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Radiographers' Journal

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to

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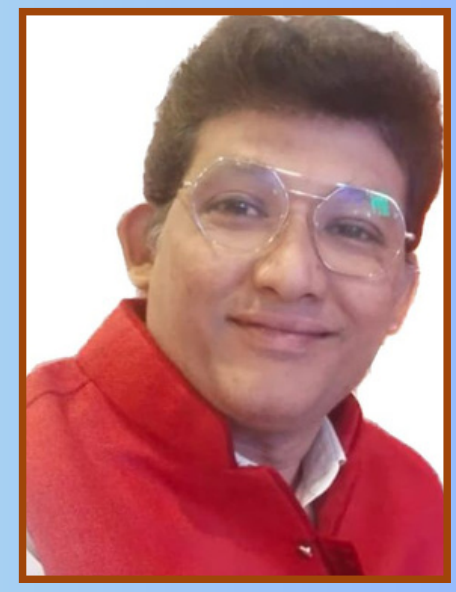

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President 2026-27

RADIOGRAPHERS ASSOCIATION OF MAHARASHTRA
PRESERVE • PROTECT • PROMOTE

From the Desk of Chief Executive Officer, Society of Indian Radiographers

The Society of Indian Radiographers TN & PY Chapter has taken initiation to have a memorandum of understanding with **Vinayaka Mission's Research Foundation, Salem** (Deemed to be University) to promote membership, academic programs & short-term training programs being organized between the organizations.

Faculty of Allied Health Sciences was started in the year 2004 with just 20 students and one department with a motive of giving the best education and training in the field of Allied health sciences. Now it has grown enormously not only in student strength but also in terms of its quality and dynamicity. The faculty of AHS are dedicated to make their students excel in academic and life skills, the most needed in this fast-changing world. The infra structure, clinical exposure, hands on training, up gradation of techniques and teaching methodologies are well established for outstanding performance of their students. FAHS is Stepping into the 18th successful year with 1700 students, 14 Under Graduate courses, 13 Post Graduate courses, 3 Diploma courses.

On behalf of the Society of Indian Radiographers Central Committee Mr. Srinivasulu Siramdas, the CEO and Mr. Damodara Naidu Director, Academics have attended the program and witnessed and signed the documents of MOU between SIR and Vinayaka Mission's Research foundation, Salem.

Society of Indian Radiographers (TN & PY Chapter) started with the vision & mission of, to serve for the welfare and promote the interest of Radiological Technologists, to develop academic excellence and foster professional affinity among members of the Association, to promote overall development of patient care & appropriate teaching methods and standards so as to contribute professional development, to initiate and work such schemes. we are sure this will be a mile stone in the history of SIR to reach the stars by sharing the highly qualified, able and dedicated faculty to promote education, technical skills and patient care.

Mr. Vilas B. Bhadane, the President and Mr. Jagadish N. Jagtap the secretary General on behalf of the Central committee have appreciated the initiative taken by Sri. K. Munirathinam, Co-Chairman of SIR and President SIR TN&PY Chapter and Mr. Marimuthu, the General Secretary of SIR TN&PY Chapter.

On this occasion a National level Conference was conducted jointly, it was very well organized, both hospitality and in terms of its scientific contents. Dr. Thayalan, Dr. Ashok, Mr. Damodara Naidu and Mr. Murugesh has presented the Guest Lectures. Mr. Saravanakumar, Mr. Jerald, Mr K P Uday Kumar, Mr Rishi Murugesh, Mr. Mohan acted as judges.

The Society of Indian Radiographers express thanks to the Dean Dr Sendil Kumar, Asst Prof. Kalaivani, Mr. Ruban and other faculty members for their initiative for the MOU. The SIR also appreciates the students of CAHS, Vinayaka Mission and other institutes for making the event wonderful and memorable one.

During last two years, SIR Tamil Nadu & Pondicherry chapter has done highest membership among all the states under the leadership of Sri K. Munirathinam Sir and C. Marimuthu. The hard work of Marimuthu is appreciated very much by the Central Committee.

SIR appreciates Mr Damodara Naidu Koti, the Director Academics for the able-guidance in this regard. SIR thanks all the faculties from various institutions across Tamil Nadu and Pondicherry for their active participation with students in the National level CME.

Srinivasulu Siramdas
Chief Executive Officer
Society of Indian Radiographers.


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Photo from canva.com

Patient Safety Goals and Standards

Advanced review on artificial intelligence

Padmashree M, RIO, B.Sc., M.Sc. (MRT), Community Health Centre, Jayanagara, Mysore, Karnataka

Introduction

Patient safety is a discipline in Health care sector that applies safety through Scientific methods towards the goal of achieving a trust worthy system of health care delivery.

Patient's Safety is integral part of health care system, to build Radiographer's Perception of Patient safety culture in Radiology through World health organization **(WHO)** defines patient safety as follows, **"The goal is to achieve the maximum possible reduction in avoidable harm due to unsafe health care globally"**.

By continual Upgrading imaging Technology and improving modalities such as X-Ray based imaging (Radiography, Fluoroscopy, Computed tomography), Magnetic resonance Imaging(MRI) and Interventional Radiology safety has become more and more crucial.

The main constraints of safety in Radiology are Radiation safety and to focus on Patient's and Personnel safety essentially makes possibly reducing Radiation Dose and increase analytical ability by achieving development of Artificial Intelligence.

Basic patient safety goals and standards in radiology:

The Basic safety goals has taken a prominence in health care sector, **The National Patient Safety Goals (NPSG'S)** establishing to help accredited organizations addresses specific as of concerns in regard to patient safety.

Patient Identification: Identify Patients Correctly, to improve the accuracy of patient identification use at least two patient identifiers when providing Radiological services.

Effective Communication: To be done between caregivers & Diagnostic Procedure should be on timely basis.

Medication Safety: Label all medications, containers. Other aseptic solutions and procedural settings.
-Patient harm associated with Drug resistance or anticoagulant therapy and follow protocol for high risk medication safety.

Surgical Patient Safety: Preoperative care, procedural monitoring, and post operative management mainly in interventional Radiology.

Prevention of Health care associated Infection: To overcome promotion of hand hygiene technique, assessment of acquired infections like chest infection and pressure ulcers, identification of risk and causes.

Prevention of Patient Fall: To prevent provide safety belts, side railing, fire risk assessment should be done.

Radiological safety aspects :
Radiation protection: Improve the safety from ionizing radiation by following Atomic energy regulatory board (AERB) radiation safety standards and Adhering to guidelines of radiation protection (ALARA, Time, distance, shielding) from the authorities.

Principles of Radiation Protection:
Justification: decision that alters the radiation exposure situation should do more good than harm.
Optimization: number of people exposed, and the magnitude of their individual doses should all be kept as low as reasonably achievable, taking into account economic and social factors.
Limitation: The total dose to any individual from regulated sources in planned exposure situations other than medical exposure of patients should not exceed the appropriate limits recommended.

