

The PET/CT Training Institute: PET Specialty Examination Review Course Part II (14 hr SNMMI Voice credits)

PET Procedures II

Lecture 1	Understanding FDG-PET/CT in Oncology
Lecture 2	Comprehensive Guidance for PET/CT Referring Physicians and Practices
Lecture 3	Protocols and Procedures in PET/CT Imaging
Lecture 4	Evaluating Treatment Response with FDG-PET/CT
Lecture 5	Key Aspects of PET/CT Reporting and Interpretation in Oncology
Lecture 6	Comprehensive PET/CT Report Components
Lecture 7	Innovations and Future Prospects in PET and PET/CT Imaging
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PET Instrumentation II

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PET Radiopharmacy II

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THE PET/CT TRAINING INSTITUTE
Advancing the Sciences of Molecular Imaging Worldwide



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PET Procedures II

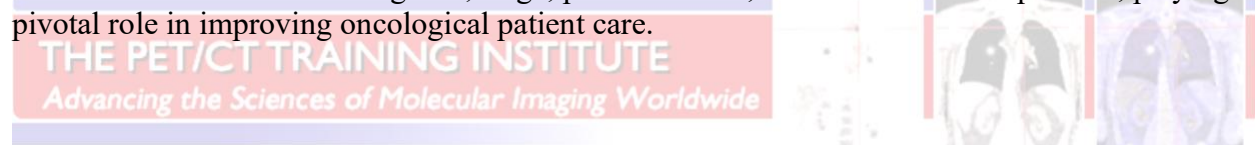
Lecture 1: Understanding FDG-PET/CT in Oncology

Keywords: cancer imaging, diagnostic tool, tumor detection, metabolic activity, clinical applications, treatment monitoring

Objectives:

- Describe The Role of FDG-PET/CT in Oncology
- Explain The Molecular Basis Behind the FDG Image
- Outline FDG Pharmacokinetics and Pharmacodynamics
- Analyze Normal Biodistribution of FDG

-An essential knowledge base that elucidates how this imaging modality combines metabolic and anatomical information to diagnose, stage, plan treatment, and monitor cancer patients, playing a pivotal role in improving oncological patient care.



Lecture 2: Comprehensive Guidance for PET/CT Referring Physicians and Practices

Keywords: referring physicians, medical practices, diagnostic imaging, clinical guidelines, oncology, imaging protocols, patient referrals

Objectives:

- List Information for Referring Physicians
- Describe The PET/CT Request
- List Recommendations and Guidelines
- Clarify Pertinent Clinical Information
- Explain Precautions, Patient Preparation, and Set-Up
- Outline Dose, Acquisition, Interventions, Processing, and Display

-Offers detailed instructions and recommendations to healthcare professionals, enabling them to effectively utilize PET/CT imaging in clinical practice, ensuring accurate diagnoses and optimized patient care.

Lecture 3: Protocols and Procedures in PET/CT Imaging

Keywords: diagnostic, radiopharmaceuticals, clinical guidelines, image acquisition, patient preparation

Objectives:

- Analyze Injected Activity of FDG
- List Doses of Other Necessary Medications
- Explain Image Acquisition
- Describe Image Acquisition and Processing

-Provides a comprehensive framework for the standardized implementation of PET/CT scans, ensuring consistency, accuracy, and effective utilization of this advanced diagnostic tool in medical practice.

Lecture 4: Evaluating Treatment Response with FDG-PET/CT

Keywords: oncology, cancer therapy, metabolic imaging, clinical assessment, response criteria, radiologic evaluation, disease progression, monitoring therapy

Objectives:

- Explain Response Evaluation in FDG-PET/CT
- Explain Response Evaluation by PET/CT
- Outline The Use of PET in Response Evaluation



-A critical process in oncology, allowing clinicians to assess the effectiveness of cancer treatments by analyzing changes in metabolic activity, aiding in treatment planning and decision-making.

