapy were established after World War I in medical institutes such as the Radium Hemet in Stockholm, the Memorial Hospital in New York, and the Radium Institute in Paris. For intracavitary treatments, the Stockholm and Paris Methods were described in 1914 and 1919, respectively Paterson and Parker set the basis of the 1930 rules for the Manchester System, which was extensively described in a book by Meredith.

Two other steps are important to date in the development of Brachytherapy. First, the Discovery of artificial radioactivity in 1934, allowing the use of artificial radioactive materials in radiotherapy. Newer Radionuclides like  $^{60}\text{Co}$ ,  $^{137}\text{Cs}$ ,  $^{182}\text{Ta}$ , and  $^{198}\text{Au}$  were applied with designs initially similar to  $^{226}\text{Ra}$  sources.

Second, in the 50's and 60's of the 20th Century, the development of remote after loading devices by Henschke & Dalcos allowed improved personnel radiation protection and gave more flexibility to the Brachytherapy applications. The next few decades were witness to the development and continuous refinements in applicator design and dosimetry methods.

## **Recent Advances in Brachytherapy**

Brachytherapy has evolved over many decades, but more recently, there have been significant changes in the way that Brachytherapy is used for different treatment sites. Latest applicator design & modern radioactive sources along with advanced imaging, 3-dimensional reconstruction algorithms, sophisticated optimization tools and inverse planning modules have all revolutionized modern Brachytherapy allowing accurate radiation dose delivery to the target with minimal dose of surrounding normal critical tissue ie the highest form of conformity. The introduction of artificially produced radioactive isotopes gave a new dimension leading to the renaissance of Brachytherapy. Newer Radionuclides such as  $^{60}\text{Co}$ ,  $^{137}\text{Cs}$ ,  $^{198}\text{Au}$  and  $^{1131}\text{I}$  that could be used as radium substitutes were rapidly introduced in the clinic. Treatment techniques involving online planning have emerged, allowing dose distributions to be calculated and updated in real time based on the actual clinical situation. The combination of functional imaging with intraoperative dose calculation and optimization opens new horizons for Brachytherapy. We have shifted from TPS to Monte Carlo system of dose calculation which is better in terms of precision, speed & cost effectiveness. Together, these advances set the stage for dramatic shift in both clinical indications and technical practice that have occurred in the last 15 years.

Medical  
Association of India



## **Reports of Decline in Brachytherapy**

Over recent years there has been an alarming decline in the utilization rates of Brachytherapy internationally.

Take prostate cancer for example: Martin et al. reported a decline from 16.7 % Brachytherapy utilization rate in the US for prostate cancer in 2002, to 8 % in 2010, this is despite clear evidence for superior biochemical control rates with BT when compared with surgery or EBRT alone.

The situation for treatments for cancer cervix is a little more disturbing. Using SEER database, Han et al. identified 7359 patients with stages IB2-IVA cervical cancer treated with EBRT between 1988 and 2009 & noted a decline in the utilization of Brachytherapy for cervix cancer from 83 % in 1988 to 58 % in 2009, noting a particular dip in the utilization in 2003 which happened to coincide with the introduction of a health-care rebate for intensity modulated radiotherapy (IMRT) in the US. This is despite significantly higher rates of cause specific survival and overall survival in patients treated with Brachytherapy. Not all centers worldwide offer a Brachytherapy service, and even those that do, the range of practices varies and caseloads are not high in all but a few centers.

The decline is alarming; when we consider that there is compelling evidence that Brachytherapy, in appropriately selected patients, is capable of accurately delivering a highly conformal dose of radiation to the tumour and lower doses to surrounding healthy tissue compared with modern external beam radiotherapy techniques (IMRT, IGRT, SRS, SABR). Also majority of times the use of Brachytherapy has led to better local control rates, improved overall survival, minimum morbidity and functional / cosmetic loss. Despite this, it seems to be losing referrals to EBRT colleagues who claim that with exciting advances in technology, there are increasing opportunities for modern EBRT techniques to safely deliver tightly conformal fields of radiation in a small number of fractions-something being done in Brachytherapy for many years!

## **Indian scenario**

Brachytherapy in India is facing a number of challenges.

The latest developments in Brachytherapy such as incorporation of MR PET, improved Brachytherapy applicators, new planning systems etc.

have been successfully implemented in developed world however, their implementation and wide practice in India is a big future dream. Barring a few institutes, most of the other Government run state hospitals and medical colleges lack infrastructure & trained professionals. On the other hand corporate and private hospitals advertise and push for advanced radiation techniques like IMRT and IGRT, but not Brachytherapy because Brachytherapy treatments are not a priority for reimbursements.

## **Robust reasons For Promotion of This Old Art**

Brachytherapy delivers the ultimate form of conformal radiotherapy. As of now, this technique still remains unmatched in its sharp fall off and precision in its treatment delivery. A number of pioneering publications in various body sites have shown Brachytherapy to be superior to its congener radiotherapy tools in achieving conformity & better clinical outcome

Indeed George et al. in a planning study of 10 patients with localized prostate cancer, compared the dose distributions using: VMAT, scanned proton therapy, scanned carbon-ion therapy, and LDR and HDR Brachytherapy treatment of localized prostate cancer. This paper concluded Brachytherapy techniques were clearly superior in terms of bladder wall, rectal wall, and normal tissue sparing. Not just this, the unmatched conformity of Brachytherapy also provides the benefit of boosting the resistant tumour to highly lethal dose-something which is dream with currently practiced EBRT tools. The range of imaging tools now used in real-time, have greatly expanded the possibilities of Brachytherapy. In prostate cancer & many other cancer sites advances in high-tech multiparametric MRI (mp-MRI) methods, such as MR spectroscopy and dynamic contrast enhanced MRI have increased the sensitivity and specificity of tumor delineation & has successfully enabled to achieve boost dose of up to 150% of the prescription dose.

If we talk about cervical cancers, a study published in 2007 by a group in Vienna, investigated the clinical impact of MRI-based cervix Brachytherapy combined with external beam chemo radiation. The results showed that with 3D MRI-based planning, local control of  $\geq 85\%$  could be achieved with low treatment-related morbidity:



Grade 3/4 of 6% compared with 13% using simple 2D planning methods. They suggested that for locally advanced limited disease, the MRI-based approach will likely result in assuring excellent local control ( $\geq 95\%$ ) and minimize treatment-related morbidity

## **Reasons for Decline of Brachytherapy and Issues to Be Addressed**

Brachytherapy tends to “fly under the radar” when compared to external beam radiotherapy (EBRT). There have been numerous important – though perhaps under-appreciated – advances in Brachytherapy in the last two decades still evidences report a decline in Brachytherapy use.

Numerous reasons can be assigned for this behavior. Lack of Brachytherapy facility in academic institutions & limited number of trained BT experts led to lacunae in training of young radiation oncologist & physicist in Brachytherapy. Also the physician decision to offer Brachytherapy negatively influenced by limited experience and training deficient manpower, M&E, lack of team work, intensive labour and fear of liable risk. Contemporary Brachytherapy experts have played their bit in not having disseminated this art to their pupils and perhaps failed to make this field exciting and continuously evolving. As a result, for the present, IMRT, IGRT, 4D treatment, and proton beams are ruling the roost.

However this is just one side of the coin. Limited clinical trials & reporting of Brachytherapy has also led to major setback in the utilization of this time tested technique in today's modern era of evidence based practice. Bismarck C.L.Odei et al analysed Brachytherapy trials over from year 2000 to 2015. The majority of the clinical trials were phase II (37%), involving interstitial BT (45%). New clinical trials involving radiotherapy of all types showed significant increase over time ( $p < 0.05$ ), whereas no corresponding increase was seen in BT trials. Not just the academic institutions & physicians but the various worldwide organizations such as ESTRO, ASTRO, and ARO have also kept Brachytherapy out of the focus area. As an example, of the 35 courses listed in the ESTRO calendar for 2012, only 3 directly addressed the topic of Brachytherapy.