Gentle and wise use of radiation doses relieves the risk of radiation. Radiographers play a vital role in radiation protection chain. To achieve this

- Intensive education program
- Analysis of risk v/s benefits
- Updating the technology
- Dose management system
- Multi disciplinary periodical review of diagnostic reference values

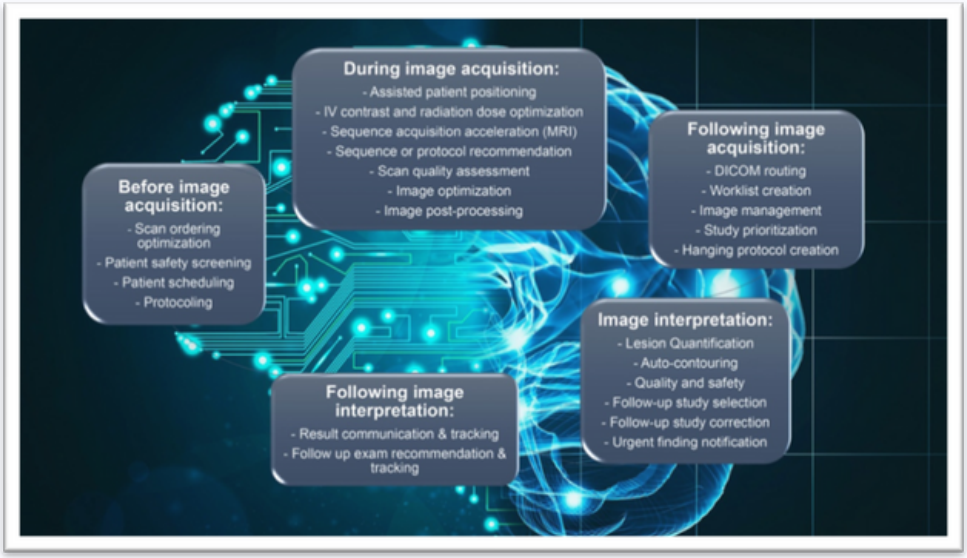
Magnetic resonance Imaging (MRI) safety Aspects: MRI is a non ionizing radiation imaging modality,
Static magnet field effect (SMF): Care much be taken about ferromagnetic objects implanted medical devices to avoid translation effects and projectile effects
Gradient magnetic field (GMF): effects on peripheral nerve stimulation, acoustic noise .To overcome operate in threshold limits
RF magnetic field: Thermal Injury and burns to avoid Specific absorption Rate (SAR) of RF should be minimum and body temperature should maintain below 40 Degree C.
Implants and devices: Check where the device are MRI safe, MRI UNSAFE, MRI conditional

Contrast agents: follow the protocol to adverse effects, nephrotoxicity

Artificial Intelligence: The term artificial intelligence can be broadly defined as a computer program that is capable of making intelligent outcomes. The world has reached a tipping point when it comes to new technologies in radiology

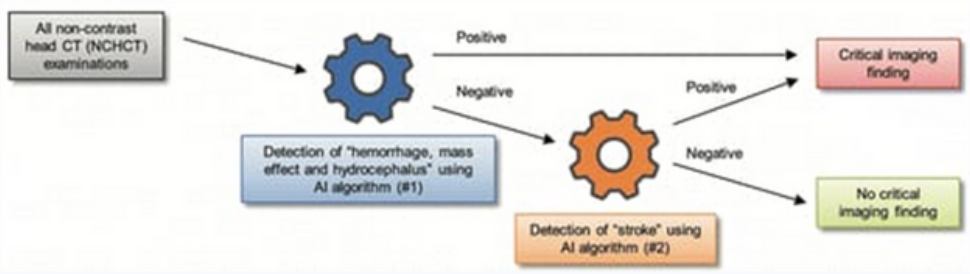
Strategies of patient safety in artificial intelligence in radiography over conventional radiography
The Integration of Artificial Intelligence into health care system is not only changing dynamics such as role of health care provides but also creating new potential to improve patient safety out come and the quality of care.

Artificial Intelligence in Health care systems has the potential to more workplaces safer by reducing human



Overview of the process cycle in radiology and major tasks with potential for AI assistance and optimization. (ref3)

error and in creating situational awareness there by achieving intelligent decisions.



Analytic algorithm of noncontract head CT examinations for urgent findings. AI = Artificial Intelligence (Ref-1)

Patient care in artificial intelligence:

Importance:

- **Human error reduction:** AI has integrated program of patient scheduling, identification, and screening for protocol.
- **Automation:** Highly risky clinical cases needs more efficient practices such a robotic technology in radiology .ex: robotic assisted biopsy
- **Essential in high reliable organizations:** Machine learning (ML) and Deep learning (DL) techniques in AI help to diagnosis for large quantities of report.
- **To analyses use and adverse effect of contrast media:** Notify the patient conditions to past adverse effects, nephrotoxicity,
- **To recognize multi dimensional safety issues in Radiology:** As per patient data base it is highly accessible to analyze gap and safety aspects
- **Preventive approaches:** Specificity of statically data measurable to approach towards preventive action
- **Data security and privacy of the patient data:** confidentiality is maintained on report and highly useful for clinical correlation.

Limitations:

- **Availability of high quality training Data:** In AI machine learning (ML) and Deep learning (DL) process requires large quantities of reference data and highly trained faculty.
- **Clinical contextual limitations:** It does not have access to other important information, such as clinical context, patient history, referral or prior studies. This information can be critical both in interpretation as well as the reporting part.
- **Inter-observer Subjectivity:** Two different radiologists might interpret X-ray image differently. There is no objective truth in medical imaging.
- **Trade of between sensitivity and specificity:** AI solutions can be made very sensitive or very specific. Yet if the product is designed to report on all of the image

Conclusion:

Patient Safety is integrated part of Quality imaging services and artificial intelligence is a mile stone in Radiology. Artificial Intelligence application that can streamline process, improve efficiency, quality of care, safety and patient satisfaction.

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2. Artificial Intelligence and Radiology Education
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4. Patient Safety in Radiology

Degenerative changes of the body

Robindra Mohan Gogoi, Sr. Radiographer Tezpur Medical College , Tezpur.

Degenerative changes refer to the gradual deterioration of tissues or organs in the body over time. These changes can occur due to aging, wear and tear, injury, or certain medical conditions.

Some common degenerative changes that may occur in various parts of the body:

1. Joints: Osteoarthritis is a common degenerative joint condition where the cartilage that cushions the ends of bones gradually breaks down. This can lead to joint stiffness, pain, and reduced range of motion. Pictures of osteoarthritis typically show narrowed joint spaces, bone spurs, and joint deformities.

2. Spine: Degenerative disc disease affects the intervertebral discs, which act as shock absorbers between the spinal vertebrae. As these discs degenerate, they become thinner, lose elasticity, and may develop cracks or tears. This process can cause symptoms like back or neck pain, herniated discs, and nerve compression. Imaging may show disc height loss, disc bulges, or spinal joint changes.

