

RSNA® 2019
DECEMBER 1-6

Neuroradiology/ Head and Neck Radiology

**RADIOLOGICAL SOCIETY
OF NORTH AMERICA**
105TH Scientific Assembly
and Annual Meeting

Meeting.RSNA.org
#RSNA19

Accreditation and Designation Statements

The Radiological Society of North America (RSNA®) is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

The RSNA designates this live activity for a maximum of 94.00 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

The Commission on Accreditation of Medical Physics Education Program (CAMPEP) has approved the direct transfer of *AMA PRA Category 1 Credit™* to MPCEC on a credit-for-credit basis for medical physicists.

Corporate Symposium

Please refer to each course description in the online program to determine if CME credit is offered for the session. Instructions on claiming credit will be provided during the course. CME credit for the Corporate Symposiums will be provided through a third-party provider and not through RSNA.

Program information is subject to change. For the most up-to-date information, please use your Meeting App or visit Meeting.RSNA.org.

Walk Through the Week

Sunday, Dec. 1, 2019

Case of the Day

Neuroradiology Sunday Case of the Day
Session ED009-SU Case of Day, Learning Center

10:30 AM–12:00 PM

Educational Courses

RSNA AI Deep Learning Lab: Beginner Class: Classification Task (Intro)
Session SPAI11 AI Showcase North Building Level 2

10:45 AM–12:15 PM

Scientific Papers Sessions

Science Session with Keynote: Molecular Imaging (Neuroimaging)
Session SSA13 S503AB
Neuroradiology (Stroke 1)
Session SSA17 S501ABC
Neuroradiology (Brain Tumors 1)
Session SSA18 S401CD
Neuroradiology/Head and Neck (Head and Neck Tumors)
Session SSA19 S404AB

10:45 AM–12:15 PM

Educational Courses

Pediatric Series: Pediatric Neuroradiology
Course VSPD11 E451B

12:30–1:00 PM

Posters and Exhibits: Discussions

Neuroradiology Sunday Poster Discussions
Session NRS-SUA. . . . NR Community, Learning Center

1:00–2:30 PM

Educational Courses

RSNA AI Deep Learning Lab: Segmentation
Session SPAI12. . . . AI Showcase North Building Level 2

1:00–1:30 PM

Posters and Exhibits: Discussions

Neuroradiology Sunday Poster Discussions
Session NRS-SUB. . . . NR Community, Learning Center

**1:00–1:20 PM****Showcase Presentations**

RSNA AI Theater: Comparing Advanced MRI Acquisition
Acceleration Methods: Compressed Sensing versus AI-based
Iterative Image Reconstruction: Presented by Medic Vision
Session AI16 AI Showcase North Building Level 2

2:00–3:30 PM**Educational Courses**

Practical and Advanced Spine Imaging
Course RC105 N229

Bread and Butter Sinus Imaging: Telling Your Referrers What
They Need to Know
Course RC106 E451B

Emerging Technology: Imaging of Dementias and Movement
Disorders Update 2019
Course RC117 S504CD

What's New in the Treatment of Brain Metastases?
Course RC120 S501ABC

Hands-on Artificial Intelligence for Non-coders: How is an
Intracranial Hemorrhage Detection Algorithm Created?
(Hands-on)
Course RCA12 S401AB

4:00–5:45 PM**Plenary Sessions**

Sunday Afternoon Plenary Session
Session PS12 Arie Crown Theater

Monday, Dec. 2, 2019**Case of the Day**

Neuroradiology Monday Case of the Day
Session ED009-MO. Case of Day, Learning Center

8:30–10:00 AM**Educational Courses**

Case-based Review of Neuroradiology (Interactive Session)
Course MSCN21 S100AB

BOOST: Head and Neck-Anatomy and Treatment Planning
(Interactive Session)
Course MSRO21 S402AB

The Basics of Upper Aerodigestive Tract Anatomy and
Pathology
Course RC206 E451A

Thyroid Sonography: At a Tipping Point
Course RC210 E351

8:30 AM–12:00 PM**Educational Courses**

Neuroradiology Series: AI in Neuroradiology
Course RC205 S406B

9:00–10:30 AM**Corporate Symposium**

Hot Topics in Contrast-Enhanced MRI: Presented by
Northwest Imaging Forums, educational grant provided by
Bracco Diagnostics, Inc.
Session CS21 S101AB

10:30 AM–12:00 PM**Educational Courses**

Case-based Review of Neuroradiology (Interactive Session)
Course MSCN22 S100AB

BOOST: CNS-Case-based Multidisciplinary Review (Interactive
Session)
Course MSRO22 S103AB

RSNA AI Deep Learning Lab: Beginner Class: Classification
Task (Intro)
Session SPAI21. . . . AI Showcase North Building Level 2

10:30 AM–12:00 PM**Scientific Papers Sessions**

Neuroradiology (Diffusion/Perfusion)
Session SSC10 S502AB

Neuroradiology (Spine)
Session SSC11 S504CD

Science Session with Keynote: Radiation Oncology (CNS
Malignancies)
Session SSC14 E261

12:15–12:45 PM**Posters and Exhibits: Discussions**

Neuroradiology Monday Poster Discussions
Session NRS-MOA NR Community, Learning Center

12:45–1:15 PM**Posters and Exhibits: Discussions**

Neuroradiology Monday Poster Discussions
Session NRS-MOB NR Community, Learning Center

1:30–2:30 PM**Educational Courses**

BOOST: H&N/CNS
Course MSRO23 S103AB

**1:30–3:00 PM****Educational Courses**

Molecular Imaging Symposium: Neurologic MI Applications

Course MSMI23 **S405AB****1:30–2:45 PM****Plenary Sessions**

Monday Plenary Session

Session PS20 **Arie Crown Theater****2:00–2:20 PM****Showcase Presentations**

RSNA AI Theater: Next-Generation Radiology AI: The Journey from an AI Algorithm to a Partner: Presented by Aidoc

Session AI28 **AI Showcase North Building Level 2****3:00–4:15 PM****Educational Courses**

BOOST: Head and Neck-Case-based Multidisciplinary Review (Interactive Session)

Course MSRO24 **S103AB****3:00–4:00 PM****Scientific Papers Sessions**

Emergency Radiology (Non-Trauma: Brain, Head and Neck, and Spine)

Session SSE06 **E353A**

Neuroradiology (Epilepsy/Metabolism/Infection)

Session SSE18 **S401CD**

Neuroradiology (Neurointerventional Techniques)

Session SSE19 **S504AB**

Neuroradiology (Structural Imaging)

Session SSE20 **S504CD****4:30–5:30 PM****Educational Courses**

BOOST: Head and Neck-eContouring

Course MSRO29 **S104B****4:30–6:00 PM****Educational Courses**

Special Interest Session: The Best of Radiology in 2019-The Editors of Radiology Keep You Up to Date

Session SPSI21 **N227B**

Special Interest Session: Paths to Recovery: What Can Neuroimaging Teach Us about Depression and Its Treatment

Session SPSI25 **N226****Tuesday, Dec. 3, 2019****Case of the Day**

Neuroradiology Tuesday Case of the Day

Session ED009-TU **Case of Day, Learning Center****7:15–8:15 AM****Educational Courses**

Houston, We Have a Problem (Case-based Competition)

Session SPDL30 **E451B****8:30–10:00 AM****Educational Courses**

Case-based Review of Nuclear Medicine: PET/CT Workshop-Head and Neck (In Conjunction with SNMMI) (Interactive Session)