Lecture 5: Key Aspects of PET/CT Reporting and Interpretation in Oncology

Keywords: radiologic evaluation, clinical assessment, cancer diagnoses, treatment planning

Objectives:

- Describe The Standardized Uptake Value
- Clarify Some Special Considerations
- Outline PET/CT Reporting in Oncology

-Emphasizes the importance of accurate and comprehensive reporting and interpretation of PET/CT findings in oncology, facilitating informed clinical decisions and improving patient outcomes.

Lecture 6: Comprehensive PET/CT Report Components

Keywords: imaging, interpretation, clinical findings, anatomical details, lesion characterization

Objectives

- List Clinical History
 - Analyze Technique
 - Clarify Comparison
 - Analyze Findings
 - Describe Impression (Conclusion or Diagnosis)
- Outlines the essential elements necessary for a thorough and informative PET/CT report, enhancing communication between healthcare providers and ensuring effective patient care in diagnostic imaging.

Lecture 7: Innovations and Future Prospects in PET and PET/CT Imaging

Keywords: radiopharmaceuticals, molecular imaging, quantitative analysis, hybrid imaging, precision medicine

Objectives:

- List Future Directions of PET
 - Outline Advantages and Limitations of FDG-PET or PET/CT Imaging
 - Analyze Future of PET and PET/CT Imaging
 - Describe Technological Advances in PET and PET/CT Imaging
- Explores the cutting-edge advancements and potential directions of positron emission tomography (PET) and PET/CT technology, offering insights into the future of medical imaging and its impact on healthcare.

Lecture 8: Exploring PET Tracers

Keywords: molecular imaging, radiopharmaceuticals, diagnostic imaging, targeted imaging, radioactive probes, biomarkers, clinical applications, tracer development

Objectives:

- Analyze Development of Non-FDG-PET Tracers
- Clarify The Molecular Basis Behind the FDG Image
- List FDG Pharmacokinetics and Pharmacodynamics



-Delves into the diverse range of radiopharmaceuticals used in positron emission tomography (PET), highlighting their vital role in visualizing specific molecular processes in the body for diagnostic and research purposes.

Lecture 9: Guidelines and Protocols for PET/CT Imaging and Interpretation

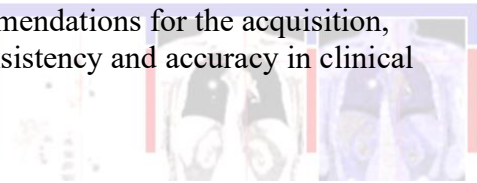
Keywords: clinical practice, radiologic evaluation, standardized procedures, quality assurance, oncology

Objectives:

- Describe The PET/CT Request
- Explain Clinical Factors that Affect FDG Biodistribution and the Interpretation of PET/CT Studies
- List Precautions, Patient Preparation, and Set-Up
- List Dose, Acquisition, Interventions, Processing, and Display
- Outline Treatment Response Evaluation with PET/CT
- Analyze The PET/CT Report
- Clarify Future Directions of PET

-Provide structured and standardized procedures and recommendations for the acquisition, interpretation, and reporting of PET/CT scans, ensuring consistency and accuracy in clinical practice and research.

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Lecture 10: Exploring Theranostics in Nuclear Medicine

Keywords: targeted therapy, radiotherapy, cancer treatment, personalized medicine, radionuclide therapy, patient-specific therapy

Objectives:

- List Theranostics in Nuclear Medicine
- Explain Contextualization of Nuclear Theranostics
- Describe Imaging, Dosimetry and Therapy
- Outline Mechanism and biological effects
- List Radionuclides for Nuclear Medicine Theranostics

-Examines the evolving field of theranostics, where diagnosis and therapy are integrated using radiopharmaceuticals, showcasing its potential to revolutionize personalized medicine and cancer treatment.