3. Brain: Neurodegenerative diseases like Alzheimer's, Parkinson's, or Huntington's disease result in the progressive loss of brain cells. While it's not possible to capture these changes through pictures, brain imaging techniques like MRI or PET scans can reveal patterns of atrophy and changes in specific brain regions associated with these conditions.

4. Eyes: Age-related macular degeneration is a leading cause of vision loss in older adults. This condition affects the central part of the retina (macula) and can cause blurred or distorted vision. In advanced stages, pictures may show drusen deposits, pigment changes, or damaged blood vessels in the retina.

5. Cardiovascular system: Atherosclerosis is a type of degenerative change that occurs in the arteries. It involves the buildup of plaque comprising cholesterol, fats, and other substances within the arterial walls. While images can capture the presence of plaque or narrowing's (stenosis) in the arteries, further diagnostic tests like angiography may be necessary for more detailed visualization.

Some common examples of degenerative changes along with their corresponding symptoms:

1. Osteoarthritis: This is a degenerative joint disease characterized by the breakdown of cartilage, the cushioning tissue between bones. Over time, cartilage wears away, leading to pain, stiffness, swelling, and reduced joint mobility. X-ray images often show narrowing of joint spaces and the formation of bone spurs.

2. Degenerative Disc Disease: This condition typically affects the spinal discs, which act as shock absorbers between the vertebrae. Signs include disc degeneration, loss of disc height, and the development of herniated discs. Symptoms may include back pain, numbness, tingling, or weakness in the affected areas.

3. Macular Degeneration: This is a common eye disorder in older individuals, causing progressive damage to the macula, a small area in the retina responsible for central vision. Symptoms vary from blurred or distorted vision to a blind spot in the central visual field. Visual tests, such as optical coherence tomography (OCT), may reveal thinning or drusen deposits in the macula.

4. Atherosclerosis: This is the gradual accumulation of plaque inside the arteries that supply blood to vital organs. Over time, the plaque hardens and narrows the arteries, potentially leading to reduced blood flow and various health issues. Imaging techniques like angiography or ultrasound may show narrowing or blockages in the affected arteries.

5. Osteoporosis: It is a condition characterized by a decrease in bone mass and density, making the bones weak and brittle. Common sites affected include the spine, hips, and wrists. X-rays can reveal reduced bone density, thinning of the bone structure, and an increased risk of fractures.

It's important to note that these descriptions are general and individual cases may vary regarding symptoms and imaging findings. If you suspect any degenerative changes or have specific concerns, it's best to consult with a healthcare professional who can provide a comprehensive evaluation and appropriate management.

Photon Counting CT Detector - Principles and Application

Dr. S. Tamijeselvan. Msc.,M.Phil.,PhD., Asst. Professor in Radiography.
Mother Theresa PG and Research Institute of Health Sciences, Puducherry

Introduction

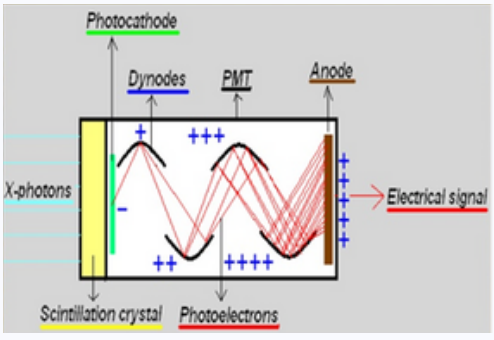
Sir Godfrey Newbold Hounsfield invented Computed Axial Tomography machine in the year 1972. After his invention the cross sectional medical imaging technique has a rapid advancement in the medical field. One such advancement is **Photon Counting CT Detector**.

What is a Detector?

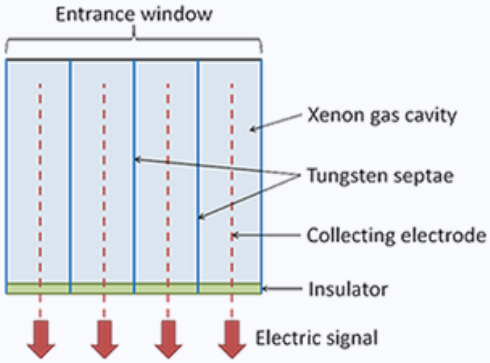
The detector is a important component of a CT scanner that converts the transmitted X ray beam into electrical signals. These electrical signals from the detector are fed into a computer, where the reconstruction algorithm converts the electrical signals into a readable cross sectional image

Detectors and its types

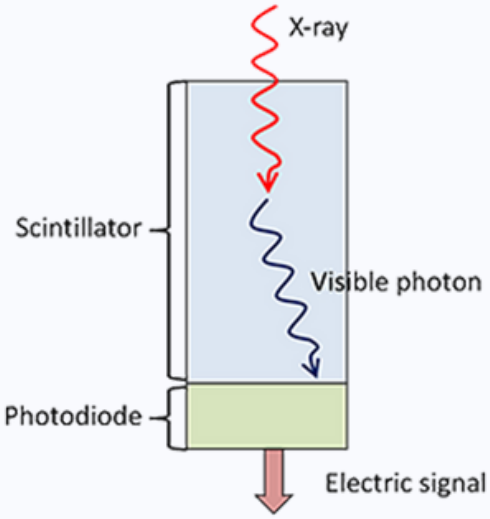
1. Scintillation crystals: It consists of a scintillation crystal coupled to a photo multiplier tube. Transmitted ray falls on the crystal produces light photons. The light photons directed to a photo multiplier tube and photo cathode. The photo cathode releases electrons which forms electrical signals



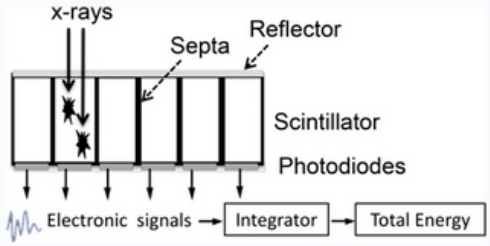
2. Gas Filled Detectors: It consists of a series of individual gas chambers usually separated by tungsten plate. This is based on ionization principle. Xenon gas mostly used because of its heaviest property. Transmitted x-rays falls on individual cells results in ionization and produced positive and negative ions. These flow of charged particles gives electrical signals



3. Solid state detectors: It is composed of a scintillator coupled tightly to photo detector. The scintillator emits visible light when it is struck by X-Rays. The light emitted by the scintillator reaches the photo detector. The photo detector is typically a photo diode, which is an electronic device that converts light intensity into an electric signals proportion to the light intensity.