Course MSCC31 **E450B**

How Do I Image That? Tips for Improving Challenging Head and Neck Protocols

Course RC306 **E353C**

Radiogenomics of GBM

Course RC320 **N230B**

Percutaneous Thoracic Interventions

Course RC331 **S403A****8:30 AM–12:00 PM****Educational Courses**

Neuroradiology Series: Brain Tumors

Course RC305 **S406B****9:00–10:30 AM****Corporate Symposium**

Creating Winning Workflows: Identifying Pain Points and Solutions within Radiology Workflow: Presented by Philips

Session CS31 **S101AB****10:30 AM–12:00 PM****Educational Courses**

Emerging Imaging Trends (Sponsored by the Associated Sciences Consortium) (Interactive Session)

Course MSAS32 **S105AB****10:30 AM–12:00 PM****Scientific Papers Sessions**

Neuroradiology (Stroke 2)

Session SSG10 **N229**

Neuroradiology (Cognition/Memory)

Session SSG11 **N230B**

**11:30–11:50 AM****Showcase Presentations**

RSNA AI Theater: Putting Medical AI to Work - Delivering Intelligent, Efficient and Validated Solutions to the Workflow of Radiology: Presented by VUNO, Inc.

Session AI33. AI Showcase North Building Level 2

12:15–12:45 PM**Posters and Exhibits: Discussions**

Neuroradiology Tuesday Poster Discussions

Session NRS-TUA. NR Community, Learning Center

12:45–1:15 PM**Posters and Exhibits: Discussions**

Neuroradiology Tuesday Poster Discussions

Session NRS-TUB. NR Community, Learning Center

1:00–2:30 PM**Educational Courses**

RSNA AI Deep Learning Lab: Segmentation

Session SPAI32 . . . AI Showcase North Building Level 2

2:30–4:00 PM**Educational Courses**

Hands-on Artificial Intelligence for Non-coders: How is an Intracranial Hemorrhage Detection Algorithm Created? (Hands-on)

Course RCA34 S401AB

3:00–4:30 PM**Educational Courses**

RSNA AI Deep Learning Lab: Beginner Class: Classification Task (Intro)

Session SPAI33 . . . AI Showcase North Building Level 2

3:00–4:00 PM**Scientific Papers Sessions**

Nuclear Medicine (CNS Nuclear Medicine and PET)

Session SSJ17 S505AB

Neuroradiology (Traumatic Brain Injury)

Session SSJ18 S406B

Neuroradiology/Head and Neck (Image Analysis, Non-Artificial Intelligence)

Session SSJ19 S404CD

Neuroradiology (Stroke 3)

Session SSJ20 S404AB

3:30–5:00 PM**Educational Courses**

Essentials of Trauma Imaging

Course MSES34 S100AB

Wednesday, Dec. 4, 2019**Case of the Day**

Neuroradiology Wednesday Case of the Day

Session ED009-WE. Case of Day, Learning Center

8:30–10:00 AM**Educational Courses**

Case-based Review of Pediatric Radiology (Interactive Session)

Course MSCP41. E450B

The Radiology Hearing Loss and Tinnitus

Course RC506. E353C

Emerging Technology: Dual-energy and Spectral CT Update 2019

Course RC517 S505AB

Vertebral Augmentation (Hands-on)

Course RC550. E260

8:30 AM–12:00 PM**Educational Courses**

Neuroradiology Series: Stroke

Course RC505. N228

10:30 AM–12:00 PM**Educational Courses**

Case-based Review of Pediatric Radiology (Interactive Session)

Course MSCP42 E450B

RSNA AI Deep Learning Lab: Segmentation

Session SPAI41. . . . AI Showcase North Building Level 2

10:30 AM–12:00 PM**Scientific Papers Sessions**

Neuroradiology (Movement Disorders)

Session SSK16 S401CD

Neuroradiology (Brain Tumors 2)

Session SSK17 S402AB

11:30–11:50 AM**Showcase Presentations**

RSNA AI Theater: Hitting the Bull's AI in Neuroradiology: Unlocking Value from Workflow to Patient: Presented by icometrix

Session AI43. AI Showcase North Building Level 2

12:15–12:45 PM**Posters and Exhibits: Discussions**

Neuroradiology Wednesday Poster Discussions

Session NRS-WEA NR Community, Learning Center

**12:45–1:15 PM****Posters and Exhibits: Discussions**

Neuroradiology Wednesday Poster Discussions

Session NRS-WEB NR Community, Learning Center**3:00–4:30 PM****Educational Courses**

RSNA AI Deep Learning Lab: Beginner Class: Classification Task (Intro)

Session SPAI43 . . . AI Showcase North Building Level 2**3:00–4:00 PM****Scientific Papers Sessions**

Nuclear Medicine (Head and Neck/Thyroid Nuclear Medicine and PET)

Session SSM18 S504CD

Neuroradiology/Head and Neck (General)

Session SSM19 S501ABC

Neuroradiology (Vascular, Non-Stroke)

Session SSM20 S502AB

Neuroradiology/Head and Neck (Gadolinium)

Session SSM21 S504AB

Pediatrics (Neuroradiology and Fetal Neuroimaging)

Session SSM22 S103AB

Radiation Oncology (Head and Neck, Skin)

Session SSM24 S104A**4:30–6:00 PM****Educational Courses**

Neuro and MSK (Case-based Competition)

Session SPDL41 E451B**Thursday, Dec. 5, 2019****Case of the Day**

Neuroradiology Thursday Case of the Day

Session ED009-TH Case of Day, Learning Center**7:15–8:15 AM****Educational Courses**

Hot Topic Session: Practical Pearls in Acute Ischemic Stroke Imaging

Session SPSH50 E353A**8:30–10:00 AM****Educational Courses**

Essentials of Neuro Imaging

Course MSES51 E450A

High Yield Pediatric Neuroradiology

Course RC605 E450B

Horse or Zebra? Case-based Review of Common Mimics in the Head and Neck (Interactive Session)

Course RC606 S402AB

Head and Neck PET/CT: Clinical Approach

Course RC611 S504CD

Best Cases from the AIRP (In Conjunction with the American Institute for Radiologic Pathology) (Interactive Session)

Course RC624 S404CD

Common Spinal Injection Procedures for Diagnosis and Treatment of Back Pain (Hands-on)

Course RC631 E263**10:30 AM–12:00 PM****Scientific Papers Sessions**

Neuroradiology/Head and Neck (Artificial Intelligence)

Session SSQ15 S404AB

Neuroradiology (White Matter)

Session SSQ16 S404CD**11:00–11:20 AM****Showcase Presentations**

RSNA AI Theater: Big Data and Its Impact on Stroke Imaging: Presented by Cercare Medical

Session AI52 AI Showcase North Building Level 2**12:15–12:45 PM****Posters and Exhibits: Discussions**

Neuroradiology Thursday Poster Discussions

Session NRS-THA NR Community, Learning Center**12:45–1:15 PM****Posters and Exhibits: Discussions**

Neuroradiology Thursday Poster Discussions

Session NRS-THB NR Community, Learning Center**1:00–2:30 PM****Educational Courses**

RSNA AI Deep Learning Lab: Segmentation

Session SPAI52 . . . AI Showcase North Building Level 2**1:30–1:50 PM****Showcase Presentations**

RSNA AI Theater: AI for Diagnosis, AI for the World: Presented by LPIXEL, Inc.