Lecture 11: Therapeutic Radiopharmaceuticals and Theranostic Radionuclides

Keywords: targeted therapy, cancer treatment, nuclear medicine, precision medicine, molecular imaging, patient-specific treatment

Objectives:

- Describe LUTATHERA- lutetium lu 177 dotatate injection
- Describe Radium Ra-223 dichloride
- Describe Samarium Sm 153 Lexidronam
- Describe (90Y (Yttrium-90) and 166Ho (Holmium-166)
- List Theranostic Radionuclide Pairs 64Cu/67Cu

-Focuses on the use of radiopharmaceuticals for both diagnosis (theranostics) and treatment in nuclear medicine, offering insights into the growing role of targeted radiation therapy in precision medicine.

Lecture 12: LUTATHERA- lutetium lu 177 dotatate injection

Keywords: Lutathera – lutetium lu 177 dotatate

Objectives:

- Explain LUTATHERA- lutetium lu 177 dotatate injection: how does lutathera work
- Clarify LUTATHERA- lutetium lu 177 dotatate injection: dose and administrations
- List LUTATHERA- lutetium lu 177 dotatate injection: preparation and administration
- Outline LUTATHERA- lutetium lu 177 dotatate injection: nuclear medicine scan
- Describe LUTATHERA- lutetium lu 177 dotatate injection: use in specific populations
- Analyze LUTATHERA- lutetium lu 177 dotatate injection: clinical studies

Lecture 13: XOFIGO (Radium Ra-223 dichloride)

Keywords: Xofigo – Radium Ra-223 dichloride

Objectives:

- Explain XOFIGO (Radium Ra-223 dichloride): indication and usage
- Outline XOFIGO (Radium Ra-223 dichloride): radionuclide/radioactive compound
- Clarify XOFIGO (Radium Ra-223 dichloride): dose and administration
- List XOFIGO (Radium Ra-223 dichloride): warning and precaution
- Describe XOFIGO (Radium Ra-223 dichloride): clinical pharmacology
- Analyze XOFIGO (Radium Ra-223 dichloride): clinical studies

Lecture 14: Samarium Sm 153 Lexidronam

Keywords: Samarium Sm 153 Lexidronam

Objectives:

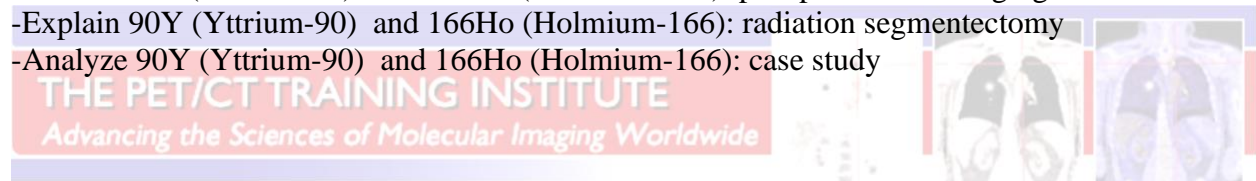
- List Samarium Sm 153 Lexidronam: preparation and administration
- Describe Samarium Sm 153 Lexidronam: clinical pharmacology
- Explain Samarium Sm 153 Lexidronam: patient information
- Analyze Samarium Sm 153 Lexidronam: clinical studies

Lecture 15: 90Y (Yttrium-90) and 166Ho (Holmium-166)

Keywords: Yttrium-90, Holmium-166

Objectives:

- Describe 90Y (Yttrium-90) and 166Ho (Holmium-166): Bremsstrahlung Imaging
- Explain 90Y (Yttrium-90) and 166Ho (Holmium-166): Quantitative PET Imaging
- Clarify 90Y (Yttrium-90) and 166Ho (Holmium-166): Liver cancer and liver metastases
- List 90Y (Yttrium-90) and 166Ho (Holmium-166): Diagnostic work-up
- Outline 90Y (Yttrium-90) and 166Ho (Holmium-166): peri-procedural imaging
- Explain 90Y (Yttrium-90) and 166Ho (Holmium-166): radiation segmentectomy
- Analyze 90Y (Yttrium-90) and 166Ho (Holmium-166): case study



Lecture 16: Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu

Keywords: Gallium-68, 64Cu/67Cu

Objectives:

- Describe Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: Bremsstrahlung Imaging
- Explain Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: Quantitative PET Imaging
- Clarify Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: Liver cancer and liver metastases
- List Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: diagnostic work-up
- Outline Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: peri-procedural imaging
- Explain Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: radiation segmentectomy
- Analyze Gallium-68 and Theranostic Radionuclide Pairs 64Cu/67Cu: case study

Lecture 17: Cadmium Zinc Telluride

Keywords: semiconductor, energy resolution, spatial resolution, timing resolution, gamma spectroscopy, time-of-flight, high purity, compact

Objectives:

- Describe the composition and structure of CZT
- List the key features of CZT
- List key words
- Analyze semiconductor properties
- Explain applications
- List advantages
- List disadvantages
- List challenges
- Clarify the studies of CZT for PET applications
- Describe growth methods
- Analyze radiation detection mechanism
- Explain CZT PET protocols
- Outline resolution for the CZT detector
- Clarify density of CZT
- Describe future developments
- Explain safety considerations
- Analyze environmental concerns
- Analyze the future of nuclear cardiology
- Describe hybrid imaging
- List qualifications and responsibilities of personnel
- Clarify procedures and specifications of the examination
- Explain documentation and reporting
- Outline equipment specification
- Analyze quality control and improvement, safety, infection control, and patient education concerns
- List radiation safety and ALARA issues
- Describe guidance for enhancing cardiac imaging

PET Instrumentation II

Lecture 1: Comprehensive PET/CT Imaging

Keywords: fusion imaging, cancer diagnosis, staging, treatment planning, metabolic activity, anatomical details, clinical assessment, radiologic evaluation, image acquisition, patient preparation

Objectives:

- Describe Daily Quality Control and Quality Assurance
- List Clinical PET/CT Platforms
- Outline PET and PET/CT Physics

- Explain Acquisition
- Analyze Reconstruction

-An integrated diagnostic technique that combines positron emission tomography (PET) and computed tomography (CT) to provide detailed anatomical and metabolic information for improved disease diagnosis and management.

Lecture 2: Advanced Techniques in PET/CT Instrumentation and Image Enhancement

Keywords: hybrid imaging, image reconstruction, quantitative analysis, motion correction, noise reduction, contrast enhancement, resolution improvement, artifacts reduction, radiation dose reduction

Objectives:

- Outline Instrumentation Physics
- List Detector Blocks and Boards
- Describe Normalization
- Analyze Attenuation and Scatter Correction

-Explores cutting-edge innovations in PET/CT technology, focusing on enhancing image quality and diagnostic accuracy through advanced instrumentation and image enhancement techniques.



Lecture 3: Enhancing Image Clarity: Contrast and Artifact Management

Keywords: radiologic imaging, diagnostic quality, image quality, artifacts reduction, contrast agents, noise reduction, radiology, quality assurance, technical parameters

Objectives:

- Describe Intravenous Contrast
- Outline Oral Contrast Artifacts
- List Metal Artifacts

-Addresses strategies and methods to improve the clarity of medical images in radiologic imaging, with a focus on managing contrast levels and reducing artifacts for more accurate diagnoses.

Lecture 4: Optimizing PET/CT Imaging Environment and Data Quality

Keywords: quality assurance, technical parameters, image acquisition, noise reduction, calibration, radiation safety, patient preparation, contrast enhancement, motion correction

Objectives:

- Describe Patient Motion
- Clarify Truncation, Mismatch of Field of View
- List CT Artifacts
- Clarify Scanning Conditions
- List Injection Conditions

-Provides insights and recommendations for creating an ideal imaging environment and enhancing data quality in positron emission tomography combined with computed tomography (PET/CT) scans, ensuring more accurate and reliable clinical information.

Lecture 5: Improving Data Accuracy and Image Quality in PET/CT Imaging

Keywords: calibration, quality assurance, artifacts reduction, contrast enhancement, patient preparation, motion correction, radiation safety, image reconstruction

Objectives:

- List Data Entry Errors
- Explain Scanning Time After Injection
- Analyze Bed Overlap
- Describe Bladder Artifacts

-Focuses on strategies and technologies to enhance both data precision and image excellence in positron emission tomography combined with computed tomography (PET/CT) scans, with the aim of providing more reliable diagnostic information.