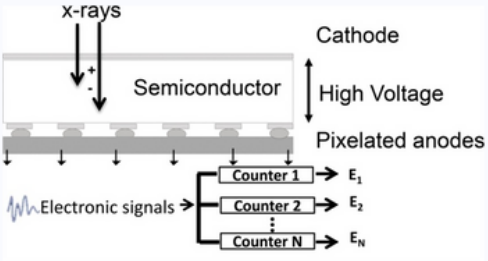


All these three types of detector belongs to the **Energy Integrating detector (EID)**. In this Electrical signals measured is integrated over the measured time



Photon Counting Detector (PCD)

PCDs use a direct conversion technology for x-ray detection that does not require a scintillator layer as in EIDs. The semiconductor detector material directly converts x-ray photons into electron hole pairs. With a bias voltage applied throughout the semiconductor, electrons travel to and are collected by the anode to generate electronic signals



The most common semiconductor materials used in PCDs are cadmium telluride or cadmium zinc telluride, although other materials such as silicon and gallium arsenide also have been used. In contrast to the conventional EIDs, which integrate the energy levels of all detected photons, PCDs count the number of individual photons that exceed a specified energy level. For a given x-ray photon, the pulse height of the signal created by the charge deposition at the anode is proportional to the energy of the photon. Thus, the signal from PCDs carries with it energy information about each individually detected photon.

The output signal from a PCD is processed by multiple electronic comparators and counters, where the number of comparators and counters depends on the electronic design of the PCD and its Application Specific Integrated Circuit (ASICs). Each detected signal is compared with a voltage that has been calibrated to reflect a specified photon energy level, referred to as an energy threshold. When the energy level of a detected photon exceeds an energy threshold associated with a counter, the photon

World Radiography Day celebrations

Baze University, Abuja, Nigeria

KEM Hospital, Mumbai, Maharashtra

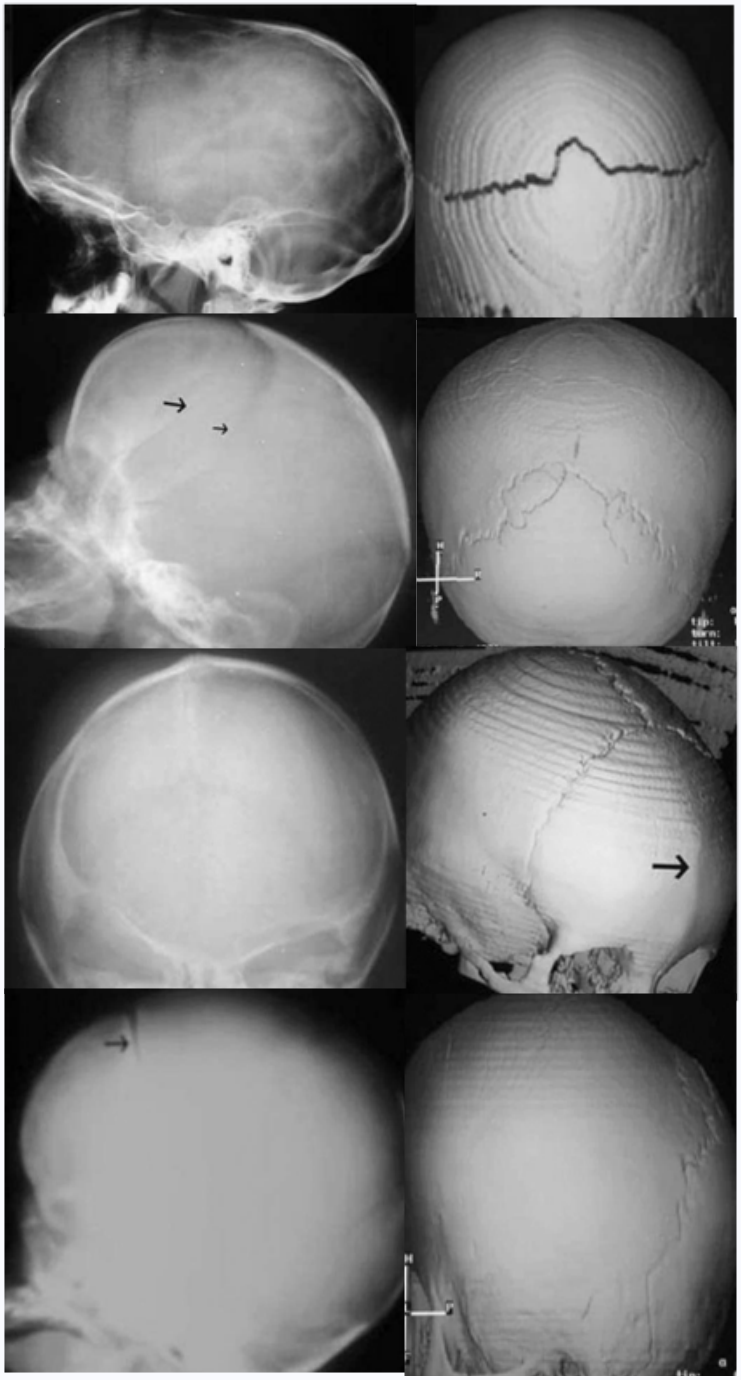
Hagaribmanahalli Taluqa Hospital,
Vijayanagara District, Karnataka

Karnataka State Radiology Imaging officer's Association (R), Bangalore World Radiography Day Celebrations and a Press Conference after General Body Meeting at Kalburgi, Karnataka.

Imaging Craniosynostosis

Ramesh Sharma, Rtd. Chief Technical Officer Radiology, NCI-AIIMSy - New Delhi.

Craniosynostosis is the premature fusion of the cranial sutures. The condition can occur as an isolated defect or as part of a syndrome and is recognized in 2 forms: simple and compound. In simple Craniosynostosis only 1 cranial suture is involved; compound craniosynostosis is involves 2 or more sutures. When sutures close prematurely, the structure of the skull becomes altered, resulting in an atypical shape of the skull and leading to increased intracranial pressure, respiratory and neurologic effects, and developmental issues. Imaging is required for the accurate diagnosis, surgical planning, posttreatment evaluation, and identification of coexisting anomalies and complications associated with craniosynostosis.



Imaging modalities

Patients in whom craniosynostosis is suggested should undergo a careful clinical examination, with the clinician looking for abnormalities of the skull and extremities.

Plain radiography is the first radiologic step. Plain radiography quickly and simply identifies skull-shape abnormalities, which are seen in most patients with craniosynostosis. With this simple and inexpensive examination, usually all cranial sutures can be surveyed for patency.

The entire length of each suture is not always visible on plain radiographs, and some patients have only a small bony bar limiting growth at a particular suture. If the skull shape is entirely normal, craniosynostosis is unlikely.

Cranial ultrasound (CUS) is an alternative imaging modality. It offers excellent imaging of superficial structures, with the potential to confirm or exclude fusion of cranial sutures while avoiding exposure to ionizing radiation in the very young infant. The normal gap of a patent suture or the obliteration in craniosynostosis can be clearly demonstrated with CUS in children younger than 12 months.

Conventional cranial computed tomography (CT) scans with bone windows or 3-dimensional (3D) CT scans are frequently obtained to confirm bony abnormalities and to delineate any associated intracranial anomalies. Three-dimensional CT is the criterion standard for the evaluation of craniosynostosis. CT scanning is considered to be expensive and may necessitate that the patient be sedated.