## **Strategies to Check the Decline of Brachytherapy**

Brachytherapy not only works, it is an irreplaceable component of contemporary cancer care. Brachytherapy provides the inherent form a “conformal treatment or conformal boost.” It is a great treatment option that's an absolute requirement of curative therapy in various cancer sites like cervix, oral cavity, prostate etc. It's been available for decades and has evolved according to modern RT tools but the rates of actually using it are dropping. Hence it is the high time we should work together to reignite the blinking flame so as to secure this dying art. Clinicians, physicist & policy makers therefore need to spent considerable time and attention to re explore this technique and take justifiable pride in the outcomes of this technique. The radiation oncology association/bodies should effort to join hands to emphasize and convince the state /govt. authorities for the availability of Brachytherapy facility in government institutions and make provision of budget/finance to establish the BT facility in order to create Brachytherapy facility where it is not available. The established Brachytherapy enters should augment their facilities for adopting latest technology based BT procedures like IGBT. Residents and Physicist should be trained through inter Institution exchange programs & by way of organizing hand on training by centers having fully developed Brachytherapy set up and bulk of patients.

The academic organizations should create working groups for specialized training and introduce certified courses in Brachytherapy techniques or super specialization DM/MCh in Brachytherapy.

In a way to achieve uniformity of Brachytherapy application & usage higher Institutes & tertiary cancer care centers should develop guidelines for site wise dose and fractionation in different sub sites and share data, conduct clinical trials and report/publish their results. Also Brachytherapy should be given due focus and its share in the activities organized by radiation oncology bodies like conferences, workshops/ CMEs.



## DR.B.D.GUPTA MEMORIAL ORATION, AROICON 2018 THIRUVANANTHAPURAM

### Conclusion

Brachytherapy has a long and illustrious history in the treatment of cancer dating back to the early 20th century. Although its popularity has fluctuated in response to the emergence of newer treatment modalities, Brachytherapy has persisted over time. Brachytherapy deserves more attention as a valuable and highly improved technique with unique advantages.

We can say Brachytherapy is currently going through a period of renaissance and change with more complex techniques involving state-of-the-art imaging and planning. It is the responsibility of all of us "the oncologists" to educate our students, budding radiation oncologist, patients, policy makers & insurers about the critical value of Brachytherapy.

### Acknowledgment

This manuscript has been prepared by Dr. Isha Jaiswal SR, Deptt. of Radiotherapy, MMIMSR, Ambala.

**First Announcement**



**40<sup>th</sup> Annual Conference of  
Association of  
Medical Physicists of India  
(AMPI)  
AMPICON 2019  
Jointly Organized by AMPI  
&  
Netaji Subhash  
Chandra Bose Cancer  
Hospital, Kolkata,  
West Bengal  
7th – 9th November 2019**

**Important Information**  
The official language of the  
conference is **English**.  
Deadline for abstract submissions  
**31<sup>st</sup> July 2019**  
Submission Procedure will be available  
at the conference website in due  
course  
Deadline for early bird registration  
**31<sup>st</sup> July, 2019.**

**AMPICON KOLKATA 2019**

**Dear colleagues,**  
It is our privilege to invite you to take part in  
the 40<sup>th</sup> National Annual conference of  
Association of on Medical Physicists of India,  
which will be held in Kolkata, West Bengal  
during **7th to 9th November 2019**. As a two  
and half day program of events, that it  
includes invited keynote lectures and  
proffered selected oral and poster presen-  
tations, the Conference will provide a  
platform for sharing current developments  
and future trends in Medical Physics applied  
in Diagnostic Radiology, Nuclear Medicine,  
Radiation Therapy as well as Radiation Pro-  
tection and Biomedical Engineering. The  
scope is broad and multidisciplinary,  
intended for a wide audience of medical  
physicists, radiologists, radiation  
oncologists/physicians, engineers, technolo-  
gists and radiographers, as well as represen-  
tatives of authorities and manufacturers. We  
will put all our efforts into providing you a  
memorable and successful conference.  
The opportunity of exploring the beauty of  
our nature and history is a reason more to  
join us in Kolkata at **Netaji Subhash Chandra  
Bose Cancer Hospital** in the month of next  
November 2019.

Dr. Ashish Mukhopadhyay  
Dr. ARS Kumar





# CONFERENCE REPORTS

## REPORT ON MP-CG AROICON 2019, BHOPAL | VIDHI GUPTA & RAKESH MAHAWAR

MP-CG State Chapter of AROICON have organized a Conference MP-CG AROICON 2019 on 9th February, 2019 in association with Jawaharlal Nehru Cancer Hospital & Research Centre & Gandhi Medical College, Bhopal at Minto Hall, Bhopal. Theme of the conference was "Consensus for Common Controversies and Recent Advances in Head & Neck and Gynaecological Cancers". The programme was presided by Dr. Sarman Singh Director AIIMS, Bhopal and Mr. Naveen Chandra Director MPCOST as Guest of Honour. Dr. Sapna Nangia Consultant – Radiation Oncologist of Apollo Hospital, Chennai given a key note on salient features of new and advanced Linear Accelerator "Halcyon", which has been installed in Jawaharlal Nehru Cancer Hospital & Research Centre the first of its kind of equipment in India.



The Conference had two sessions - Head and Neck Cancers and Gynaecological Cancers. There were many eminent speakers in the conference like Dr. Sarbani Ghosh Laskar, Dr. Ashwini Buddrucker, Dr. Vijay Patil, Dr. Supriya Sastri Chopra from TMH, Mumbai Dr. Gautam Sharan from INLAX, Pune.



Dr. S.K. Shrivastava, renowned Radiation Oncologist from Apollo Hospital Mumbai, Dr. Anand Pathak Medical Oncologist & Director NCI Nagpur, Dr. Mudit Agarwal from Delhi, Dr. Ashvin Rangole from CHL Apollo Indore, Dr. Mayank Pancholi from Rajshri Hospital Indore.

Dr. Sarbani Ghosh Laskar from TMH Mumbai spoke on "Re-irradiation a double edged sword in Head & Neck Cancer". She told about the indication and toxicity of reirradiation in Head & Neck Cancers and said that it should be given only with curative intent. She also said reirradiation leads to lot of soft tissue necrosis and fibrosis which should be given with caution.

Dr. Supriya Chopra from TMH spoke on "Controversies and Recent Advances in the management of Cervical Cancer". She discussed about the treatment of cervical cancers in the in Indian. She also focused on the role of Neoadjuvant Chemotherapy prior to definitive treatment i.e., surgery or chemo-radiation as we see very bulky and advanced stage cases of cervical cancers in Indian context.



# CONFERENCE REPORTS



Dr. Mudit Agarwal from Rajiv Gandhi Cancer Institute, Delhi while speaking on "Role of salvage surgery in residual and recurrence oropharyngeal and laryngeal cancers" highlighted the indication of salvage surgery in Head & Neck cancer and challenges associated in surgical management of oropharyngeal and laryngeal cancers.

Dr. Anand Pathak, Medical Oncologist from NCI, Nagpur spoke on "Immunotherapy in Head & Neck Cancers". He told, immunotherapy is very effective in head and neck cancers with minimal side effect, so can be given in elderly and poor general condition patients but it has little disadvantage that it is very expensive therapy.

Dr. Kinjal Jani, Radiation Oncologist from Ahmedabad spoke on "Current Scenario of Adaptive Radiotherapy in locally advanced head and neck cancers". He emphasized the need of change in Radiotherapy plan of the patient during treatment if there is a gross change in tumour volume.

Dr. Gautam Sharan from Pune spoken about the "Management of post hysterectomy incompletely staged endometrial carcinoma".

There were 3 Panel discussion in the Conference. Panel discussion on Laryngopharyngeal Cancer was moderated by Dr. Samir Batham, Radiation Oncologist from Ahmedabad in which he discussed an early case of cancer larynx and locally advanced case of cancer oropharynx with the eminent panelist in the session.

Another Panel discussion on oral malignancy was moderated by Dr. Prateek Tiwari, Medical Oncologist of JNCH discussion on locally advanced case of cancer Buccal Mucosa and a case of Recurrence in cancer tongue which the panelist which consists of renowned doctors from Madhya Pradesh and Chhatisgarh.f medical fraternities from all over MP and Chhatisgarh. It was a very good scientific meet and has very good academic discussion.



Panel discussion on Gynaecological Malignancies was moderated by Dr. Srikant Tiwari, Medical Oncologist of JNCHRC wherein he discussed cases of endometrium and cervix regarding advancement in imaging modalities in diagnosis controversies in surgical and radiotherapeutic management of above malignancies were discussed.