Session AI57 AI Showcase North Building Level 2

**4:30–6:00 PM****Educational Courses**

What's in the Pipeline for Neuro MRI?

Course RC705 **E451B**

Essentials of Orbital Imaging

Course RC706 **E353C**

Image-guided Biopsy of the Spine (Hands-on)

Course RC731 **E263****Friday, Dec. 6, 2019****8:30–10:00 AM****Educational Courses**

Call in the Troops, or Walk on By? Management of Unexpected Findings in Neuro/Head & Neck (Interactive Session)

Course RC805 **E450B**

Pediatric Neuroemergencies

Course RC813 **E451A****10:30 AM–12:00 PM****Scientific Papers Sessions**

Neuroradiology (Vascular and Interventions)

Session SST07 **E353A****Posters and Exhibits Discussions***[CME is available when the author is present for discussion during the lunch period]***Sunday, Dec. 1, 2019****12:30–1:00 PM****Scientific Posters**

Automated Detection of Stroke on Non-Contrast CT at Initial Presentation Using Texture Analysis and Machine Learning

NR406-SD-SUA6 **Station #6**

Discrimination Between Glioblastoma and Single Brain

Metastasis Using Radiomics and Machine Learning: Model Development and External Validation

NR407-SD-SUA3 **Station #3**

Lumbar Disc Herniation: Therapeutic Effect of CT-Guided Pulsed Radiofrequency

NR364-SD-SUA1 **Station #1**

Microstructural MR Imaging for the Differentiation between Spinal Ependymomas and Astrocytomas

NR366-SD-SUA4 **Station #4**

Survival Analysis of Head and Neck Cancer Patients Treated with Radiotherapy: Prognostic Value of Computed Tomography-Based Volumetric Body Composition Analyses

NR408-SD-SUA5 **Station #5**

Translaminar and Transforaminal Epidural Steroid Injection

(ESI): Efficacy on Immediate and Long-Term Pain Management

NR365-SD-SUA2 **Station #2****12:30–1:00 PM****Education Exhibits**

A Multimodality Pictorial Essay of Nontraumatic Ocular and Orbital Pathologies

NR328-ED-SUA8 **Station #8**

Cerebral Perfusion Imaging A to Z: Theory, Implementation, and Clinical Cases

NR330-ED-SUA9 **Station #9**

Navigation Map for Head and Neck Cancer: Anatomical Routes of Tumor Spread at the Crossroads of the Neck

NR327-ED-SUA10 **Station #10**

Posterior Third Ventricle Pathologies: Look Through Surgeons' Eyes

NR329-ED-SUA7 **Station #7**

Under Construction: Understanding the Post-Operative Temporal Bone

NR338-ED-SUA11 **Station #11****1:00–1:30 PM****Scientific Posters**

Development of Graph Theoretical Biomarkers in Early Infancy

NR367-SD-SUB1 **Station #1**

Outcomes of Treatment-Induced Pseudoprogession and Correlation with MGMT Methylation Status in GBM Patients

NR410-SD-SUB5 **Station #5**

Quantitative Diffusion Tensor Imaging and Ventricular/Sulcal CSF Volumetry: A Marker to Diagnose the idiopathic Normal Pressure Hydrocephalus (iNPH)

NR369-SD-SUB3 **Station #3**

Stroke Protocol Optimization with Dual-Energy CT: Virtual Monochromatic Energy Image Selection with Enhancement of Residual Iodine Contrast and Hemorrhagic Transformations

NR409-SD-SUB4 **Station #4**

The Miniature Pig as a Neuroimaging and Spectroscopy Model for Brain White Matter Development in Human Adolescents

NR368-SD-SUB2 **Station #2**



The Utility of Multiparametric MRI to Characterize Hypoxic Tumor Subvolumes in Comparison to FMISO PET
NR411-SD-SUB6 **Station #6**

1:00–1:30 PM

Education Exhibits

Open Your Mind: Everything You Need to Know About Third Window Pathologies of the Inner Ear
NR346-ED-SUB11 **Station #11**

The Good, the Bad, and the Ugly: A Case-based Review of the Ultrasonographic Evaluation of Thyroid Nodules According to the 2017 ACR-TIRADS Consensus
NR350-ED-SUB12 **Station #12**

There is Something in Your Eye: Imaging of Ocular Pathology
NR331-ED-SUB7 **Station #7**

Up-to-Date Technique for Improvement of CT and MRI Imaging Quality in the Head and Neck: Theory, Clinical Applications
NR334-ED-SUB9 **Station #9**

When Should I Think About a Transsynaptic Degeneration? A General Approach to the Transneuronal Degeneration
NR342-ED-SUB10 **Station #10**

Monday, Dec. 2, 2019

12:15–12:45 PM

Scientific Posters

Automated Volumetric Assessment of Multiple Sclerosis Disease Burden and Activity with Artificial Neural Networks
NR396-SD-MOA6 **Station #6**

Contrast-Enhanced Black-Blood MRI Sequence is Superior to T1 Spin Echo Sequence in Automated Detection of Contrast-Enhanced Brain Lesions by Convolutional Neural Networks
NR371-SD-MOA2 **Station #2**

Deep-Learning Reconstruction Improves Quality of Clinical Brain and Spine MR Imaging
NR370-SD-MOA1 **Station #1**

How to Process High-Resolution Steady-State Cerebral Blood Volume Maps Using Ferumoxytol, an Off-Label MR Contrast Agent?
NR372-SD-MOA3 **Station #3**

Incidence of Post-Lumbar Puncture Headaches Requiring Epidural Blood Patch After Fluoroscopic Guided Lumbar Puncture
NR397-SD-MOA7 **Station #7**

Normative Values of Brain MRS Metabolites in Early Childhood
NR399-SD-MOA9 **Station #9**

Problems in Imaging of Thoracolumbar Spine Fractures
NR394-SD-MOA4 **Station #4**

Prospective Motion Correction Brain MRI Using an External Tracking System
NR395-SD-MOA5 **Station #5**

Quantifying Tissue Microstructure Non-Gaussianity in the Presence of Fiber Dispersion
NR398-SD-MOA8 **Station #8**

12:15–12:45 PM

Education Exhibits

A Genetic Mutation By Any Other Name (Is Still a Genetic Mutation): An Update on Molecular Diagnostics and Neurologic Disease
NR335-ED-MOA10 **Station #10**

Congenital Spinal Anomalies: What the Neurosurgeon Wants to Know
NR336-ED-MOA11 **Station #11**

Gadolinium Deposition in Brain: An Updated Review
NR337-ED-MOA12 **Station #12**

12:45–1:15 PM

Scientific Posters

Cerebral Contrast Uptake on CT Angiography in Acute Ischemic Stroke: Automated Attenuation Measurements for Ischemic Core and Final Infarction Prediction
NR373-SD-MOB1 **Station #1**

Hippocampal DTI Changes in Patients with Temporal Lobe Epilepsy
NR405-SD-MOB9 **Station #9**

Improved Imaging for Neurovascular Interventions Using Dual-Resolution Detector and Region of Interest Dose Reduction using Convolutional Neural Network
NR401-SD-MOB5 **Station #5**

Measurement of Cerebral Blood Flow by Area-Detector CT Perfusion is Improved by Bayesian Estimation with Advanced Noise Reduction Relative to Standard Singular Value Decomposition
NR404-SD-MOB8 **Station #8**

Simultaneous Multi-Angular-Relaxometry of Tissue (SMART) MRI Identifies Myelin-Related Tissue Damage in Multiple Sclerosis
NR400-SD-MOB4 **Station #4**

The Effect of Artificial Intelligence-Based Intracranial Hemorrhage Detection on Study Turnaround Time for Emergent Care Non-Contrast Head CT: A Prospective Randomized Clinical Trial
NR402-SD-MOB6 **Station #6**



Utility of Stress MRI in the Evaluation of Degenerative Disease of the Lumbar Spine: A Study Done on 3T MRI

NR403-SD-MOB7 **Station #7**

What if MRI is Used as First Line Imaging for ED Patients with Suspected Acute Ischemic Stroke?