Lecture 6: Advancements and Challenges in PET Instrumentation and Imaging

Keywords: detector development, resolution enhancement, quantitative analysis, clinical applications, data acquisition, image reconstruction, research opportunities

Objectives:

- List Innovations in instrumentation for positron emission tomography
- Explain Current Status, Limitations and Opportunities
- Describe Low image SNR
- Describe Low spatial resolution
- Describe Long scan times, relatively high radiation burden
- Analyze Cost



-Discusses the latest innovations and obstacles in positron emission tomography (PET) technology, highlighting its evolving role in medical imaging while addressing contemporary challenges.

Lecture 7: Advancements in PET Scanner Technology

Keywords: detector development, resolution enhancement, image quality, sensitivity, quantitative analysis, radiopharmaceuticals, clinical applications, hybrid imaging, research opportunities, data acquisition, image reconstruction

Objectives:

- List PET Scanner Designs
- Explain Extended axial field of view and total-body PET
- Describe Time-of-flight PET

-Explores the latest developments in positron emission tomography (PET) scanner design and functionality, showcasing innovations that promise improved image quality and diagnostic capabilities in medical imaging.



Lecture 8: Diverse PET Imaging Systems

Keywords: detector technology, scanner types, multimodal imaging, hybrid PET/CT, radiopharmaceuticals, image reconstruction, resolution enhancement, quantitative analysis, research and development

Objectives:

- List Brain Imaging Systems
- List Breast Imaging Systems
- List Preclinical Imaging Systems
- List Other PET Systems

-Provides insights into the various types of positron emission tomography (PET) imaging systems, including their applications and unique characteristics, contributing to a broader understanding of this versatile medical imaging technology.

Lecture 9: Enhancing PET Detector Performance

Keywords: detector technology, sensitivity, resolution, noise reduction, spatial accuracy, quantitative analysis, clinical applications, radiopharmaceuticals, image reconstruction, signal-to-noise ratio, research and development

Objectives:

- Outline Time-of-Flight Detectors
- Explain Improving spatial resolution
- Explain Improving energy resolution

-Focuses on techniques and innovations aimed at improving the sensitivity, resolution, and overall performance of PET detectors, enhancing the capabilities of positron emission tomography for diagnostic imaging and research applications.

Lecture 10: Next-Generation PET/CT Scanner Innovations and Challenges

Keywords: detector technology, resolution enhancement, multimodal imaging, data integration, research opportunities

Objectives:

- List Future PET scanners
- Describe PET/CT scanner instrumentation, challenges, and solutions
- Analyze PET/CT scanner design

-Explores the latest technological advancements and obstacles in the development of next-generation positron emission tomography/computed tomography (PET/CT) scanners, shedding light on their potential impact on medical imaging and patient care.

Lecture 11: Integration and Enhancement in PET/CT Imaging

Keywords: multimodal imaging, fusion imaging, data integration, image quality, image registration, radiologic evaluation, diagnostic accuracy, technology advances

Objectives:

- Clarify Combined image display in PET/CT
- Outline CT-based attenuation correction

-Delves into the methods and technologies that integrate and enhance positron emission tomography and computed tomography (PET/CT) scans, improving diagnostic accuracy and expanding the capabilities of this advanced imaging modality.

Lecture 12: Challenges and Solutions in PET/CT Imaging

Keywords: radiopharmaceuticals, image quality, quantitative analysis, artifact reduction, patient motion, dose reduction, noise reduction, clinical applications, hybrid imaging, data integration, radiologic evaluation, technology advances

Objectives:

- Explain Pitfalls on PET/CT due to artifacts and instrumentation
- Describe Physics and instrumentation of PET/CT
- Outline Limitations with respect to PET instrumentation
- List Artifacts in PET/CT imaging
- Clarify Misalignment between PET and CT data

-Examines the difficulties encountered in positron emission tomography combined with computed tomography (PET/CT) imaging and presents effective strategies and solutions to address these challenges, ensuring high-quality diagnostic results.