Renowned Guest Speaker Dr. S.K. Shrivastava, Radiation Oncologist from Apollo Hospital, Mumbai delivered a talk on "Professionalism and Ethical Conduct in Radiation Oncology". He also moderated a panel discussion in which he discussed the role of advantages/disadvantages of different modalities of radiation from early to advanced from cobalt era to advanced techniques of radiation. On Linear Accelerator and Halcyon in various malignancies of Head & Neck and Gynaecological Cancers. He emphasized on the role of advanced modalities of radiation like IMRT, IGRT in the Radiotherapeutic treatment of cancer as it gives better quality of life after treatment as it has minimal side effects.

The conference was attended by a large number of medical fraternities from all over MP and Chhatisgarh. It was a very good scientific meet and has very good academic discussion.



# CONFERENCE REPORTS

The Conference also had a Poster presentation contest on Head & Neck and Gynaecological malignancies in which there were 27 posters presented by students of MP & Chhatisgarh. It was judged by Dr. Sarbani Ghosh & Dr. Ashwini from TMH, Dr. P. Kirar, HOD Medical College Rewa, Dr. Ritu Singhal, HOD Pathology & Blood Bank from JNCHRC. 1st prize was won by Dr. Prashant Mishra from JNCHRC. The Conference also had a Quiz contest for the students in which a questionnaire of 30 MCQ was given to them. (Quiz attached). The winners of the quiz contest were -

- 1st - Dr. Abhinav Narwariya, GMC, Bhopal
- 2nd - Dr. Bipin Fracis, GMC, Bhopal &  
Dr. Shashank N Singh, Aurobindo Institute of Medical Science, Indore
- 3rd - Dr. Sarthak Mohanis, SAIMS, Indore

Vote of thanks was proposed by Dr. Pradeep Kolekar, Director (Medical), JNCHRC. At the end conference was followed by General Body Meeting of AROI-MP-CG Members.

## PRODVANCE

AROI has always focused on being at the forefront of academic & research activities in Radiation Oncology and related disciplines. PRODVANCE is a joint educational initiative by AROI & ICRO especially designed for the Young Radiation Oncologist with a clinical experience of less than 10 years. We are pleased to invite everyone to PRODVANCE Pune 2019, to be held on 13th & 14th April 2019. This program will familiarize them with an overview of Head and Neck Oncology with emphasis on radiotherapy.

**Trainees in the subject and radiation oncologists with less than 10 years experience are encouraged to register (latest by 31st March, 2019). Registration is limited to 80 seats.**

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## PRODVANCE PUNE 2019

### Western Chapter

A career orientation initiative for young Radiation Oncologists organized by  
**Indian College of Radiation Oncology (ICRO),**  
wing of  
**Association of Radiation Oncologists of India (AROI)**  
in association with  
**Inlaks & Budhrani Hospital, Pune**

**13 & 14  
April 2019**

### VENUE

**JUBILEE HALL, VAMNICOM**  
VAIKUNTH MEHTA NATIONAL INSTITUTE OF  
COOPERATIVE MANAGEMENT  
BESIDES PUNE UNIVERSITY PUNE 411007





# CONFERENCE REPORTS

## 7<sup>th</sup> YROC, 19-20 JANUARY, SILIGURI | JYOTIRUP GOSWAMI

The 7th Young Radiation Oncologists' Conference (YROC) was organised at The Montana Vista, Siliguri, West Bengal on January 19-20, 2019.

The host chapter was the AROI-West Bengal Chapter & the hosting institute was Medica Cancer Hospital, Siliguri.

The theme of the Conference was "Defining the Target, Refining the Arrow".

The Organising Chairman was Dr Swapnendu Basu, while the Organising Secretary was Dr Sourav Guha.

The event comprised many different sessions, from the usual (Breast Cancer, Head-Neck Cancer) to the innovative (Molecular Biology, Immuno-Oncology & Palliative Care). Typically the speakers & panelists in each session were young radiation oncologists while one member of the Senior Faculty guided the session as Expert.

Two of the most appreciated sessions were the Proton Therapy session with Prof Siddhartha Laskar (TMH, Mumbai) and the Young Radiation Oncologists' Session, conducted by Prof Sushmita Ghoshal (PGI, Chandigarh).

There was an exciting Workshop on the New primary CTV Contouring Guidelines in Head-neck Cancer, conducted by Prof Sarbani Ghosh Laskar & Prof Tejpal Gupta (TMH, Mumbai).

Other luminaries who attended the event were Prof Ashwini Budrukhar (TMH, Mumbai) & Prof Umesh Mahantshetty (TMH, Mumbai-by video-link).

For the residents, there were 2 competitive sessions- the Best Paper Session & the Quiz. The winners of the Best Paper Session were 1st-Dr Soujanya Ferdinand (Narayana Superspeciality Hospital, Howrah), 2nd- Dr Hema Padmini Puthota (GSL Medical College Hospital, Rajahmundry) and 3rd-Dr Ankita Rungta Kapoor (Jupiter Hospital, Thane). The top 10 poster presenters were additionally granted travel grants of INR 5000/- by the conference organisers.

All delegates were regaled with sumptuous food & traditional Bengali hospitality. The Cultural Evening, which saw an array of traditional dances by local tribal artistes was also a superhit. Delegates also availed the opportunity to visit a range of exciting nearby tourist destinations, including Darjeeling & Gangtok.





# CONFERENCE REPORTS

## SRMS CONTOURING CLASSES | PIYUSH KUMAR AGRAWAL

### 8TH WORKSHOP HELD AT DEPT. OF RADIATION ONCOLOGY, SRMS-IMS, BAREILLY

A two day 8th workshop of SRMS-IMS Contouring Classes was started on 16th-17th March, 2019. The topic was "Contouring of Head & Neck Malignancies". The workshop aims to teach faculty and residents about the latest radiotherapy techniques.

Dr. Piyush Kumar, Professor and Head of Department was Course Chairman and

Dr. Arvind Kumar Chauhan (Asso. Prof) & Dr. Pavan Kumar (Asst Prof) were Course Coordinators. Faculties, Senior Resident and Junior Residents from S. N. Medical College (Agra), Regional Cancer Institute (Gwalior), Kamla Nehru Memorial Hospital (Allahabad) and Keshlata Hospital (Bareilly) attended this workshop.

At the end of this workshop the delegates were able to identify the normal structures and OARs of Head & Neck. Moreover the delegates were able to delineate various clinical target volumes of Head & Neck region.

The delegates appreciated the efforts taken by the Medical Physics and technical team to come on a holiday and provide a visual impact of the IMRT and IGRT technique. The Instructor for the course was Dr. Sudeep Bisht (Senior Resident) along with four tutors Dr. M. Navya, Dr. A. Srinivas Naidu, Dr. Ankita Mehta and Dr. Kritika Mehrotra. The workshop was well appreciated by delegates and the feedback was very motivating. The resident from Agra Dr. Tejaswita, who attended this contouring session for the 3rd consecutive time, commented "Excellent experience that would be fruitful for lifetime, with excellent mentorship of tutor".

With every forthcoming session, the department is trying to improvise on the contents of practical teaching. A compact disk consisting of a collection of relevant books, articles and contouring guidelines is also being provided to the delegates along with a booklet for reference.

The Medical Physics team demonstrated the IMRT planning of Cancer Pyriform Fossa which was followed by the live demonstration of delivery of Radiotherapy by IGRT technique.