NR374-SD-MOB2 **Station #2**

When the Drains are Clogged: Can CT Attenuation Value Help to Increase the Diagnostic Sensitivity of Acute Cerebral Venous Sinus Thrombosis on Non-Enhanced CT Head Scans?

NR375-SD-MOB3 **Station #3**

12:45–1:15 PM

Education Exhibits

Congenital Inner Ear Anomalies: A Pictorial Essay

NR341-ED-MOB12 **Station #12**

Recognizing Radiation-Induced Changes in the Central Nervous System: Where and What to Look For

NR340-ED-MOB11 **Station #11**

Zika Virus: A Problem Flying Right into Adult Minds

NR339-ED-MOB10 **Station #10**

Tuesday, Dec. 3, 2019

12:15–12:45 PM

Scientific Posters

Comparison Among Conventional MRI Sequences for the Detection of Diffuse Axonal Injury in Patients with Traumatic Brain Injury

NR419-SD-TUA5 **Station #5**

Detailed Visualization of Streamline Flow Patterns in a Neurovascular Phantom Using a 1000 Frames-Per-Second, High-Speed Photon-Counting Detector (PCD)

NR378-SD-TUA3 **Station #3**

Detection of Left Atrial Appendage Thrombus in Acute Stroke Patients by Adding Cardiac CT in Stroke Protocol

NR376-SD-TUA1 **Station #1**

Diffusion MRI-Guided Study of Regional Variations in Glioblastoma Multiforme Pathology and Gene Expression

NR418-SD-TUA4 **Station #4**

Does the Carotid Artery Geometry Play a Role for the Stroke?

NR420-SD-TUA6 **Station #6**

Frontoparietal Cortical Thinning in Impaired Executive Control in Young-Adult Multiple Sclerosis

NR423-SD-TUA9 **Station #9**

Progression of Plaque Burden on Middle Cerebral Artery Associated with Recurrent Stroke: A Follow-Up Study by High-Resolution Magnetic Resonance Imaging

NR421-SD-TUA7 **Station #7**

Significance of 3D Cube Flair with Compressive Sensing in the Diagnosis of Subcortical Microlesions

NR422-SD-TUA8 **Station #8**

Wall Shear Stress Assessment Using Vector Flow Imaging Discriminates Between Subjects with and without Carotid Atherosclerosis in the Carotid Bifurcation

NR377-SD-TUA2 **Station #2**

12:15–12:45 PM

Education Exhibits

Contemporary MRI Imaging in Parkinson's Disease

NR345-ED-TUA12 **Station #12**

Diagnosing Intracranial Vasculitides and Vasculopathies:

Conventional MRI and Vessel Wall Imaging-based Diagnosis

NR344-ED-TUA11 **Station #11**

WHO 2016 Classification of CNS Tumors: The Beginning of the Molecular Era

NR343-ED-TUA10 **Station #10**

12:45–1:15 PM

Scientific Posters

Evaluation of White Matter Changes in Traumatic Brain Injury Using Track Density Imaging and Fractional Anisotropy

NR425-SD-TUB5 **Station #5**

Increased Resting State Synchronization within the Motor Cortex following Post-Stroke Rehabilitation

NR379-SD-TUB1 **Station #1**

MR Fingerprinting Evaluation for the Early Changes of Relaxation Time in the Brain Tumor and Surrounding White Matter After Stereotactic Radiotherapy

NR424-SD-TUB4 **Station #4**

MRI Biomarkers Improve Disease Progression Modeling-Based Prediction of Cognitive Decline

NR427-SD-TUB7 **Station #7**

New Non-Contrast Brain CT Reconstructions Could Help in Better Characterize Final Infarct Volume and Improve Patient Management in Acute Anterior Ischemic Stroke

NR429-SD-TUB9 **Station #9**

Radio-Proteo-Genomic Differences in IDH1 Mutant versus Wild-Type Gliomas

NR426-SD-TUB6 **Station #6**

Sound the Alarm: The Dramatic Rise in CT Head Angiography Performed for Stroke in the Emergency Department

NR428-SD-TUB8 **Station #8**



The Comprehensive Analysis of 4D Flow MRI Can Detect Cerebral Hemodynamic Impairment in the Patients with Internal Carotid Artery Stenotic Disease

NR381-SD-TUB3 **Station #3**

The Impact of Injection Protocol on Blood Flow Calculations in 4D-DSA

NR380-SD-TUB2 **Station #2**

12:45–1:15 PM

Education Exhibits

Artificial Intelligence and Stroke Imaging: Past, Present, and Future

NR348-ED-TUB11 **Station #11**

Interpretation of CT Perfusion in Acute Ischemic Stroke: A Practical Guide

NR347-ED-TUB10 **Station #10**

Unperplexing the Brachial Plexus

NR349-ED-TUB12 **Station #12**

Wednesday, Dec. 4, 2019

12:15–12:45 PM

Scientific Posters

Brain Cortical Thickness Alterations in Medication-Free Patients with Major Depression Disorder

NR430-SD-WEA4 **Station #4**

Clinical Usefulness of Deep Learning-Based Automated Detection Algorithm in the Intracranial hemorrhages

NR383-SD-WEA2 **Station #2**

Comparing an Artificial Intelligence Algorithm to Staff Neuroradiologists Performances in Diagnosing Ischaemic Lesions in Emergency CT Exam in a Stroke Center Routine

NR431-SD-WEA5 **Station #5**

Evaluating the Benefit of High-Resolution DSE-MRI with Golden-Angle Radial Sparse Parallel Reconstruction of the Pituitary Gland in a Clinical Setting

NR432-SD-WEA6 **Station #6**

Morphology and Density are the Most Relevant Predictors of Poor Outcome in lobar ICHs on Brain Non-Contrast CT (NCCT) and Deep ICHs, Respectively

NR382-SD-WEA1 **Station #1**

Multi-Modal Convolutional Neural Networks with 2D and 3D Information Can Improve its Sensitivity and Specificity for Detecting Cerebral Aneurysms in MR Angiography

NR433-SD-WEA7 **Station #7**

Using 3D Printing to Model Occlusive Balloon Performance in Aneurysmal Defects

NR384-SD-WEA3 **Station #3**

Utility of Quantifying Iron Deposition in the Brainstem during the Early Stages of Parkinson's Disease Development

NR434-SD-WEA8 **Station #8**

12:15–12:45 PM

Education Exhibits

Getting the Most from Brain Cortex: Gray Matter Segmentation and Potential Clinical Applications of Cortical Thickness Techniques

