NIHS Residency TRAINING PROGRAM

Program: Radiology Specialty

Comprehensive Clinical Examination (CCE)

I. Definition of Comprehensive Clinical Examination (CCE)

The Radiology CCE is a structured, performance-based assessment designed to evaluate a candidate's readiness to function independently as a radiologist. The exam replicates real-world diagnostic and clinical scenarios to assess interpretation, decision-making, communication, and professional behaviour across all major radiology subspecialties. It evaluates a range of cognitive and applied skills through interactions with examiners using clinical cases and imaging datasets.

II. Comprehensive Clinical Examination (CCE) Exam Format

COMPONENT	DETAILS
Number of Stations	8 total: • Rapid Reporting station. Oral stations (7)
Core Stations	1, Gastrointestinal & Hepatobiliary Imaging. 2. Genitourinary Imaging (Integrated GU and Andrology). 3. Women's Imaging (integrating breast, obstetric, and gynecologic imaging) 4. Cardiothoracic. 5. Pediatric Radiology. 6. Neuroradiology & Head and Neck Imaging 7. Musculoskeletal Imaging
Duration per Rapid Reporting	30 min (30 cases)
Duration per core Station	25 minutes
Number of Examiners per Station	2

III. Clinical/Practical Skill Domains

Proposed Domains for NIHS	DEFINITIONS
Data Gathering / Clinical Context	Ability to gather relevant clinical history and understand imaging referral context.
Image Interpretation	Systematic and accurate interpretation of X-ray, CT, MRI, US, NM, PET, Mammography, etc.
Diagnostic Reasoning	Formulating differential diagnoses and integrating clinical/imaging findings effectively.
Decision-making & Management	Suggesting next steps in investigation or treatment, including interventional options.
Communication & Reporting	Clear and structured explanation of findings and their significance using appropriate language.
Professionalism & Ethics	Empathy, ethical standards, and respectful conduct in simulated clinical scenarios.
Radiation Safety & Technical Aspects	Awareness of radiation doses, safety protocols, contrast media risks, and image quality.

IV. Blueprint Outline

Radiology CCE blueprint is structured across core and subspecialty disciplines:

Core Stations:

- **Musculoskeletal Radiology (MSK)**
- **Neuroradiology & Head & Neck Imaging**
- **Pediatric Radiology**
- **Cardiothoracic Radiology**
- **Gastrointestinal & Hepatobiliary Imaging**
- **Genitourinary Imaging (Integrated GU and andrology)**
- **Women's Imaging (integrating breast, obstetric, and gynecologic imaging)**

Additional Content Coverage:

- **The Rapid Reporting Station includes 30 high-yield emergency spot diagnosis cases to be interpreted in 30 minutes**.
- **It assesses the candidate's diagnostic speed and accuracy under pressure, mimicking real-world emergency radiology scenarios.**
- **Minimum Performance Level (MPL) determined by a standard-setting method such as modified Angoff or borderline regression**

V. Passing Score

- Each station will have a Minimum Performance Level (MPL) determined by a standard-setting method such as modified Angoff or borderline regression.
- In addition to meeting the Minimum Performance Level (MPL) of the stations, candidates must also pass the Rapid Reporting Station independently. One retake is allowed next day if failed.
- All scoring rubrics and examiner checklists are validated and standardized.

VI. Time Management

- Examiners are trained to guide candidates efficiently through each station.
- Candidates will be informed when to move forward in the interest of time.
- Early completion of a station does not impact scoring.
- If clarification is needed, candidates may respectfully request it during the encounter.
-

VII. Examiner Professionalism

- Examiners maintain a professional demeanor, and neutral facial expressions are not indicative of performance.
- Candidates are encouraged to request a moment to collect their thoughts if needed.
- Examiners are appointed by NIHS and are trained for consistency and objectivity.

VIII. Conflict of Interest

- Prior academic or clinical interaction with an examiner does not constitute a conflict unless substantial training involvement is present.
- Candidates or examiners must declare any conflict at the start of the station. Substitutions will be made where feasible.

IX. Confidentiality

- Use of electronic devices or communication with peers during the exam is strictly prohibited.
- Violation of confidentiality or academic integrity will result in disciplinary action.

X. Recommended Resources

General Radiology

- **Brant & Helms' Fundamentals of Diagnostic Radiology**, 5th Edition, 2022
- **Radiology Review Manual** by Wolfgang Dähnert, 8th Edition, 2017
- **Chapman & Nakielny's Guide to Radiological Procedures**, 8th Edition, 2021

Cardiovascular Imaging

- **Fundamentals of High-Resolution Lung CT** by Webb et al., 2nd Edition, 2020
- **Chest Imaging: Fundamentals of Radiology** by Mamlouk & Ziai, 2023
- **Cardiac Imaging: The Requisites by Lawrence Boxt 2015**

Body Imaging

- **Core Radiology: A Visual Approach to Diagnostic Imaging** by Jacob Mandell, 2nd Edition, 2022
- **Fundamentals of Body CT** by W. Richard Webb, 4th Edition, 2014
- **MRI of the Abdomen and Pelvis: A Text Atlas** by Mortele, 2020
- **Body MRI by Richard C. Semelka and Michèle A. Brown**, 4th Edition, 2016

Neuroradiology

- **Osborn's Brain: Imaging, Pathology, and Anatomy**, 2nd Edition, 2017
- **Neuroradiology: The Core Requisites**, 4th Edition, 2022
- **The Essentials of Neuroimaging** by Yousem & Grossman, 2021

Musculoskeletal

- **Fundamentals of Skeletal Radiology** by Clyde Helms, 5th Edition, 2019
- **Musculoskeletal MRI** by Helms et al., 2nd Edition, 2009
- **Essentials of Musculoskeletal Imaging** by Bredella & Tirman, 2021

Pediatric Radiology

- **Fundamentals of Pediatric Imaging** by Lane Donnelly, 2nd Edition, 2016
- **Pediatric Radiology: The Core Requisites**, 4th Edition, 2016
- **Caffey's Pediatric Diagnostic Imaging**, 13th Edition, 2019

Interventional Radiology

- **Handbook of Interventional Radiologic Procedures** by Kandarpa & Machan, 5th Edition, 2016
- **Vascular and Interventional Radiology: The Requisites**, 2nd Edition, 2013

Nuclear Medicine

- **Essentials of Nuclear Medicine Imaging** by Mettler & Guiberteau, 7th Edition, 2018
- **Nuclear Medicine: The Requisites**, 4th Edition, 2013

Breast Imaging

- **Breast Imaging: The Fundamentals** by Cherie Kuzmiak, 2022
- **Breast Imaging: The Requisites**, 2nd Edition, 2010

General Imaging References

- Requisites Series (Chest, Neuro, Body, MSK, Pediatric, Breast, IR, NM)
- Chapman & Nakielny's Guide to Radiological Procedures
- Fundamentals of Skeletal and Body Radiology

XI. Journals

- **Radiology (RSNA)**
- **AJR – American Journal of Roentgenology**
- **Insights into Imaging**

- **European Radiology**
- **Pediatric Radiology Journal**
- **Journal of Vascular and Interventional Radiology (JVIR)**
- **Nuclear Medicine Communications**
- **BIR guidelines, ACR Appropriateness Criteria, ESR recommendations**

XII. Ethics & Patient Safety

- Professionalism and Ethics Handbook for Residents (NIHS Edition)
- Essentials of Patient Safety, NIHS Latest Edition