**AROCON 2019**  
Inception, Evolution, Evidence & Future in Oncology 2019

**Registration Form**  
(To be filled out by registrant/attendee)

Full Name: \_\_\_\_\_  
 AROI Membership No.: \_\_\_\_\_  
 Category of Registration: Member / Non-Member / Trainee\* / Accompanying Person / Foreign / ICRO Workshop  
 Medical Council Registration No.: \_\_\_\_\_ State: \_\_\_\_\_  
 \*(For Postgraduate students a letter of attestation by HOD is mandatory)  
 College / Institute: \_\_\_\_\_  
 Address for Correspondence: \_\_\_\_\_  
 \_\_\_\_\_  
 City: \_\_\_\_\_ State: \_\_\_\_\_ Pin code: \_\_\_\_\_  
 Contact Number: \_\_\_\_\_  
 Mobile: \_\_\_\_\_  
 E-mail ID: \_\_\_\_\_  
 Accompanying Person: \_\_\_\_\_  
 Meals: Veg \_\_\_\_\_ Non Veg \_\_\_\_\_  
 Registration Fee Paid Details  
 Total Amount: \_\_\_\_\_  
 Payment Details:  
 (i) Demand Draft / Cheque / NEFT / Other Particulars  
 DD / Cheque / NEFT / Other No.: \_\_\_\_\_ Bank: \_\_\_\_\_  
 Amount (Rs): \_\_\_\_\_ Date: \_\_\_\_\_  
 All payments in favor of:  
**'The Gujarat Cancer & Research Institute'**  
 Name of Bank: Yes Bank Ltd.  
 Branch: CG Road  
 A/c number: 000794600001260  
 IFSC Code: YESB0000007  
 DD/Cheque, along with the hard copy of the duly filled registration form, should be mailed to:  
 Conference Secretariat, Dr. Pooja Handewani Patel, Organizing Secretary, Room No. 54, Dept. Of Radiation Oncology, The Gujarat Cancer & Research Institute, Ahmedabad - 380006, Gujarat, India  
 Mobile: +91 9825735897  
 Email: arocon2019@gmail.com Website: www.arocon2019.com

## ARO I Fellowships/Grants/Awards

### Fellowships/ Grants

S.No.	Name of Fellowship	Nos	For	Age Group	Fellowship Grant (in Rs)	Basis	Member of AROI For #yrs	Min Papers	Regularly Attending AROI conferences	Already availed fellowship in the past
<b>Overseas</b>										
1.1	ARO I- Kirloskar	1	Radiation Oncologist	>50	1.5 Lakhs	MD/DNB	10	5	Preference given to those who have not	Then visitage to be given to those who have not
1.2	A. AROI- Kirloskar B. AROI Fellowship	1	Radiation Oncologist	41-50	1.5 Lakhs	MD/DNB	10	5		
1.3	ARO I Fellowship	3	Radiation Oncologist	35-40	1 Lakh	MD/DNB	5	3	actively attend	Availed any Fellowship
1.4	ARO I	3	Radiation Oncologist	30-35	1 Lakh	MD/DNB		3	conference	
<b>Within India</b>										
2.1	ARO I	1	Medical Physicist	<40	20,000	DRP/MSc(M P)	2	BASED ON THE RESUME AND	yes	No
2.2	ARO I	1	Radiation Oncologist	<35	20,000	MD/DNB	3	AND PREFERENCE GIVEN TO PAPER PRESENTERS		No
2.3	ARO I	1	RT Technologist	<45	10,000	AERB Certified	yes			No
2.4	Neil Joseph Fellowship	5	Radiation Oncologist		15,000	Student MD/DNB	yes	RESUME AND INTERVIEW		

### Best Paper

3.1	Best Proffered Paper for Senior Members	1	Radiation Oncologist	40-50				Post MD/ DNB		
3.2	Best Proffered Paper for Senior Members	1	Radiation Oncologist	35-40				>10 Yr Post MD/		
3.3	Dr. G.C. Pant Young Doctor Award	1	Radiation Oncologist Post MD/DNB	<40	Rs 20000 for fellowship			5-10 yr Post MD/ DNB		
3.4	Dr. M S Gujaral Gold Medal	1	Doing MD/DNB					3 yrs		
3.5	Dr. M C Pant Gold Medal	1								
3.6	Dr. M C Pant Gold Medal Medical Physics	1	Physicist/Radiation oncologist with physicist	<30	Rs 7500+ Medal			DRP/MSc in Med. Physics		

### Procedure for Application:

1. Applicants have to send a copy of date of birth certificate.
2. Applicants to send a copy of the publications mentioned under each Fellowship.
3. Self certified proclamation that they are working full time in radiotherapy.
4. Fellowship amount will be given to candidates from money received from sponsors after tax deduction and 15% contribution to AROI fund (for 1.1 & 1.2 A)
5. All the applications for fellowship/ best paper awards be sent along with the letter from head of department/ institute to the office of Secretary General AROI by 5 PM, 30 July 2019. (drvashistha@gmail.com/girishuba@gmail.com/secretaryaroi@gmail.com)
6. No Objection certificate from their head of Department if selected to go for fellowship. Fellowship must be completed before August 2020.
7. PG Students shall send their certificates through Head of the Department.
8. For the best paper award, applications should be sent along with the full paper. (Soft copy by email & hard copy by post).
9. Abstract along with the letter from the head of dept. for publication in JCRT should be sent along with the paper (if JCRT accept)
10. For fellowship more than 35 years age category should be member of ICRO.
11. Applicants to send softcopy also through email.

### Mailing address:

Dr. G.V. Giri,  
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 Karnataka 560004

**Email:**  
 secretaryaroi@gmail.com  
 Vashistha.aroi@gmail.com



# CONGRATULATIONS

## ESTRO TECHNOLOGY TRANSFER GRANT (ESTRO-TTG) | DR RAJESH PASRICHA

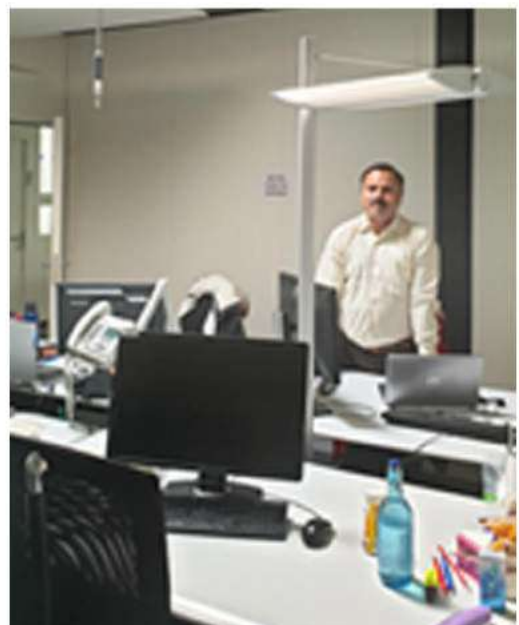
Dr Rajesh Pasricha Additional Professor- Radiation Oncology, from All India Institute of Medical Sciences (AIIMS)- Rishikesh received ESTRO Technology Transfer Grant (ESTRO-TTG) to visit to Universities of Applied Sciences (UAS) in Switzerland. The aim of visit to the UAS was to learn & understand radiomics for cancer image analysis especially using machine learning approach, its workflow, and gain insight into the advantages, disadvantages, applications, and limitations of radiomics. During his visit he also in learned how this new image analysis tool can help to improve patient care and deliver radiation therapy in better way so as to improve cancer control rate and decrease side effects.

Radiomics is a relatively new field of study which involves quantitative analysis of various imaging features for a defined end point like detection of malignancy, control rate or prognosis.

It can be performed on any kind of medical images like CT, MR PET scans and even histopathological and retinal images. Radiomics workflow can be divided into segmentation of desired area of image, feature extraction and analysis.

He also visited partner hospitals of UAS at Lausanne & Bern and was able to meet with radiation oncologists, radiologists and nuclear medicine specialists, as well as physicists and data scientists, involved in research on image analysis using radiomics and observed the work-flow for implementation of radiomics in clinical settings.

This experience provided him a unique opportunity to gain knowledge and insights into this complex topic, as well as form networks that will pave the way for similar inter-disciplinary research platform in India





# 18<sup>TH</sup> ANNUAL DAY CONFERENCE: RGCIRC

**Rajiv Gandhi Cancer Institute and Cancer Research Institute** conducted its 18th annual international conference on 8th Feb - 10th Feb 2019. The entire conference was based on thoracic oncology with prime focus on translational research and was adequately themed 'translating research into practice'. The conference was first of its kind exclusive thoracic oncology conference with mammoth registrations of over 1300 delegates. The faculty included nothing less of stalwarts of their respective fields with representations from India as well as all around the globe.

The day 1 of the conference included workshop on Radiation Oncology which was spearheaded by the organising team led by Dr Munish Gairola, Director Radiation Oncology, Rajiv Gandhi Cancer Institute and Research Centre. The workshop included international faculty Dr Suresh Senan from Netherlands, Dr Ajay Sandhu from USA and Dr Andrew Miller from Australia along with other eminent national faculty. The workshop saw panel discussions, practical demonstration on Radiomics along with chart rounds with experts on the use of various radiation techniques and planning. The workshop ended with real data presentation of patients with lung cancers treated by thoracic radiation oncologists from various centres of India. The presentation acted as a self-audit of our current standard of treatment in the Indian subcontinent.