NR353-ED-WEA10 **Station #10**

Keep an Eye on the Eye: Imaging of Orbital Trauma

NR351-ED-WEA9 **Station #9**

Non-Traumatic Head and Neck Emergencies, Pearls and Pitfalls: A Pictorial Essay

NR011-EB-WEA **Hardcopy Backboard**

Open Your Mouth and Your Eyes! Don't Lose Teeth Affections

NR352-ED-WEA11 **Station #11**

12:45–1:15 PM

Scientific Posters

Automated Classification of Arteriolar Sclerosis Pathology and Prediction of Cognitive Decline Based on MRI Images

NR435-SD-WEB4 **Station #4**

Automated Contrast Uptake Measurements at CT Angiography for Thrombectomy Triage in Extended Time Windows

NR439-SD-WEB8 **Station #8**

Diagnostic Accuracy of Routine Non-Contrast MRI Sequences for Dural Venous Sinus Thrombosis

NR437-SD-WEB6 **Station #6**

Efficacy of tc-MRgFUS Thalamotomy in The Treatment of Essential Tremor (ET) and Parkinson Disease (PD) Tremor: Experience From 39 Patients in A Single Centre with Long Term Follow-Up

NR438-SD-WEB7 **Station #7**

Intravoxel Incoherent Motion (IVIM) Alterations in Glioblastoma during Chemoradiation Therapy?

NR436-SD-WEB5 **Station #5**

Long-Term Rupture Risk in Patients with Unruptured Intracranial Aneurysms Treated with Endovascular Therapy: A Systematic Review and Meta-Analysis

NR385-SD-WEB1 **Station #1**

Quantitative Radiological Features Affecting 2HG Detection with MEGA-PRESS Sequence

NR387-SD-WEB3 **Station #3**



Radiogenomic Analysis of Glioblastoma on Pre-Treatment Gd-T1w MRI Reveals Gender-Specific Imaging Features and Signaling Pathways

NR386-SD-WEB2 **Station #2**

12:45–1:15 PM

Education Exhibits

Advanced Imaging Techniques for the Assessment of Intracranial Vascular Pathology: 4D Flow and Beyond

NR356-ED-WEB11 **Station #11**

Head and Neck Radiation Therapy: A Primer for Radiologists

NR355-ED-WEB10 **Station #10**

Staging of Sinonasal Cancer: What the Radiologist Needs to Know

NR354-ED-WEB9 **Station #9**

Thursday, Dec. 5, 2019

12:15–12:45 PM

Scientific Posters

A Study on the Computer-Assisted Diagnosis with Deep Learning Architecture (CADDELAC) for the Detection of Brain Metastases

NR390-SD-THA3 **Station #3**

Correlates of Intra-Operative Speech Arrest on Functional Magnetic Resonance Imaging: Tumoral Invasion and Language Plasticity

NR389-SD-THA2 **Station #2**

Deep Learning-Enabled Acceleration for Multi-Contrast High-Resolution Intracranial Vessel Wall Imaging with 40x Reconstruction Speedup

NR413-SD-THA5 **Station #5**

Increase in Cerebral Blood Flow after a Single Hypoxic Hypobaric Exposure

NR412-SD-THA4 **Station #4**

Reliability of Functional Neuroimaging for Prediction of Eloquent Brain Function as Determined by Intraoperative Mapping in Brain Tumor Patients

NR388-SD-THA1 **Station #1**

Segmentation and Measurement of Ventricular and Cranial Vault Volumes in 15,223 Subjects Using Artificial Intelligence

NR414-SD-THA6 **Station #6**

12:15–12:45 PM

Education Exhibits

Neurologic Complications in Patients with Hematologic Malignancies: A Review of Imaging Findings

NR360-ED-THA9 **Station #9**

Optimizing Collateral Evaluation and Distal Vessel Occlusion Detection in Acute Stroke with Colorized Multiphase CTA Summation Maps

NR358-ED-THA7 **Station #7**

Refreshing Middle Cerebral Artery Anatomy in Stroke thrombectomy Era: A CT-Angiography and Perfusion-CT Radiologic Tool

NR359-ED-THA8 **Station #8**

12:45–1:15 PM

Scientific Posters

A Machine-Learning Based Top 10 List: Extracranial Determinants of Cerebral White Matter Lesion Volume

NR415-SD-THB4 **Station #4**

Artificial Intelligence-Based Cochlea Segmentation and Analysis on Clinical High-Resolution CT Images: Towards Automatic Patient-Specific Measurements for Surgical Planning

NR416-SD-THB5 **Station #5**

Develop Recommendations for Follow-Up Carotid Ultrasound Surveillance of Patients with <60% Carotid Stenosis

NR417-SD-THB6 **Station #6**

The Effects of Sound Therapy on Resting-State Functional Brain Networks in Patients with Tinnitus: A Graph-Theoretical-Based Study

NR393-SD-THB3 **Station #3**

Ultra-High-Resolution Dynamic CT to Evaluate Pituitary Adenomas: Comparison with Dynamic MRI

NR391-SD-THB1 **Station #1**

Utility of Susceptibility Weighted Imaging (SWI) in Diagnosing Colloid Cyst

NR392-SD-THB2 **Station #2**

12:45–1:15 PM

Education Exhibits

Autoimmune Encephalitis: Not Always Limbic

NR363-ED-THB9 **Station #9**

Gyriform Imaging Pattern: What's Wrong with the Cerebral Cortex?

NR362-ED-THB8 **Station #8**

What's the Buzz? An Imaging Approach to Tinnitus

NR361-ED-THB7 **Station #7**



Education Exhibits

SPACE No.	EXHIBIT TITLE		
NR001-EB-X	Postnatal MRI Findings After Open Spina Bifida Repair	NR104-ED-X	Primary Central Nervous System Lymphoma: Diagnosis, Surveillance, Treatment, Prognosis, and Recurrence
NR002-EB-X	Another One Bites the Dust: Revisiting Masticator Space Tumors	NR105-ED-X	Pitfalls in TI-RADS: An Illustrative Review with Rad-Path Correlation
NR003-EB-X	Spinal Cysts: A Compartmental Review	NR106-ED-X	Spectrum of Corpus Callosum Lesions: Beyond the Typical 'Butterfly' Differential
NR004-EB-X	Talking about TIMI, TICI and mTICI Makes Me Dizzy: A Review of the Grading Schemes and Terminology Utilized in Reporting Endovascular Thrombectomy Outcomes	NR107-ED-X	Diffusion-Tensor Imaging of Major White Matter Bundles: Anatomy, Functions and ROI-Based Reconstruction - A Pictorial Review
NR005-EC-X	A 3D Analysis and Visualization Tool for Synergetic Integration of Multi-Modal Neuroimaging Datasets	NR108-ED-X	Beyond the Vision: A Practical Approach to Orbital Tumors in Children
NR006-EB-X	Acute Non-Traumatic Emergency Conditions of the Head and Neck: A Primer for the Radiologist	NR109-ED-X	Sinonasal Tumors: Have They 'SNUC' Up On You? An Imaging Review of Sinonasal Tumors and Relevant Sinonasal Anatomy
NR007-EB-X	An Algorithm-based Approach to Understanding Stroke Workup for Residents	NR110-ED-X	Going Against the Flow: Arterial Spin Labelled Imaging Provides Key Functional Diagnostic Information
NR008-EB-X	A Window to Neuropsychiatric Disorders: Our Experience with Transcranial Ultrasound	NR111-ED-X	The In's and Out's of Oculomotor Nerve Palsy
NR009-EB-X	What is Acute Hippocampus?	NR112-ED-X	The Forgotten Phakomatoses: A Neuroimaging Review
NR010-EB-X	Mitochondrial CNS Disorders in Children: A Pictorial Review of MR Imaging Features	NR113-ED-X	The Importance of Being Earnest in Differentiating NMO/NMOSD from MS
NR012-EB-X	Perineural Spread in Children Head and Neck Tumors: A Survival Guide	NR114-ED-X	Cranio-cervical Junction Trauma: Significant Ligamentous Injuries and Detailed Anatomical Review
NR013-EB-X	Sonographic Imaging of Iatrogenic Intraspinal Hematomas in Infants: A Retrospective Case Study	NR115-ED-X	Imaging for Epilepsy Surgery: How to Assist the Epileptologist and Neurosurgeon
NR100-ED-X	Imaging and Classification of Bone-related Disorders of the Jaw	NR116-ED-X	Clinical 7-Tesla MRI for Neuroradiology: Strengths, Weaknesses, and Ongoing Challenges
NR101-ED-X	Imaging of Cholesteatoma: Current Status and Future Prospective	NR117-ED-X	What Radiologists Don't See, Otolaryngologist Does: Clinical and Radiologic Correlation
NR102-ED-X	Imaging of Minor Salivary Gland Carcinomas: "Not Minor" Malignant Tumors Throughout the Head and Neck Region	NR118-ED-X	Cortical Clefts Convey Connotations: Schizencephaly-Related Malformations and Mimics
NR103-ED-X	Central Nervous System Iatrogenesis: What the Radiologist Must Know	NR119-ED-X	TB Continued... Don't Forget the 'BASICS' of Tuberculous Meningitis!
		NR120-ED-X	The Hidden Slope: Imaging of the Clivus
		NR121-ED-X	Zenker's Diverticulum: A Primer