Although 3D CT has superior diagnostic value, concerns remain about the hazards of radiation exposure in infants, who are 2-10 times more radiosensitive than adults. To reduce radiation dose in children, several strategies and techniques are available, including iterative reconstruction techniques. Three-dimensional (3D) craniofacial stereophotogrammetry has gained some popularity as a reliable, noninvasive, radiation-free imaging modality. It uses optical sensors to obtain multiple 2D images from different angles, and the 2D images are then reconstructed as a 3D digital model.

Guidelines

Plain skull radiography is generally regarded as the first radiologic tool for diagnosis of craniosynostosis, but there is a clear role for ultrasound as a primary imaging modality for the detection or exclusion of craniosynostosis in children up to the age of 8 to 9 months. An ultrasound of the skull is considered the first radiologic diagnostic tool for children with skull-shape abnormalities who are suspected of having craniosynostosis (medium-risk craniosynostosis).

Low-dose 3D CT is considered the first radiologic diagnostic tool for children with high clinical suspicion of craniosynostosis (high-risk craniosynostosis). A 3D CT scan is the most reliable imaging modality for diagnosing craniosynostosis, with higher diagnostic accuracy than ultrasound or radiography of the skull.

MRI is performed for syndromic craniosynostosis. Black bone MRI is a promising alternative to 3D CT scan of the skull in children with syndromic craniosynostosis, for whom an MRI examination to detect or exclude associated intracranial abnormalities is indicated. The disadvantage of black bone MRI is that the examination generally has to be performed under anesthesia.

For surgical planning, the standard use of a 3D CT scan of the skull to objectify the abnormality is highly recommended.

An additional MRI examination of the skull is of added value in children with syndromic craniosynostosis to detect or exclude associated defects of the brain and increased intracranial pressure, as well as assessment of aberrant venous vascular structures that may have implications for surgical planning.

Ref :

- Kim HJ, Roh HG, Lee IW. Craniosynostosis : Updates in Radiologic
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Srinivasulu Siramdas, CAO, Society of Indian Radiographers honored by the management of Chaitanya University during the National Conference held at Chaitanya University, Hyderabad on 24th Nov. 2023

S. Tamijselvan, Feliciated by by SIR TN & PY Chapter for completion of PhD. at Vinayaka Mission's Research Foundation, Salem on 3rd Dec. 2023

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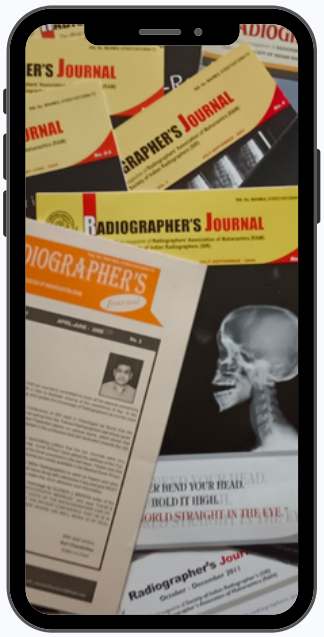

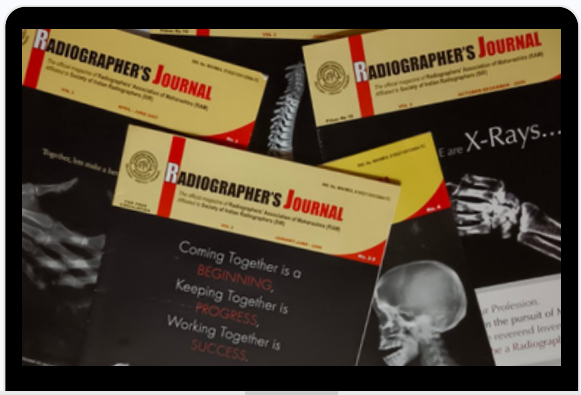

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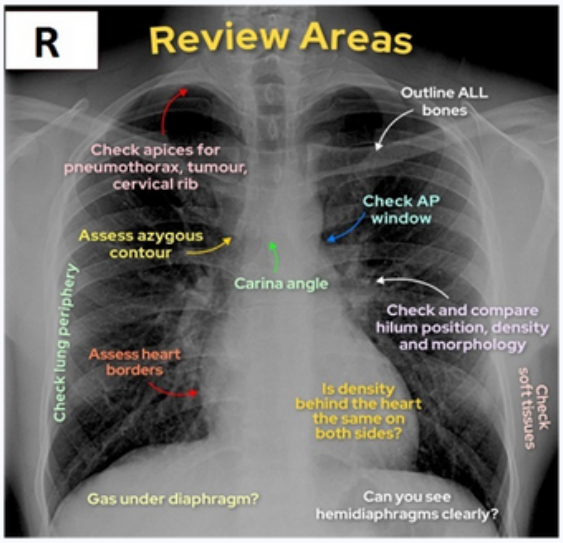
Chest X-Ray Review

Hemant Prakash Joshi, Radiographer, ESIC MC & Hospital, Gulbarga, Karnataka.

Chest x-ray review is a key competency for medical students, junior doctors and other allied health professionals. Using A, B, C, D, E approach is a helpful and systematic method for chest x-ray review:

- **A:** airways
- **B:** breathing (the lungs and pleural spaces)
- **C:** circulation (cardio mediastinal contour)
- **D:** disability (bones - especially fractures)
- **E:** everything else, e.g. pneumoperitoneum



Airways

Start at the top in the midline and review the airways.

- trace down the trachea to the carina
  - is it straight and midline?
  - is there any narrowing?
- trace down both main bronchi
  - is the carina wide (more than about 100 degrees)?
  - is there bronchial narrowing or cut-off?
  - is there any inhaled foreign body?

Breathing

Look for lung and pleural pathology.

- both lungs should be well expanded and similar in volume
  - can you count 10 posterior ribs bilaterally?
  - is one lung larger than the other?
- compare the apical, upper, middle and lower zones in turn
  - are they symmetrical?
  - are there areas of increased density?
- trace the lung vessels
  - do they branch out progressively and uniformly?
  - can you see the retrocardiac and retro diaphragmatic lung vessels?
  - are there extra lines in the periphery that aren't vessels?
- trace the lateral margins of the lung to the costophrenic angles
  - are the costophrenic angles crisp?
- trace the hemidiaphragms in to the vertebra
  - can you see the whole of the hemidiaphragms?
- trace the cardiac borders
  - can you clearly see the left and right heart border?
  - can you see the descending aorta?

Circulation

Look at the heart and vessels (systemic and pulmonary).

- check the cardiac position
  - is 1/3 to the right and 2/3 to the left?
- assess cardiac size
  - is the cardiothoracic ratio < 50%?
- check the position and size of the aortic arch and pulmonary trunk
- check the width of the upper mediastinum
- look at the hilar vessels
  - can you see them clearly on both sides?
  - are they at a similar height?
  - can you see a preserved hilar point bilaterally?