The entire event saw multidisciplinary sessions, inherent to the management of thoracic malignancies, along with parallel session running on palliative care, clinical and patient care, pathology and surgical workshops, and medical ethics. The conference was inaugurated by the chief guest, Dr Anil K D'Cruz, president-elect UICC, and guest of honour Dr G.K. Rath, Director, NCI Jhajjar in the presence of Chairman, CEO, MD RGCI and organising committee, RGCON 2019 on 9th Feb 2019. The entire 3 day academic fiesta ended with vote of thanks along with prize distribution ceremony with attractive prizes for e-poster and quiz winners.





# CONFERENCE REPORTS

## 3RD ESTRO-AROI GYN TEACHING COURSE | AIIMS-RISHIKESH

AIIMS-Rishikesh recently conducted 3rd ESTRO-AROI GYN Teaching Course on “3D radiotherapy with a special emphasis on implementation of MRI/CT based brachytherapy in cervical cancer” from 14th-17th March. It was supported by educational grants from ICMR & UCOST (Uttarakhand Council of Science & Technology). The course was well attended with around 120 registrations from India and abroad including SARRC Countries like Bangladesh & Nepal as well as from South East Asian countries like Vietnam, Malaysia and Myanmar. ESTRO Faculty for the course included Prof Richard Potter, Prof Kari Tanderup from Vienna, & Christine Haie Meder from Institute Gustave Rousse Paris.

AROI Faculty included Prof. Umesh Mahantshetty & Jamema Swamidas from Tata Memorial Hospital Mumbai & Prof. DN Sharma from AIIMS-New Delhi. It was an intensive hands on teaching workshop with first half of each day dedicated to didactic lectures & Video presentations and second half for hands on practice sessions for contouring and treatment planning. At the end of the course participants were encouraged to start Image based brachytherapy protocols at their respective centers and they were promised full support from course faculty in case of difficulties & road-blocks. The possibility of formation of a cooperative network was also explored.





# CONFERENCE REPORTS

## 3RD ESTRO-AROI GYN TEACHING COURSE | AIIMS-RISHIKESH







INNOVATIONS &  
TECHNOLOGY :  
TRANSFORMATION  
INTO CANCER CARE

2019

**ARO** BIHAR  
CHAPTER

**3<sup>rd</sup> ANNUAL CONFERENCE**

**DATE: 15<sup>TH</sup> & 16<sup>TH</sup> June, 2019 VENUE: HOTEL PATLIPUTRA CONTINENTAL, PATNA**



**SAVE  
THE DATE**

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ORGANISED BY ASSOCIATION OF RADIATION ONCOLOGISTS OF INDIA  
HOST: AROI, WEST BENGAL CHAPTER



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## 31<sup>st</sup> ICRO PG Teaching Program

27<sup>th</sup> & 28<sup>th</sup> April 2019

### Organised by

**Guru Gobind Singh Medical College Hospital**  
Faridkot, (Punjab)

### Patron

**Dr M K Mahajan**  
Director, Advanced Cancer Institute, Bathinda

### Course Chairman

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This educational program is supported by  
an unconditional grant from



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## Indian College of Radiation Oncology (ICRO)

wing of

## Association of Radiation Oncologists of India (ARO)

## 31<sup>st</sup> ICRO PG Teaching Program

27<sup>th</sup> & 28<sup>th</sup> April 2019

## On GI Malignancies

### Organised by,

**Guru Gobind Singh Medical College Hospital,**  
Faridkot, (Punjab)

### Venue

**Senate Hall, Baba Farid University of Health Sciences,**  
Faridkot (Punjab)

A mother complained to her consultant about her daughter's strange eating habits.

–“All day long she lies in bed and eats yeast and car wax. What will happen to her?”

–“Eventually,” said the consultant, “she will rise and shine.”

Question: Does an apple a day keep the doctor away?

Answer: Only if you aim it well enough.





## PRACTICING ONCOLOGY: MY TAKE | ASHUTOSH MUKHERJI

Practicing oncology has undergone major changes from its first steps during the early 20th century to the present era. The Cancer specialist is however still an explorer charting unfamiliar territory only the territory has changed. While previously the oncologist experimented with clinical protocols and use of basic drugs for establishing protocols in cancer treatment of specific sites, research has slowly shifted to radiobiology and molecular pathways for drug interactions and new drug research. Radiotherapy research has moved on from basic radiation delivery to new ablative fractionation schedules, neoadjuvant approaches, better imaging and quality assurance. The advent of the Internet and the pervasiveness of "Social Media" have added new perspectives on the practice of medicine in general and oncology in particular. I shall be referring in this article on a few points for fellow oncologists based on my limited experiences: Taking into account Social media in practice, Academia vs private practice, care of VIP patients and avoiding burn out.

### Social Media in Oncology Practice:

The advent of social media has profoundly impacted medical practice. Many of my colleagues will have memories of patients coming to their OPDs with their list of questions downloaded from the web. Blogs, social networking sites and other electronic resources have become valuable methods for oncologic education but are also perfect environments for misinformation and quackery.

[1] There are now hundreds of websites claiming the effectiveness of alternative medicine supplemented by anecdotal reports. Many such report print outs will be waved in front of us by some of our more "educated" patients. Sometimes patients will also ask us about advertisements given out by celebrities towards certain treatment modalities or life style patterns which may or may not have a bearing on the patient's condition and plan of management.

Systems of alternative medicine according to available literature so far have the ability to improve compliance and patient quality of life as well a decrease cancer risk if applied correctly and as supplementation to standard treatment modalities. However many sites declare many such interventions as being the better treatment alternative to standard practice and this is where the problem starts for the oncologist. "Dr. Google" [2] is now a recognized phenomenon in which a patient uses Google search to obtain oncologic information. But such users are literally overwhelmed with unvalidated, heterogeneous, non-contextualized and sometimes not scientifically structured information. Such conflicts of interest or opinion between the patient and doctor can lead to alienation on both sides; with the patient feeling that the oncologist does not want to discuss potentially curable and cheaper alternatives (the classic "Cancer Conspiracy" Syndrome), and the oncologist feeling exasperated that he is not getting through to the patient and the patient is potentially going down a dangerous road.



Sr. Consultant Radiation Oncologist and Academic Coordinator,  
Yashoda Cancer Institute, Yashoda Hospital,  
Somajiguda, Hyderabad



Such online searches or consultations can be very harmful for the patient as well as the doctor-patient relation. This can be many ways. Wrong advice or misinformation may hinder cure or worsen prognosis in certain cancer patients. Also such online or e-platforms can be used by shady organisations or companies to sell useless remedies or recommend expensive unproven therapies. Also the Internet does not provide a case based or customized outcome analysis which is what the patient wants. It provides a disorganized mixture of non-contextualized oncologic data from studies and non-professional opinions based on search frequency statistics or key words in any order; and this might be a source of false hope or psychological stress for patients and families. Another harmful effect of such online consultations is that it deteriorates the image of professional and recognized oncologists because the general public often cannot distinguish between reputed professionals and quacks, due to lack of regulation or quality certification for websites or blogs. And finally, uncertainty about the origin and quality of information provokes a sense of general distrust in science.

The way out for the doctor is to keep updated even about the latest from alternative medicine. Basically the oncologist should update themselves of all developments which can possibly affect their field of practice. It is also important for the doctor not feel alienated from the patient and to especially guard against all negative stereotype images from reinforcing themselves as these will affect the doctor's bonding with the patient. In the end it is important to remember that the patient requires the doctor's help in sifting through the huge pile of information and misinformation available to him and in deciding upon the plan of management with the help of the doctor's advice. Thus Internet users can be the actual creators of content and scientifically unsupervised data can be a source of potential harm for cancer patients. Complementary oncologic therapy is considered an evidence-based and helpful adjunct aimed to improve symptoms attributable to conventional cancer treatments. However when alternative oncology tries to substitute proven oncologic therapy, the results can be detrimental and dangerous.