- NR122-ED-X** Emergency Head and Neck Imaging: Infections and Inflammatory Processes - Don't Underestimate Them!
- NR123-ED-X** Spinal Cord Syndromes: Clinical and Neuroradiological Step-by-Step Approach
- NR124-ED-X** Imaging Review of the "Great Imitator": Skull Base Lymphoma
- NR125-ED-X** Diffusion-Weighted Imaging in the Head and Neck: Usefulness of the Qualitative Point-of-View for Patient Care
- NR126-ED-X** Let's Go into Orbit! An MRI Approach of Main Intraocular Lesions
- NR127-ED-X** Diagnostic Implications of Contrast-Enhanced Intracranial Vessel Wall Imaging
- NR128-ED-X** Imaging Evaluation of the Spinal Hardware: What Residents and Fellows Need to Know
- NR129-ED-X** Treatment of Spinal Metastases: What the Radiologist Needs to Know
- NR130-ED-X** Post-Operative Imaging Appearance of Iliac Crest Free Flap for Palatamaxillary Reconstructions
- NR131-ED-X** Radiological Evaluation of Facial Trauma: Guide for the Resident
- NR132-ED-X** The Imaging Findings of Infectious Diseases of Head and Neck: What Radiologists Should Know in Order to Lead the Patients to the Appropriate Medical Treatment
- NR133-ED-X** Epilepsy Focus Localization: A Nuclear Medicine Perspective
- NR134-ED-X** A Resident's Guide to Understanding the New 2018 ACR White Paper for the Management of Incidental Pituitary Findings on CT, MRI, and 18F-Fluorodeoxyglucose PET
- NR135-ED-X** Thoracic Inlet Lesion Incidentally Found at the Lower Margin of Neck CT: Should Neuroradiologists Be Concerned?
- NR136-ED-X** Temporal Bone Imaging: Great Advantages of Ultra-HRCT
- NR137-ED-X** Cystic Lesions of the Neck: Combined Clinical, Radiographic, and Histopathological Approach
- NR138-ED-X** Tumefactive Demyelinating Lesions: The Spectrum of Imaging Appearances and the Differential Diagnosis
- NR139-ED-X** Postoperative Imaging of Cochlear Implants
- NR140-ED-X** Usefulness of Spiral Flow Tube for Saline Chaser Capable of Improving Visualization Ability of Subclavian Artery in Cervical CT Angiography
- NR141-ED-X** CNS Infection: Uncommon Presentations, Mimics, and Pitfalls
- NR142-ED-X** Potentially Unfamiliar Postoperative Imaging Findings in the Head and Neck
- NR143-ED-X** Compressed Sensing MR Angiography from Simulation Research to Clinical Practices
- NR144-ED-X** Prediction of Malignancy in Thyroid Nodules: Is Elastography Useful?
- NR145-ED-X** Immunotherapy-related Neuroimaging Findings in Non-CNS Tumor Treatment
- NR146-ED-X** Quantitative Susceptibility Mapping: Clinical Application for Pediatric Diseases
- NR147-ED-X** Oncogenetics and Imaging of Head and Neck Cancer: Importance of Alcohol, Tobacco, and Virus Oncogenes
- NR148-ED-X** Surgical Reconstruction in Head and Neck: A Pictorial Review
- NR149-ED-X** If the Patient Comes from the Hematologic Sector: What Brain MRI Can Say
- NR150-ED-X** Another Trick on the Wall: Revisiting Intracranial Arteriopathy
- NR151-ED-X** Lumbar Facet Joint Septic Arthritis: CT and MRI Findings of an Important and Commonly Missed Pathology
- NR152-ED-X** Who's this Fella Near the Sella? An Approach to Sellar and Parasellar Masses
- NR153-ED-X** Nasal Penetration During Swallowing: A Simple Radiologic Finding Due to Multiple Complex Mechanisms and Causes
- NR154-ED-X** Computer-Assisted Analysis of FDG-PET and Perfusion SPECT in Patients with Refractory Epilepsy