Disability

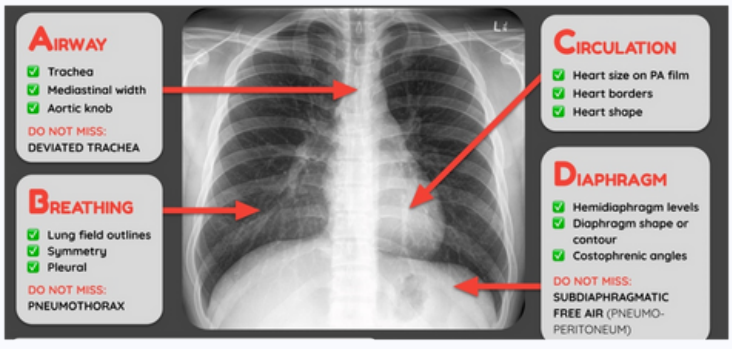
Check for any bony pathology (fracture or metastasis).

- trace along each posterior (horizontal) rib on one side of the chest
  - is there a fracture or abnormal area?
- repeat with the other side of the chest
- now trace lateral and anterior ribs on the first side
- repeat on the other side
- now, check the clavicles and shoulders
  - can you trace around the cortex of the bones?
- finally the check the vertebral bodies
  - are they all rectangular and of a similar height?
  - can you see 2 pedicles per vertebral body?
  - are the disc spaces normal in height?

Everything else

Review the upper abdomen, soft tissues and take a look at some final check areas.

- is there free gas under the diaphragms?
- is there subcutaneous emphysema?
- is the gastric bubble in the correct place?
- is there a hiatus hernia?
- is there an absent breast shadow?
- are there any surgical clips?
- check again...
  - are the lung apices clear?
  - is there any retrocardiac or retro diaphragmatic pathology?



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डिजाइन के पंजीकरण का प्रमाण पत्र | Certificate of Registration of Design

डिजाइन सं. / Design No : 375288-001

तारीख / Date : 09/12/2022

पारस्परिकता तारीख / Reciprocity Date* :

देश / Country :

प्रमाणित किया जाता है कि संलग्न प्रति में वर्णित डिजाइन जो *AI BASED X-RAY MACHINE* से संबंधित है, का पंजीकरण, श्रेणी 24-01 में 1.K.C. Prabu Shankar 2. Mr. Purnachandrarao Murala 3.Tamijeselvan S 4.Dr. Nitish Bansal के नाम में उपर्युक्त संख्या और तारीख में कर लिया गया है।

Certified that the design of which a copy is annexed hereto has been registered as of the number and date given above in class 24-01 in respect of the application of such design to *AI BASED X-RAY MACHINE* in the name of 1.K.C. Prabu Shankar 2. Mr. Purnachandrarao Murala 3.Tamijeselvan S 4.Dr. Nitish Bansal.

डिजाइन अधिनियम, 2000 तथा डिजाइन नियम, 2001 के अध्यधीन प्रावधानों के अनुसरण में।
In pursuance of and subject to the provisions of the Designs Act, 2000 and the Designs Rules, 2001.

जारी करने की तिथि : 20/10/2023
Date of Issue

Controller General of Patents, Designs and Trade Marks

*पारस्परिकता तारीख (यदि कोई हो), जिसकी अनुमति दी गई है तथा देश का नाम। डिजाइन का कॉपीराइट पंजीकरण की तारीख से दस वर्षों के लिए होगा जिसका विस्तार, अधिनियम एवं नियम के नियमों के अधीन, पाँच वर्षों की अतिरिक्त अवधि के लिए किया जा सकेगा। इस प्रमाण पत्र का उपयोग विधिक कार्यवाहियों अथवा विदेश में पंजीकरण प्राप्त करने के लिए नहीं हो सकता है।

The reciprocity date (if any) which has been allowed and the name of the country. Copyright in the design will subsist for ten years from the date of Registration, and may under the terms of the Act and Rules, be extended for a further period of five years. This Certificate is not for use in legal proceedings or for obtaining registration abroad.

S. Tamijselvan, Asst. Professior in Radiography, Mother Therasa PG & Research Inst of Health Sciences, Puducherry for Innovative product design granted by Intellectual Property India

"AI based X-ray machine"

Be a Good Reader

Got the issue of the magazine, downloaded it, read it and deleted it. Only this does not prove you a good reader. You can agree with or add to the content published in the magazine, so in such cases please write us your comment or feedback. Similarly, debate openly on the issues rose in the magazine and the questions raised and send it to us in writing. With this act of yours, where other readers will be benefited; we will also get guidance in various forms. So, whenever the time demands, do not forget to pick up the pen.

And one more thing, we have conveyed this issue to you, as an enlightened Radiographer, now it is your responsibility to forward this issue to other Radiographers.

Thanks in advance,
Editor

आप भी अपना पाठक धर्म निभाएँ

पत्रिका का अंक मिला, डाउन लोड किया, पढा और डिलीट कर दिया. केवल इससे पाठक धर्म नहीं निभ जाता. पत्रिका में प्रकाशित सामग्री से आप सहमत हो सकते हैं या उसमें आप कुछ और जोड़ सकते हैं, तो ऐसे मामलों में अपनी टिप्पणी अथवा प्रतिक्रिया हमें अवश्य लिख भेंजे. इसी प्रकार पत्रिका में जो मुद्दे उठाए गए हों, जो प्रश्न खड़े किए गए हों, उन पर भी खुल कर बहस करें और हमें लिख भेंजे. तात्पर्य यह है कि आप केवल पाठक ही न बने रहें, पाठक धर्म भी साथ में निभाते रहें इससे जहां अन्य पाठक बंधु लाभान्वित होंगे वहीं हमें भी विभिन्न रूपों से मार्गदर्शन मिलेगा. हाँ तो, जब भी समय की मांग हो, कलम उठाना न भूलें.

और एक बात, ये अंक हमने आप तक पहुंचाया, एक प्रबुद्ध रेडियोग्राफर के नाते अब ये आप की ज़िम्मेदारी बनती है कि इस अंक को आप भी और रडीओग्राफेर्स तक पहुंचाए यानि फॉरवर्ड करें.

अग्रिम धन्यवाद.
संपादक

GOVERNMENT OF ODISHA
HEALTH&FAMILY WELFARE DEPARTMENT
*****

RESOLUTION

No.HFW-MSIII-MSNG1M-0011-2023 30176 /H, Dated the 07 December, 2023

Sub: Restructuring & Corresponding Revision of Pay Structure of different posts in the Odisha Radiographer Service Cadre of Health & Family Welfare Department

Keeping in view the increase in number of public health facilities, and corresponding increase in patient load at Government Hospitals, Government after careful consideration have been pleased to restructure the Radiographer Service Cadre in public interest for smooth and efficient functioning of health care facilities in following manner.