Lecture 13: Managing Motion Artifacts in PET/CT Imaging

Keywords: motion correction, respiratory gating, cardiac motion, image registration, patient movement, clinical applications, artifact reduction, diagnostic accuracy, noise reduction

Objectives:

- Explain Voluntary motion
- Explain Involuntary motion



-Addresses the issues related to motion artifacts in positron emission tomography combined with computed tomography (PET/CT) scans and presents techniques and methods to minimize these artifacts for more accurate and reliable imaging results.

Lecture 14: Addressing Challenges in PET/CT Attenuation Correction

Keywords: correction methods, hybrid imaging, bone attenuation, soft tissue attenuation, respiratory motion, scatter correction

Objectives:

- List Errors in CT-derived attenuation coefficients
- Outline Contrast medium
- Describe Metallic implant
- Analyze CT image truncation

-Discusses the complexities associated with attenuation correction in positron emission tomography combined with computed tomography (PET/CT) imaging and presents strategies to improve accuracy and reliability in clinical practice.

Lecture 15: Innovations in PET Detector Technology and Performance

Keywords: detector development, sensitivity, resolution, noise reduction, spatial accuracy, image reconstruction, signal-to-noise ratio

Objectives:

- Analyze Recent Developments in PET Instrumentation
- Explain Photon detection sensitivity
- Describe Spatial resolution
- Outline Depth-of-Interaction (DOI) design
- Clarify Time-of-Flight (TOF) PET

-Explores the latest advancements in positron emission tomography (PET) detector technology, highlighting innovations that enhance sensitivity, resolution, and overall performance, with implications for improved diagnostic imaging and research applications.

Lecture 16: Evolving PET Detector Instrumentation and Performance

Keywords: sensitivity, resolution, noise reduction, spatial accuracy, signal-to-noise ratio, research and development

Objectives:

- Describe Advances in Detector Instrumentation for PET
- Outline Basics of PET detectors
- List PET detector performance parameters

-Delves into the ongoing evolution of positron emission tomography (PET) detector technology, discussing how it continues to improve in terms of sensitivity, resolution, and overall performance, thus contributing to enhanced diagnostic capabilities in PET imaging.

Lecture 17: Insights into Data Acquisition and Reconstruction in PET Imaging

Keywords: resolution enhancement, iterative reconstruction, emission data, attenuation correction, technology advances, research findings

Objectives:

- Analyze Data Acquisition in PET Imaging
- Explain The sinogram
- Outline Michelograms, span, and sinogram mashing

-Clarify 2D and 3D PET

-Provides valuable knowledge and understanding of the data acquisition and reconstruction processes in positron emission tomography (PET), offering insights into how these techniques impact image quality and diagnostic accuracy.

Lecture 18: Artifacts in PET/CT Imaging and Attenuation Correction

Keywords: artifact reduction, correction methods, respiratory motion, scatter correction, metal artifacts, beam hardening, motion artifacts, diagnostic accuracy, technology advances

Objectives:

- List PET/CT Artifacts
- Analyze CT attenuation-correction and related artifacts
- Outline Intravenous contrast and AC artifacts
- Describe Oral contrast and AC artifacts
- Clarify Ports and other high attenuation devices
- Describe Calcified lymph nodes and AC artifacts
- Analyze Diaphragmatic respiratory artifacts

-Addresses the common artifacts encountered in positron emission tomography combined with computed tomography (PET/CT) scans and explores the role of attenuation correction techniques in minimizing these artifacts for improved diagnostic accuracy.

PET Radiopharmacy II

Lecture 1: Rubidium RB-82

Keywords: CardioGen, radiopharmaceutical, myocardial perfusion, cardiac imaging, clinical pharmacology

Objectives:

- Describe CardioGen
- Explain Physical Characteristics
- Outline Clinical Pharmacology
- List Indications and Usage
- Clarify Contraindications
- Describe Warnings
- Explain Precautions
- Analyze Adverse Reactions
- List Dosage and Administration

- Describe Supplied
- Explain Storage and Disposal
- Clarify Expiration Date
- List Directions for Eluting RB-82

-Explains more in depth about how Rubidium RB-82 is a radioactive isotope used in positron emission tomography (PET) imaging for assessing myocardial perfusion and blood flow, particularly in the diagnosis and evaluation of coronary artery disease.