- NR155-ED-X** MRgFUS Thalamotomy for the Treatment of Tremor: How We Do It: A Guide from Patient Preparation to Technical Procedural Management
- NR156-ED-X** Brain on Fire: An Imaging-based Review of Autoimmune Encephalitis
- NR157-ED-X** Follicular Lesions of Undetermined Significance (FLUS): What Radiologists Should Know
- NR158-ED-X** How the Radiologist Can Help: Important Anatomic Landmarks in the Treatment of Oral Cavity, Oropharyngeal and Laryngeal Carcinoma and Their Impact on Surgical Options, Esthetic, Functional and Psychological Challenges
- NR159-ED-X** Establishing a Functional-MRI Service: Lessons Learned and Pitfalls to Avoid
- NR160-ED-X** Head and Neck Imaging Manifestations of Granulomatosis with Polyangiitis
- NR161-ED-X** Dismistifying Neoplastic Clival Lesions: A Differential Diagnosis Approach
- NR162-ED-X** Craniosynostosis: Understanding the Misshaped Head
- NR163-ED-X** It's a Kind of Magic! Is this Real Life or is this Just Fantasy?
- NR164-ED-X** Integrated Radiological-Pathological Staging of Sinonasal Inverted Papillomas
- NR165-ED-X** Radiologic Findings of Adrenoleukodystrophy and Their Clinical Importance
- NR166-ED-X** Neuroimaging Blindspots: Cases of Often Missed Neuropathology
- NR167-ED-X** Nothing to Sneeze At: Imaging Findings in Non-Neoplastic Sinonasal Pathologies
- NR168-ED-X** Imaging Features of Cystic Lymph Node Metastasis of HPV-Positive Oropharyngeal Cancer and Other Cystic Neck Lesions
- NR169-ED-X** Multiphase CTA - More than Just CTA: A Multiuse Tool in Acute Stroke Imaging and Decision Making
- NR170-ED-X** Pulsatile Tinnitus Etiologies and Advanced MR Techniques: From Diagnosis to Intervention
- NR171-ED-X** Sellar and Suprasellar Region in Kids: Breaking Down the Differential
- NR172-ED-X** Pediatric Paranasal Sinuses: Normal Development and Differentiating Hypoplasia and Atelectasis
- NR173-ED-X** Intracranial Tumor Mimics: Differentiating the Chameleon from Neoplasm
- NR174-ED-X** Gnawing Lesions of the Mandible
- NR175-ED-X** How to Identify Cervical Traumatic Neuromas in the Postoperative Neck Dissection: A Brief Review of the Cervical Plexus Ultrasound
- NR176-ED-X** Doctor, I Am Losing My Mind! An Update in Cortical Degenerative Syndromes: Patterns to Review and Remember
- NR177-ED-X** Perfusion and Diffusion-Weighted Imaging of Pediatric Brain Tumors
- NR178-ED-X** Application of Multiple-Parameter MR Imaging of Temporomandibular Joint Dysfunction
- NR179-ED-X** Brain Perfusion MR: Technique, Clinical Applications, and Interpretation (Case-based Approach)
- NR180-ED-X** Imaging Techniques and Findings of Orbit Masses in Both Adults and Children
- NR181-ED-X** Neuro-Imaging Evaluation of Localisation-related Epilepsy: State-of-the-Art Review
- NR182-ED-X** Imaging Features of Metabolic Disorders and Oxidative Phosphorylation
- NR183-ED-X** Usual and Unusual MR Imaging Findings of Wernicke's Encephalopathy
- NR184-ED-X** Carotid Plaque Imaging: Past, Present, and Future
- NR185-ED-X** Pushing Carotid Space Structures: Who Am I?
- NR186-ED-X** Beyond Tympanomastoidectomy: A Pictorial Essay of Unusual Post-Operative Temporal Bone CT Findings
- NR187-ED-X** 3T MRI in Hemolytic Uremic Syndrome in Adults with Central Nervous System Involvement: A Case Series
- NR188-ED-X** Lytic Odontogenic and Non-Odontogenic Mandibular Lesions



NR189-ED-X	Diffuse Thyroid Disease: Radio-Pathological Correlation	NR204-ED-X	MR Permeability Applications in the Head and Neck
NR190-ED-X	MR Gliogenomics, the New Frontier - The IDH/1p19q Mutation: MR Imaging Features and the Future of MR Genomics	NR205-ED-X	Lesion Localization in Neuroradiology: Classic Neurologic Exam and Neuroimaging Correlates
NR191-ED-X	The Air Apparent: A Radiologic Approach to Understanding Cervical Emphysema	NR206-ED-X	Deep-Learning Applications in Glioma Analysis: Quantification, Characterization, and Prediction
NR192-ED-X	Multimodality Imaging of Normal Pressure Hydrocephalus: Role of Integrated Anatomic and Molecular Imaging	NR207-ED-X	Third Ventricular Colloid Cysts: Simple Yet Complex Imaging Entity
NR193-ED-X	Thyroid Carcinoma: A Pictorial Review of the Radio-Pathological Characteristics of the Thyroid Cancer Subtypes and Variants	NR208-ED-X	Comprehensive Review of Intraventricular Tumors
NR194-ED-X	Salivary Gland Cancers: Radiological Features with Histological Correlation	NR209-ED-X	Evaluation of Brain Tumors with Imaging, Histological Correlation, and Molecular Markers
NR195-ED-X	Cerebral Venous Thrombosis: What Radiologists Need to Know About Diagnosis and Treatment	NR210-ED-X	Imaging and Classification of Head and Neck Paragangliomas
NR196-ED-X	Imaging Evaluation of Vascular Cognitive Impairment: Small Vessel Disease is Not a Small Problem	NR211-ED-X	Case-based Imaging Review of Posterior Fossa Tumors in Adults and Children
NR197-ED-X	Surgeon's Infratemporal Fossa versus Radiologist Masticator and Parapharyngeal Spaces: Tug-of-War and Implications on AJCC Staging and Resectability of Head Neck Cancers	NR212-ED-X	4D CT for Parathyroid Evaluation
NR198-ED-X	Intravoxel Incoherent Motion Imaging for Brain and Head and Neck: Theory, Clinical Applications, and Pitfalls	NR213-ED-X	An Organized Approach to Interpreting CT of the Paranasal Sinuses: Review of Common Sinonasal Anatomic Variants and How to Keep the Surgeon out of Trouble
NR199-ED-X	Gadolinium Deposition in the Brain and Glymphatic System	NR214-ED-X	Things That Go 'Splat' on the Spine: Bugs, Blood, and Other Imitators - An Anatomical Compartment Approach
NR200-ED-X	Intracranial Pressure Disorders Focusing on Idiopathic Intracranial Hypertension and Spontaneous Intracranial Hypotension	NR215-ED-X	Perineural Tumor Spread (PNTS) of Head and Neck Cancers: Imaging Technique and Findings
NR201-ED-X	Beware the Trunk Abnormalities Associated with the Characteristical Head and Neck Lesions	NR216-ED-X	Name that Shunt! Application of Arterial Spin Labelling (ASL) in the Identification of Intracranial Arteriovenous Shunts
NR202-ED-X	Intracranial Calcifications: When and Where Do They Appear and What Do They Mean?	NR217-ED-X	The Eyes Have It: Congenital and Developmental/Acquired Anomalies of the Globe
NR203-ED-X	Imaging Features and Implications of Lumbosacral Transitional Vertebrae: What the Radiologist Needs to Know	NR218-ED-X	Brain on Fire: Understanding Autoimmune Encephalitis
		NR219-ED-X	Key Imaging Features of Newly Defined CNS High Grade Neuroepithelial Tumor with BCOR Alteration
		NR220-ED-X	Brain Magnetic Resonance Elastography