Odisha Radiographer Service Cadre

Sl No.	Existing Structure			Concurred in by Finance Department			
	Designation	Level / Scale of Pay under ORSP Rules, 2017	Sanctioned strength	Designation	Level / Scale of Pay under ORSP Rules, 2017	Sanctioned strength	Residency period for promotion
1	2	3	4	5	6	7	8
1				Assistant Director	(Level-12) Rs.56100-177500/-	1	5 years as RSO or 25 years of service in the cadre out of which 1 (one) year as Radiation Safety Officer
2				Radiation Safety Officer	(Level-11) Rs.47600-151100/-	46	5 years as Sr. Radiographer Level-I or 20 years of service in the cadre out of which 2 years as Sr. Radiographer Level-I
3				Sr. Radiographer Level-I	(Level-10) Rs.44900-142400/-	136	5 years as Sr. Radiographer Level-II or 15 years of service in the cadre out of which 2 years as Sr. Radiographer Level-II
4	Senior Radiographer	(Level-9) Rs.35400-112400/-	26	Sr. Radiographer Level-II	(Level-9) Rs.35400-112400/-	322	08 years of service as Radiographer
5	Radiographer	(Level-7) Rs.25500-81100/-	695	Radiographer	(Level-7) Rs.25500-81100/-	655	Entry stage by direct recruitment
Total			721			1160	

The detailed analysis of the Restructured Radiographer Cadre :

1. Out of sanctioned strength of 695 base level posts of Radiographer in the scale of pay of Rs.25500-81100/- (Level-7 under ORSP Rules, 2017), 40 posts shall stand abolished in lieu of creation of 479 posts at different levels in the cadre hierarchy leaving 655 posts at base level.

2. The existing 26 posts of Sr. Radiographer at the Pay Level-9 shall be re-designated as Sr. Radiographer Level-II. In addition to this, 296 posts of Sr. Radiographer Level-II at the same pay level shall be created arriving at total 322 posts, which is the 1st promotional hierarchy.

3. There shall be creation of 136 posts of Sr. Radiographer Level-I at Pay Level-10, which is the 2nd promotional hierarchy.

4. There shall be creation of 46 posts of Radiation Safety Officer at Pay Level-11, which is the 3rd promotional hierarchy.

5. There shall be creation of 1 (one) post of Assistant Director at Pay Level-12, which is the 4th promotional hierarchy.

The total cadre strength will be 1160.

Necessary changes in the Odisha Radiographer Service (Methods of Recruitment and Conditions of Service) Rules, 2019 will be effected in due course.

This Resolution shall come into force with effect from the date of publication of the Gazette Notification.

This has been concurred-in by the Finance Department and GA & PG Department in their OSWAS File No. FIN-SOS3-ESTT-0005-2019 and GAD-SC-RULES-0031-2023 respectively.

(**Order-**Ordered that the Resolution be published in the extraordinary issue of ODISHA GAZETTE for general information and copies thereof be forwarded to the Secretary to the Governor, Odisha, Bhubaneswar / A.G. (A&E), Odisha, Bhubaneswar / Secretary, OSSSC, Bhubaneswar / All Departments of Government.)

By order of the Governor

07/12/23

Commissioner-cum-Secretary to Government

Memo No. 30177 **/H, Dated the** 07.12.23

Copy forwarded to the Director, Printing, Stationery and Publication, Odisha, Cuttack [Soft Copy by e-Mail in the address of deputydirectorpp@rediffmail.com] / I/C Odisha Gazette Cell, Commerce & Transport (Commerce) Department with a request to publish the Resolution in the Extraordinary Issue of the Odisha Gazette and supply 20 copies to this Department for official use.

07/12/23

Additional Secretary to Government

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World Radiography Day & 2nd Continuing Medical Education Program-2023

Rayat Bahra University

Date: 8th November2023

Department of Radiology & Imaging Technology, University School of Allied Health Sciences, Rayat Bahara University commemorated **"World Radiography Day & 2nd Continuing Medical Education Program-2023"** on the theme **"Patient Radiation Safety & Ethics in Radiology Practice"** on dated 8th November2023 in the University Auditorium. This day is celebrated worldwide to mark the anniversary of discovery of X-rays by Sir W.C. Roentgen in the year 1895. The Chief Guest of the event was honorable Chancellor S. Gurvinder Sigh Bahra, Guest of Honour Prof. (Dr) Parvinder Singh, Worthy Vice Chancellor RBU, Prof. (Dr.) S.K Bansal, Dean Academics, Prof. (Dr). Dinesh Sharma, Registrar RBU & Prof. (Dr) Pankaj Kaul, Dean USAHS, Organizing Chairperson Prof. (Dr) Lalit Kumar Gupta &Organizing Secretary, Varshdeep Kour. Ms. Gunpreet Kaur, Assistant Professor, Physiotherapy welcomed the dignitaries on the dais and the delegates. The scientists, Delegates, HoDs and Deans, faculty of RBU and students of RBU and other universities attended the event and it was telecasted on Social Platforms like Zoom and YouTube on hybrid mode. The event witnessed a resounding success with an inaugural session, scientific session, and a valedictory session, followed by High Tea.

The Inaugural session commenced with an auspicious Saraswati Vandana by the group of students from USAHS along with Mr. Harpreet Singh Assistant Professor, USS followed by Lamp Lighting, setting the tone for a day filled with enlightenment and learning followed by Speech by the dignitaries, Guest of honor Prof. (Dr) Parvinder Singh, Vice Chancellor RBU, Prof. (Dr.) S.K Bansal, Dean Academics, Prof. (Dr). Dinesh Sharma, Registrar RBU & Prof. (Dr) Pankaj Kaul, Dean USAHS, Organizing Chairperson Prof. (Dr) Lalit Kumar Gupta. Vote of Thanks by Organizing Secretary, Varshdeep Kour and concluded with the National Anthem.

Eminent speakers from the field of Radiology and Imaging Technology graced the occasion, sharing their knowledge and insights with an eager audience. The illustrious lineup of speakers was Prof. (Dr.) Lalit Kumar Gupta-Associate dean cum HOD, Department of Radiology & Imaging Technology, Rayat Bahra university, Miss Varshdeep Kour, Mr. Balwinder Thapa, Mr. Shivam Angiras, Mr. Abhishek Yadav & Mr. Santosh Kumar Yadav. The scientific sessions were an intellectual delight, where participants delved into cutting-edge research and technological developments in the world of Radiology and Imaging technology. The speakers explored various facets of the field, from clinical applications to the integration of artificial intelligence.