## **Academia versus private practice:**

Another common confusion young doctors who have specialized in oncology is to whether engage in private practice immediately after specialization or to go in for government service. This is a tough call as like in other fields, in radiation oncology also there is a dearth of the number of available faculty posts in good teaching hospitals compared to the number of PGs coming out. Also radiation oncology is a machine dependent field and most radiation oncologists are usually associated with government services, large corporate private hospitals or trust hospitals. Also compared to other branches of medicine, the absolute numbers of radiation oncologists is relatively less and settlement is relatively earlier and easier.

The pros and cons of government service are well known. If the person only desires a stable and secure job, is not very ambitious and wants to only do a job daily without challenges then there are many such government institutes. There are also many central and state government institutes which have set parameters for oncology practice, where research and innovation is promoted and promotion of the faculty is dependent on such achievements. There are private hospitals which expect the radiation oncologist to increase the turnover and do not bother about academics or research; there are also private and corporate institutes which value academics and research and promote their doctor's to indulge in the same. Therefore a simple comparison of Academic versus Private Practice is actually a misnomer. How the doctor wants to work depends on his / her mental aptitude and outlook. A person can involve in academics both in a government or a private hospital, the only difference is job security and the frequency of machine upgrades in that particular institute. It would be advisable for a young radiation oncologist to start his / her career from a place where all broad modalities of radiotherapy are present, where there is a proper tumour board based case treatment, where active research and student teaching is ongoing and where there is scope for personal improvement.



## Care of VIP patients:

Caring for VIPs is another cause of challenge in a radiation oncologist's daily practice. A VIP can either be a national or state level political leader or member of the ruling establishment. They can also be civil servants, hospital trustees or celebrities. In a situation often referred to as the "VIP syndrome,"[3] a patient's special status or the hospital staff's perception of such status induces changes in behaviors and clinical practice that can create a "vicious circle of VIP pressure and staff withdrawal" leading to poor outcomes. The situation often pressures the health care team to bend the rules by which they usually practice medicine. In such a situation it is important to remember that the particular VIP has come to that doctor for his / her excellence and good reputation. The VIP may actually want the radiation oncologist to care for him or her as another regular patient but may expect more time, communication and empathy. In these situations, it is good to follow a few general rules.

First in no case should the treatment protocol may be changed. Whatever investigations and tests need to be done should be meticulously followed to avoid missing a diagnosis or staging even if it is slightly uncomfortable to the VIP. Wrong diagnosis or wrong treatment can be catastrophic in these situations. It is also important to remember that it is better to have a multi-modality team approach than indulge in individual heroics. One person in the team could be designated as the point person or spokesperson, usually the definitive treating doctor. It is also important to communicate extensively, clearly and without any internal contradictions with the VIP so that the person has a fair understanding of his / her disease, plan of management and prognosis. Communication should include the patient, the family, visiting physicians who accompany the patient, and the physicians providing care. The VIP can be scheduled for off-hour treatments or tests to avoid exposure to the public or for security considerations. However if intensive care is required, it should be given in the ICU where all facilities are available. The bed or section could be cordoned off and separate trained staff provided. It is also important to absolutely maintain patient confidentiality even amongst hospital staff not involved with care. Media management if required is at the sole discretion of the patient or a designated surrogate.

A senior hospital physician should be designated to communicate with the media, and the physician-spokesperson can call on specialists from the patient care team when appropriate, to provide further information. It is finally necessary for the doctor to discuss with the patient, their care givers and their family doctors (if the VIP patient chooses to involve his / her family doctor in the treatment plan) the expected line of management, results and prognosis as well as follow up advice and hoe care. It is important to involve the family physician (if the patient so desires) as this will take a lot of load off the oncologist's shoulder. Also VIP patients from gifting cultures may be especially likely to offer gifts to their providers, and the gifts can be lavish. The doctor has to decide on the ethics of accepting such gifts [4] as such a decision depends on the circumstances and on what motivates the offer, and the physician needs to consider the patient's reasons for giving the gift. Sometimes it would be safer to defer accepting the gift till after completion of the treatment. This ensures that there is no implication of gift giving with expected treatment results.

## Avoiding burn out:

In an interesting letter to the editor in the Journal of Clinical Oncology (The Last Drop, under section The Art of Oncology,

<https://doi.org/10.1200/JCO.2017.73.9326>), the author who is a Medical Oncologist likens himself to a pouch that is full in the morning and empties out with each passing patient though the day. The pouch sometimes empties out much before the day has ended. This is an interesting corollary to what an oncologist goes through while treating cancer patients. Many of our younger colleagues feel bad when a patient does not do well on treatment or even progresses or dies. Doctors frequently internalize the sufferings and losses of their patients and over a period of time, this along with their irregular and long duty hours, stressful work, the need to stay academically updated can take a toll both on their mental and physical health.



# INVITED ARTICLE

The results of such stress can lead to depression, ill health, broken families and even a complete nervous breakdown of the doctor. An oncologist has to display psychological and emotional resilience and the sixth sense to know when it is wearing thin. It is important to realize that in oncology while all patients cannot be cured, all be definitely comforted and helped. Sometimes just following guidelines may not help and the plan may have to be customised to the patient. It is also important for the oncologist to have a private life, to take time out with the family, to develop a hobby in which to promote his or her creative talents and to have at least one to two memorable holidays in a year. It is also important for all oncologists and all doctors to treat their own colleagues with respect and care as we spend at least 40-45% of our daily time with our colleagues. A congenial atmosphere is a big stress buster.

## References:

1. Delgado-López P, Corrales-García E (May 13, 2018) Influence of Internet and Social Media in the Promotion of Alternative Oncology, Cancer Quackery, and the Predatory Publishing Phenomenon. *Cureus* 10(5): e2617. DOI 10.7759/cureus.2617
2. Avery N, Ghandi J, Keating J: The 'Dr. Google' phenomenon-missed appendicitis. *N Z Med J.* 2012, 125:135-137.
3. Schenkenberg T, Kochenour NK, Botkin JR. Ethical considerations in clinical care of the "VIP". *J Clin Ethics* 2007; 18:56-63.
4. Lyckholm LJ. Should physicians accept gifts from patients? *JAMA* 1998; 280:1944-1946.

This is a collection of funny one-liners, exactly as typed by medical secretaries:

- Patient has left her white blood cells at another hospital.
- Patient has chest pain if she lies on her left side for over a year.
- On the second day the knee was better and on the third day it disappeared.
- The patient has been depressed since she began seeing me in 1993.
- Discharge status: Alive, but without my permission.
- Patient had waffles for breakfast and anorexia for lunch.
- While in ER, Eva was examined, x-rated and sent home.
- Skin: somewhat pale, but present.
- Patient has two teenage children, but no other abnormalities.
- The patient was in his usual state of good health until his airplane ran out of fuel and crashed.
- Mrs. Evans slipped on the ice and apparently her legs went in separate directions in early December.
- Patient was seen in consultation by Dr. Jones, who felt we should sit on the abdomen and I agree.
- The patient refused autopsy.
- The patient has no previous history of suicides.
- She is numb from her toes down.
- She stated that she had been constipated for most of her life until she got a divorce.
- Both breasts are equal and reactive to light and accommodation.
- Examination of genitalia has revealed that he is circus-sized.
- Patient was found in bed with her power mower.
- She has no rigors or shaking chills, but her husband states she was hot in bed last night.