Lecture 2: Ruby-Fill

Keywords: radiopharmaceutical, cardiac PET imaging, myocardial perfusion, radiation safety, generator system, radiation exposure

Objectives:

- Explain Ruby-Fill Rubidium Rb-82 Generator Health Professional Information
- Describe Radiation Dosimetry
- Analyze Overdosage
- Outline Action and Clinical Pharmacology
- List Special Handling Instructions

-Explains more in depth about how RUBY-FILL and the associated Rubidium Rb-82 Generator provide health professionals with a valuable tool for cardiac PET imaging, with essential considerations including radiation dosimetry, prevention of overdosage, a focus on action and clinical pharmacology for myocardial perfusion assessment, and stringent special handling instructions to ensure safe use.

Lecture 3: Scientific Information

Keywords: radiopharmaceutical, generator system, radiochemical purity, radiopharmaceutical formulation, cardiac imaging, myocardial perfusion, radiation safety, radiation exposure, radiation dosimetry, effective dose, regulatory compliance, risk-benefit analysis, emergency response, informed consent

Objectives:

- List Pharmaceutical Information
- Describe Drug Substance
- Outline Product Characteristics
- Analyze Clinical Trials
- Explain Detailed Pharmacology
- Clarify Toxicology

-Explains more in depth about how RUBY-FILL and Rubidium-82 (Rb-82) represent a radiopharmaceutical system used for cardiac PET imaging, with scientific information encompassing pharmaceutical details, drug substance properties, product characteristics, clinical trial involvement, detailed pharmacology, and rigorous toxicology assessments to ensure both diagnostic efficacy and radiation safety.

Lecture 4: Consumer Information

Keywords: medication use, patient instructions, dosage and administration, safety precautions, side effects, indications, benefits and risks, allergic reactions, drug interactions, adverse events

Objectives:

-Describe Rubidium Chloride Rb-82 Injection

-Explains more in depth about how Rubidium Chloride Rb-82 Injection consumer information provides essential guidance on the proper use, potential side effects, and safety precautions for individuals undergoing cardiac PET imaging with this radiopharmaceutical.

Lecture 5: USP 825

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Keywords: radiopharmaceuticals, guidelines, standards, preparation, compounding, dispensing, repackaging, radioactive materials, radionuclide generators, patient-specific doses

Objectives:

-Explain USP 825

-USP General Chapter 825 sets forth comprehensive guidelines and standards for the safe preparation, compounding, dispensing, and repackaging of radiopharmaceuticals, addressing the unique challenges posed by their radioactive nature to ensure patient safety and compliance with stringent standards in the healthcare setting.

Lecture 6: SNMMI Detailed Comments on USP 825

Keywords: regulation, radiopharmacy, quality control compliance

Objectives:

-List SNMMI Detailed Comments on USP 825

-SNMMI's detailed comments on USP 825 provide comprehensive feedback and insights regarding the standards and guidelines for radiopharmaceuticals, contributing to the refinement and enhancement of regulatory measures in the field of radiopharmacy.

Lecture 7: Global Presence

Keywords: regulation, scope, designated person, immediate use, aseptic qualifications, GARB, facility, cleaning, BUD, records, blood cell labeling, compounding, Y-90 Microspheres, quality control testing

Objectives:

-Describe Global Presence

-USP 825 encompasses a broad scope of topics, including the roles of designated personnel, immediate use, aseptic qualifications, GARB (Grade A, ISO Class 5), facility requirements, cleaning protocols, beyond-use dating (BUD), record-keeping, blood cell labeling, compounding processes, Y-90 microspheres, and quality control testing within the context of radiopharmaceutical preparation and handling.