The World Radiography Day and 2nd CME program was concluded with a Valedictory Function, which served as an occasion to celebrate the accomplishments and contributions of participants, organizers, and sponsors. Dr. Lalit Kumar Gupta expressed their gratitude to everyone who had played a role in making the conference a grand success. Mementos were presented to outstanding contributors and speakers, acknowledging their valuable contributions on World Radiography Day and 2nd CME . Mr. Arun Kumar Yadav , Chief technical officer ,dept of Radiodiagnosis and Imaging , PGIMER, CHD was also present and honored as a "Guest of Honor" during the validatory function. The Valedictory Function marked the formal conclusion of the academic aspect of the event. The function was concluded with the National Anthem and followed by the High tea

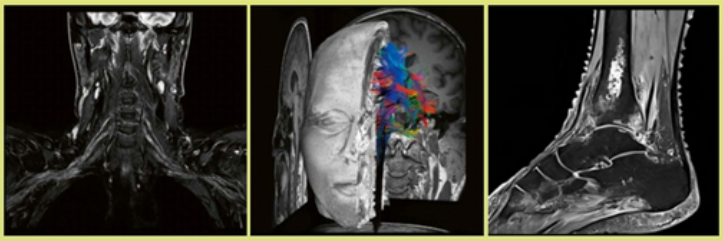
KMC Academy of Radiological Education

INSTITUTE OF RADIO DIAGNOSIS

PRESENTS

ADVANCED MRI WORKSHOP
KARE 2024

January 06th & 07th, 2024



VENUE:-

Government Kilpauk Medical College & Hospital, Chennai - 600 010.

AUDITORIUM

Dear Colleagues ,

Greetings from KMC Academy of Radiological Education!

We invite you to embark on a journey of innovation and knowledge at the "Advanced Workshop on MRI Applications - KARE 2024," hosted by the Institute of Radiodiagnosis, Govt Kilpauk Medical College, Chennai.

Join us for an academic fiesta designed for B.Sc, M.Sc Radiography students, Radiology Post Graduates, practicing MRI Technologists, and experienced Imaging technologists. Dive into cutting-edge sessions, interactive workshops, and engaging discussions on the latest advancements in MRI applications.

We anticipate your active participation, which is crucial in making 'The future of MRI - KARE 2024', a grand success.

Warm regards. **The organizing committee, KARE 2024.**

Dr. R. MUTHUSELVAN DEAN KMC PATRON	**Dr. J. DEVIMEENAL** **Dr. K .GOPINATHAN** ORGANISING CHAIRMAN	**Dr. S. SUMEENA** **Mr. C. MARIMUTHU** ORGANISING SECRETORY
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REGISTRATION DETAILS

CATEGORY	Upto Dec. 31st	Jan 1st to Jan 5th
Consultant	Rs.1750/-	Rs.2000/-
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Technologist	Rs.1000/-	Rs.1500/-
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Mr. T. MADHAN - 95856 99921

Must to Fill GOOGLE FORM :
https://forms.gle/EKiA2RNAvNwDRefm6

SCAN TO PAY

KARE 2024

(DAY - 1) JANUARY 6TH 2024 SATURDAY

BODY IMAGING

09:00 AM - 09:40 AM
CARDIAC MRI
Dr. BABU PETER, BIR, MMC

09:40 AM – 10:20 AM
WHOLE BODY IMAGING
Mr. R. VINOTH KUMAR, SEIMENS

10:20 AM – 11:00 AM
PELVIC FLOOR IMAGING
Mrs. SHEILA ELANGOVAN, SRIHER, Chennai

11:00 AM -11:20 AM (TEA BREAK)

11:20 AM -12:00 NN
PROSTATE
Dr. C. AMARNATH, Stanley Medical College

12:00 NN - 01:00 PM
INAUGURATION

01:00 PM - 02:00 PM (LUNCH)

02:00 PM - 02:40 PM
LIVER IRON & FAT QUANTIFICATION
Dr. HARSHA VEENA, CMC Vellore

02:40 PM - 03:20 PM
MR LIVER ELASTOGRAPGHY
Dr. REETU JOHN, CMC Vellore

3:20 PM - 03:40 PM (TEA BREAK)

03:40 PM - 04:20 PM
MR DEFECOGRAM
Dr. ANURADHA CHANDRAMOHAN, CMC Vellore

04:20 PM - 05:00 PM
MR ANGIOGRAPHY INCLUDING LOWER LIMB
Mr. VICTOR SAVAIAPPAN, CMC Vellore

Accreditation of Tamil Nadu Dr. MGR Medical University with Credit Points

KARE 2024

(DAY - 2) JANUARY 7TH 2024 SUNDAY

MSK IMAGING

09:00 AM - 09.45 AM
SHOULDER
Dr. K. SARAVANAN, Senior Radiologist, Saravana scans

09:45 AM – 10.30 AM
BRACHIAL PLEXUS
Dr. GOPINATH, GRH, KMC, Chennai

10:30 AM – 11.00 AM (TEA BREAK)

11:00 AM - 11:40 AM
PATELLA IMAGING
Dr. K.G. SRINIVASAN, Madurai

11:40 AM - 12:20 PM
TM JOINT
Dr. K.G. SRINIVASAN, Madurai

12:20 PM – 01:00 PM
ANKLE
Dr. K.G. SRINIVASAN, Madurai

01:00 - 02:00 PM (LUNCH)

02:00 PM - 02:40 PM
FMRI
Dr. KARTHIK KULANTHAIVELU & Mr. SUGAVANESH, NIMHANS, Bangalore

02:40 PM - 03:20 PM
DTI
Dr. KARTHIK KULANTHAIVELU & Mr. SUGAVANESH, NIMHANS, Bangalore

3:20 PM - 03:40 PM (TEA BREAK)

03:40 PM - 04:20 PM
ASL & CE PERFUSION
Dr. KARTHIK KULANTHAIVELU & Mr. SUGAVANESH, NIMHANS, Bangalore

04:20 PM - 05:00 PM
CSF FLOW ANALYSIS
Dr. KARTHIK KULANTHAIVELU & Mr. SUGAVANESH, NIMHANS, Bangalore

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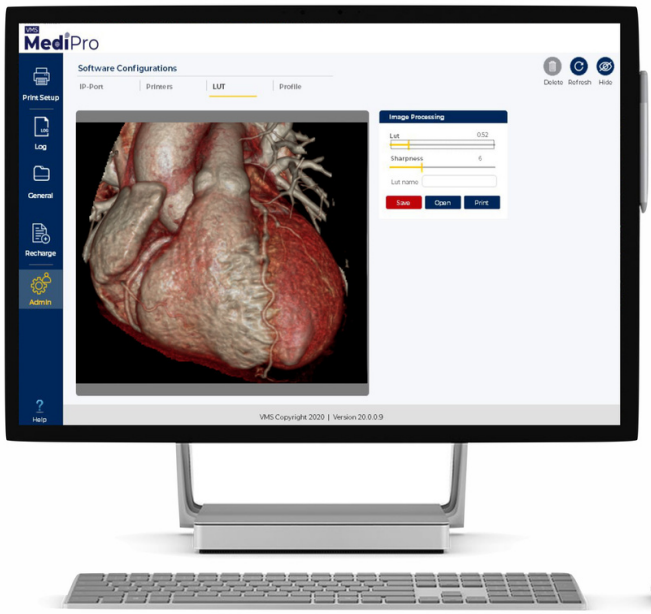

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