# AROI - ICRO PROGRAMMES- 2019

Sl. No	Programme	Topic	Date	Place	Organizer	Contact No & E.mail
1	AROI-ICRO POST PG Teaching Program	Head & Neck Cancer	13 <sup>th</sup> - 14 <sup>th</sup> April, 2019	Pune	Dr. Gautam K Sharan	09326323109 dr.gautamsharan@gmail.com
2	AROI-ICRO SUN PG Teaching Course	GI Malignancies	27 <sup>th</sup> - 28 <sup>th</sup> April, 2019	Faridkot	Dr. Raja Paramjeet Singh	09646912340 rajabanipal@gmail.com
3	AROI-ICRO INTAS Radiobiology Course	Radiobiology	25 <sup>th</sup> May, 2019	Chennai	Dr. V Srinivasan	09841022366 vsrinivasan09@gmail.com
4	AROI-ICRO POST PG Teaching Program	Head & Neck Cancer	8 <sup>th</sup> - 9 <sup>th</sup> June, 2019	Shillong	Dr. Vikas Jagtap	08822231236 drvikasj@yahoo.co.in
5	AROI-ICRO INTAS Radiobiology Course	Radiobiology	13 <sup>th</sup> July, 2019	Amritsar	Dr. Neeraj Jain	09814299045 neer1967@yahoo.com
6	AROI-ICRO SUN PG Teaching Course	Breast Cancer	27 <sup>th</sup> - 28 <sup>th</sup> July, 2019	Kolkata	Dr. Chandan Dasgupta	09433581545 drchandandasgupta@yahoo.com
7	AROI-ICRO INTAS Radiobiology Course	Radiobiology	10 <sup>th</sup> August, 2019	Cuttack	Dr. SN Senapati	09437031718 snsenapati2007@gmail.com
8	AROI-ICRO POST PG Teaching Program	Head & Neck Cancer	17 <sup>th</sup> - 18 <sup>th</sup> August, 2019	Vizag	Dr. Suman Das	08978418762 drsumandas@gmail.com
9	AROI-ICRO POST PG Teaching Program	Head & Neck Cancer	7 <sup>th</sup> - 8 <sup>th</sup> September, 2019	Chandigarh	Dr. Rakesh Kapoor	09872648344 drkapoor.r@gmail.com
10	AROI-ICRO INTAS Radiobiology Course	Radiobiology	5 <sup>th</sup> October, 2019	Loni	Dr. Vandana Jain	08278629424 drmrsvandana@gmail.com
11	AROI-ICRO SUN PG Teaching Course	Paediatric Malignancies	19 <sup>th</sup> - 20 <sup>th</sup> October, 2019	Lucknow	Dr. Madhup Rastogi	09418155955 drmadhup1@gmail.com
12	ICRO Pre-Conference Workshop	Precision Radiation Techniques	28 <sup>th</sup> November, 2019	Ahmedabad	Dr. Pooja Nandwani Patel	09825739897 drpoojanandwani@gmail.com

Dr.V.Srinivasan,Secretary-ICRO

Email:secretaryicro@gmail.com

Mobile:9841022366

**Sun ICRO Course-** For 2<sup>nd</sup> and 3<sup>rd</sup> year MD/DNB Radiation Oncology Students

**PRODVANCE-** For Young Radiation Oncologists- Post PG up to 10 years

Dear Friends,

It is with great pleasure that we invite you to attend "Indo-Global Summit on High Precision Radiotherapy (IGSHPRT)" to be held at Entertainment Paradise, Jaipur, on 14th & 15th September, 2019.

The meeting will be organized by Bhagwan Mahaveer Cancer Hospital & Research Centre, Jaipur in collaboration with Rajasthan Chapter of Association of Radiation Oncologists of India.

The meeting will focus on High Precision Radiotherapy in the management of CNS, GI, GYN, GU and Thoracic cancers. The conference would offer a large number of invited lectures from renowned national and international speakers. The Best paper awards will be given for the papers judged to make the most significant contribution to the conference.

We are sure that you will find this conference useful and a highly enriching experience.

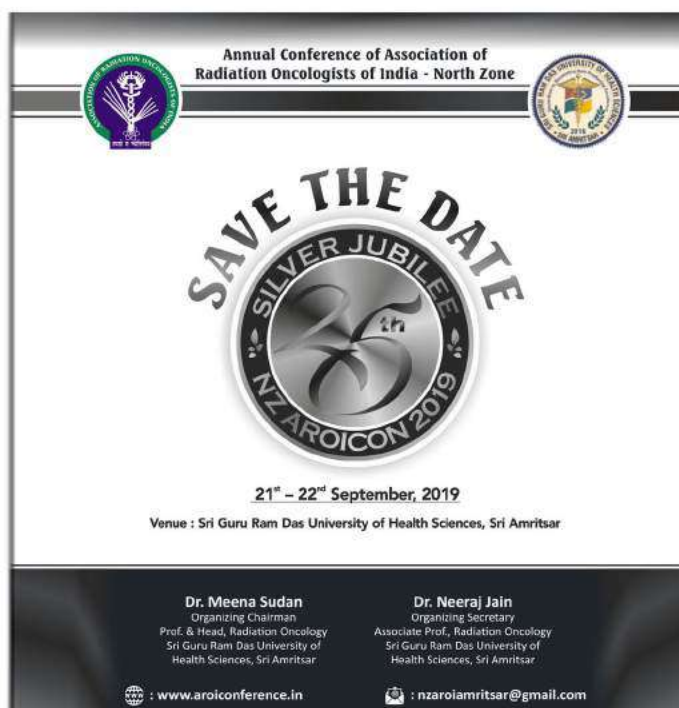
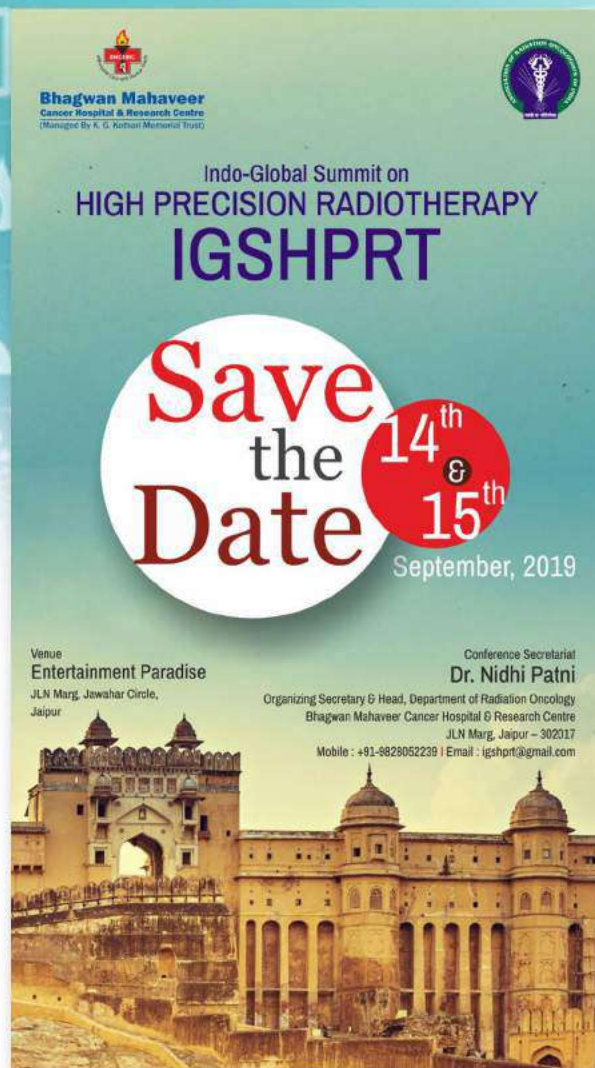
Looking forward to your participation in this scientific extravaganza.

Sincerely,

Dr Nidhi Patni  
Organizing Secretary

Conference Secretariat  
Department of Radiation Oncology  
Bhagwan Mahaveer Cancer Hospital & Research Centre  
JLN Marg, Jaipur - 302017  
Mobile : 9828052239 | Email : igshprt@gmail.com





### 31st UP AROICON, 5-6 OCTOBER, LUCKNOW

The department of radiotherapy, SGPGI, Lucknow, is hosting the 31st AROICON (UP state chapter) on 5-6 October, 2019 at SGPGI campus.

The state chapter meeting shall be preceded by a short symposium on "Women in Oncology" and alumni meet on 4th October, 2019.



# 32<sup>nd</sup> Foundation Day Celebration

Department of Radiodiagnosis & Radiotherapy  
KGMU, Lucknow

17<sup>th</sup> Dec, 2018





# AROI CENTRAL OFFICE SUB COMMITTEES

## Dear Friends

As per discussion of Executive committee & GBM 2019.

General body has given the instructions to make few committees to help central office activities.

## Scientific committee (To Promote the science & education in Radiation Oncology)

Chairman –Dr. Rakesh Kapoor – 9872648344-drkapoor.r@gmail.com

Vice chairman –Dr. Rajesh Isaiah -9444817077-rajeshi@cmcvellore.ac.in

### Members

President -Dr. Rajesh Vashistha- 9316911970-drvasistha@gmail.com

President Elect - Dr. Manoj Kumar Gupta – 9549612612 mkgupta62@yahoo.co.in

Secretary General AROI -Dr. G V Giri- 9342880379- girishuba@gmail.com

Chairman ICRO -Dr. Satyajeet Pradhan-- 9415228261 - drsatyajit@yahoo.com

Secretary ICRO -Dr. V Srinivasan - 9841022366 - vsrinivasan09@gmail.com

Chief Editor -Dr. Kishore Singh –9868016145 -drkishoresingh@gmail.com

### Local organizing persons:

Organizing Chairman AROICON 2019- Dr. U Suryanarayan–9427357641- skunikullaya@yahoo.com

Organizing Secretary AROICON 2019 -Dr. Pooja Nandwani Patel- 9825739897- drpoojanandwani@gmail.com

Dr. Jayprakash Neema- 9824028980 - drjpneema@yahoo.com

Dr Kinjal Jani -9825576533- kinjaljani@yahoo.com

## Educational (Academic) committee (To assist AROI in educational activities & look after BEST of ASTRO & ESTRO teaching programs)

Chairman –Dr. S N Senapati- 9437031718 snsenapati2007@gmail.com

Vice Chairman (For chartrounds) –Dr. Kaushik Bhattacharya 9874357580 kausikbhattacharya@yahoo.com

Vice Chairman (For other AROI activities) Dr. Madhup Rastogi - -9418155955 -drmadhup1@rediffmail.com

Best of ASTRO Coordinator - Dr. Kaustav Talapatra - 9022350361 - Kaustee@gmail.com

### Members

Dr. Vinod Nimbran- 9814426764-vknimbran@rediffmail.com

Dr. Sapna Marcus-8566811228- sapnamarcus@gmail.com

Dr. Jyotirup Goswami –9903388063- jyotirup.goswami@gmail.com

Dr. Ravi Shankar Bellela - 9849123256 - ravi\_bellala@yahoo.co.in

## Govt. Relation Council-For MCI/DNB, BARC & other Govt. Relations

PATRON- DR. G. K. RATH

Chairman-Dr. J P Agarwal - +919867241770 -agarwaljp@tmc.gov.in

Vice Chairman (BARC) –Dr. Sarbani Ghosh-9820834386-sarbanilaskar@yahoo.co.in

Vice Chairman (Govt. relation)–Dr. A K Rathi – 9810178565-drarunrathi@gmail.com

MCI/DNB -Dr. Manish Pandey - 9971950234 -manishpandey73@yahoo.co.in

### Members

Dr. Vikash Yadav- 9811986657 - drvikasyadav@yahoo.co.in

Dr. Haresh KP- 8368849729-drkpharesh@gmail.com x



# AROI CENTRAL OFFICE SUB COMMITTEES

## **International Relation with ASTRO**

Chairman -Dr. Vijay Anand Reddy- 9848020002 -vijayanandpreddy@gmail.com  
Vice Chairman-Dr. Beliappa Mapanganda-9845209243-drb339@gmail.com

## **AROI-ASTRO-Foreign members**

Dr Ajay Pal Singh Sandhu- 18582327638- apsandhu@ucsd.edu  
Dr. Ashwath Narayan - 001-646-251-8785 -ashwatha.narayana@greenwichhospital.org  
Dr. D P Singh- 585-490-0198 - Singh\_Deepinder@urmc.rochester.edu

## **Indian members**

Dr. Suman Malik- 9830545324 -malliksuman@gmail.com  
Dr. Suruchi Singh -8889088815- drsuruchisingh@yahoo.co.in  
Dr. Narender-Kumar-7087009393 -drnarendra74@gmail.com -

## **International Relation with ESTRO**

Chairman-Dr. A.K. Anand – 9810398838-akanand@maxhealthcare.com  
Vice Chairman-Dr. Umesh Mahantshetty- 9819885774- drumeshm@gmail.com  
Foreign members-Dr. Yoodhveer Singh -44-7914625960- ysnagar@yahoo.com  
Dr. Manish Siddha -8889072233 -drmanishsiddha@yahoo.com  
Dr. Sudhir Singh- 8004681752- drsudhirsaharanpur@gmail.com  
Dr. Abhishek Basu- 9830303459 -drabhishekbasu@yahoo.com  
Dr. K S Kirushna Kumar 9842113003- kskk1209@gmail.com

## **International Relation with FARO**

Chairman-Dr. Hanuman Prasad Yadav – 9988212138- drhanuman@in.com  
Vice chairman-Dr. Harpreet Singh -9815400598-drhps2001@gmail.com

### **Members-**

Dr. Ajeet Gandhi – 9013277915- ajeetgandhi23@gmail.com  
Dr. Piyush Kumar Aggarwal -9897693669-piykumagr@gmail.com  
Dr. Sharad Singh -9721226633-meettosharad@gmail.com

## **Advisory Committee for Expert opinion to set up/upgrade Radiotherapy Department**

Chairman-Dr. Ramesh Billimaga -9845365315- bilimaga@gmail.com  
Vice Chairman-Dr. Munish Gairola-9958431598 drmanish@gmail.com

### **Members**

Mr. Maria Das- 9450652708 kjmariadas@hotmail.com  
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Dr. Kinjal Jani -9825576533- kinjaljani@yahoo.com  
Mr. A.K. Bansal- 9873873735-bansaldrp@rediffmail.com-



# ARO CENTRAL OFFICE SUB COMMITTEES

**Clinical & Quality Control Committee** (To formulate Indian Radiation Oncology guidelines & give expert opinion for management of disease, wherever required)

Coordinator - Prof. Manoj Gupta 9816137344 - manoj.rt@aiimsrishikesh.edu.in  
Chairman - Dr. Francis James 9847189270 francisvjames@hotmail.com (urology & Gynaec).  
Vice Chairman - Dr. Shaleen Kumar (Post PG) - For MCI 9415106837 shaleenkr@yahoo.com  
Vice Chairman- Dr. Siddharth Laskar (Protocol & clinical committee) 91 22 24177167- laskars2000@yahoo.com  
-Dr. Rakesh Kapoor -9872648344- drkapoor.r@gmail.com -Pancreas and CA Rectum & CA Esophagus  
-Dr. J P Agarwal - 9867241770- jpthm@hotmail.com- head neck / lung  
-Dr. Indranil Malik 9831171235- imallick@gmail.com-Prostate cancer or rectal/anal cancer  
-Dr. D N Sharma- 9868969899- sharmadn@hotmail.com-breast  
-Dr. Kanhu Charan Patro- 9989060140- drkcpatro@gmail.com -prostate  
-Dr. Ashutosh Mukherji -9489146747- dr\_ashutoshmukherji@yahoo.co.in-stomach/pancreas or esophagus  
-Dr. Munish Gairola 9958431598 drmanish@gmail.com- Head & Neck Cancer.  
-Dr. Umesh Mahantshetty 9819885774drumeshm@yahoo.com- Pelvic tumors in general- GYN and Brachytherapy  
-Dr. Abhishek Shankar (Preventive members) 9968721213 doc.abhishankar@gmail.com- prevention and screening part in different subtypes.  
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Dr. Punita Lal -8004904369 -punitalal11@gmail.com - Head and Neck cancers, Breast cancer, Palliative cancer care  
Dr. Sayan Paul- 8375988842- drsayanpaul@gmail.com- Genitourinary and gynaecological malignancy and SBRT lung and spine. And ophthalmologic malignancy.  
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Dr. Cessal Thomas Kainickal -9446800850- drcessalthomas@gmail.com - Head and Neck cancers for the last 14yrs. Preferred Head and Neck sites are Nasopharynx, Oropharynx, Larynx and Hypopharynx.  
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Dr. Bhavana Rai- 9814635706- bhavana1035@gmail.com- Cervical Cancer, Endometrial cancer, Gyne Brachytherapy  
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Dr. Sanjoy Chatterjee- 9038161825 -Chatterjee72@hotmail.com- neck cancer and breast cancer.  
Dr. Nidhi Patni- 9828052239 -nidhionco@gmail.com - breast / cervix  
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Dr Aswin Kumar (Sarcoma & Lymphoma) - 9847061548- aswinrad1@gmail.com (Sarcoma & Lymphoma)- gynae and genitourinary, lymphomas and sarcomas.  
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