- NR221-ED-X** Comprehensive Review of Normal Variants Related to Cerebral Arterial Supply and Their Clinical Significance
- NR222-ED-X** Don't Nod Off! A Quiz-based Review of Uncommon Acquired Diseases Involving the Craniovertebral Junction
- NR223-ED-X** Novel MRI Imaging Techniques in Classification and Evaluation of Spinal Vascular Malformations: A Pictorial Review
- NR224-ED-X** Postoperative Non-Contrast CT for Ruptured Subarachnoid Hemorrhage: Utility of Dual-Energy CT Applications
- NR225-ED-X** All that Restricts is Not Malignant: Restricting Low-Grade Neoplasms in the Brain
- NR226-ED-X** Diagnostic Spectrum of Orbital Lesions Which Are Always Dressed in Overalls and Looks Like Work
- NR227-ED-X** All You Will See! Clivus Imaging
- NR228-ED-X** Intracranial Dural Arteriovenous Fistulas: State-of-the-Art Review
- NR229-ED-X** Meet the Outliers: Uncommon Lesions in Sella
- NR230-ED-X** Get a Whiff of This: IgG4 Disease of the Sino-Nasal Region
- NR231-ED-X** Men(ninges) in Black: Hypointense Dural Lesions in T2WI
- NR232-ED-X** Fractional Anisotropy Value May Predict the Long-term Treatment Effectiveness After Thalamotomy for Essential Tremor: How We Measure
- NR233-ED-X** Intracranial Vessel Wall with Magnetic Resonance Imaging: A New and Emerging Milestone in the Diagnosis of Cerebral Vasculitis
- NR234-ED-X** If I Could Offer You Only One Tip for the Future, Sunscreen Would Be It
- NR235-ED-X** MRI Findings of Spontaneous Intracranial Hypotension: Diagnostic Signs and Predictive Factors for Treatment Response
- NR236-ED-X** A Practical Approach to Sclerotic Jaw Lesions
- NR237-ED-X** MOG Antibody Disease: Spectrum of Imaging Findings, Overlapping and Differentiating Features with ADEM and NMOSD
- NR238-ED-X** MRI Perfusion Techniques in Brain Tumors: A Primer for the Radiologist
- NR239-ED-X** Imaging of Teeth Abnormalities: How Radiologists Can Contribute
- NR240-ED-X** Atypical Bacterial Infections of the Central Nervous System: An Unknown Threat
- NR241-ED-X** Neuroanatomy Lab of the Future: Studying Brain Anatomy with Cinematic Rendering
- NR242-ED-X** Endonasal Frontal Sinus Approach: An ABCDE Rule
- NR243-ED-X** Gadolinium Washout: Is it Real?
- NR244-ED-X** Pain, Vertigo, Tinnitus, Spasm: Have You Thought About Neurovascular Compression?
- NR245-ED-X** Utility of Contrast-Enhanced 3D-T1 Weighted CUBE Fat Sat Sequence at 1.5T GE MRI to Evaluate Pathological Cranial Nerve Enhancement
- NR246-ED-X** Radiological Assessment and Monitoring in MRI-Guided High Intensity Focused Ultrasound (HIFU) Thalamotomy: How We Do It
- NR247-ED-X** Optimizing Communication and Patient Care with Common Data Elements in Spine Oncology Reporting
- NR248-ED-X** The Chameleon Called Glioblastoma: A Multiforme Tumor
- NR249-ED-X** Acute Ischemic Stroke: Time is Life - An Approach for No Mistakes
- NR250-ED-X** Scalp and Skull Evaluation: State of the Art
- NR251-ED-X** Cystic Spinal Fluid Collections
- NR252-ED-X** Cerebral Saccular Aneurysms: A Novel Method Using Patient-Derived Three Dimensional Models on a Web-based Interactive Platform to Teach Complex Neuroradiology Pathology
- NR253-ED-X** Lesions That Bloom: An Artifact Turned into Neuroradiologist Advantage



- NR254-ED-X** Eponyms: Neuroradiology from a Historical Perspective
- NR255-ED-X** Uncommon Causes of Ischemic Stroke
- NR256-ED-X** Pocket Guide to Key Findings of Differential Diagnoses of Facet Joints Disorders
- NR257-ED-X** A Close View of an Open Spinal Cord: Simplifying Spinal Dysraphisms Diagnosis
- NR258-ED-X** A SOS Call from the Brain! How is Drug Abuse Messing up with Your Ideas on Acute Onset and After
- NR259-ED-X** DWI on MRI Head Scans: Think Outside the Box
- NR260-ED-X** Multinodular and Vacuolating Tumor of Cerebrum (MVNT) Imaging Findings and Differential Diagnosis
- NR261-ED-X** 4Ts of Cranial Nerve Imaging: Targeted Imaging, Correct Techniques, Post Processing Tricks and 3T MRI
- NR262-ED-X** On-call Primer: Revisiting Intraparenchymal Hemorrhage in the Era of Multimodality Imaging
- NR263-ED-X** Not All Hearsay: Complications of Acute Mastoiditis
- NR264-ED-X** SWI Patterns: A Clarification Pathway from Physiopathology to Structural Imaging
- NR265-ED-X** The Many Faces of Epistaxis
- NR266-ED-X** Pearls and Pitfalls of Head and Neck Biopsies: A Case-based Review
- NR267-ED-X** Superficial Siderosis: Where to Look
- NR268-ED-X** Dynamic Contrast-Enhanced MRI of Parotid Lesions: What the Radiologist Needs to Know
- NR269-ED-X** "APEX PREDATORS" - Magnetic Resonance Imaging in Orbital Apex Lesions Emphasizing on Critical Imaging Findings
- NR270-ED-X** Like a Phoenix from the Ashes: Post Radiotherapy Imaging Changes in Brain
- NR271-ED-X** Under Pressure: A Review of CSF Leak and Intracranial Hypotension
- NR272-ED-X** Puff of Smoke: Moyamoya Disease
- NR273-ED-X** Handling the Pressure in my Head: An Imaging Insight on Assessing Altered CSF Pressure State - Basics and Advances
- NR274-ED-X** MR Imaging of Mass Lesions of the 3rd Ventricle: A Picture Paints a Thousand Words
- NR275-ED-X** CNS Involvement in Hemophagocytic Lymphohistiocytosis (HLH): How to Lighten the Hypothesis
- NR276-ED-X** MRI Features of Dengue Viral Encephalitis: Double Doughnut Sign and More
- NR277-ED-X** Hacked Hypothalamus: MRI in Decrypting Varied Spectrum of Hypothalamic Pathologies
- NR278-ED-X** Central Nervous System Tuberculosis: Myriad Radiological Manifestations!
- NR279-ED-X** MDCT Evaluation of Gingivo-Buccal Cancers
- NR280-ED-X** Treating Tremors with Ultrasound? How, What, Why and Where? An Introduction to Magnetic Resonance-Guided Focused Ultrasound for Movement Disorders
- NR281-ED-X** Landmarking the Hidden Base: Cross Sectional Imaging Findings of Varied Skull Base Tumors
- NR282-ED-X** A Potential Tool in Radiologists Armamentarium: Arterial Spin Labeling in Diagnosis of CNS Infections
- NR283-ED-X** Practical Strategies to Improve the Use of PET CT in Thyroid Cancer
- NR284-ED-X** Magic After Reperfusion Therapy: DWI Reversal in Stroke
- NR285-ED-X** Evaluation of the Cranial Nerves Involved by Nasopharyngeal Carcinoma (NPC) in 3D High-Contrast Magnetic Resonance Neurography (MRN)
- NR286-ED-X** Imaging of Third Eye (Epiphysis Cerebri): An Imaging Review of Pathology of Pineal Gland Lesions
- NR287-ED-X** Mild Encephalopathy with Reversible Splenial Lesion (MERS) and Mimic Lesions: MR Imaging and Differential Diagnoses



- NR288-ED-X** Parkinsonian Syndromes: The Past, Present, and Future
- NR289-ED-X** Imaging of Traumatic Cranial Nerve Injuries
- NR290-ED-X** Why Using Preoperative CT/MRI Fusion Image: Necessary of Artery, Vein, Tumor, and Nerve for Neurosurgery
- NR291-ED-X** Brain White Matter T2/FLAIR Hyperintense Lesions: A Step-by-Step Approach and Algorithm to Establish a Syndromic Diagnosis
- NR292-ED-X** Non-Primary Head and Neck Lesions: Imaging Feature of Metastasis to Head and Neck and Differential Diagnosis
- NR293-ED-X** Applications of Multiparametric Multidelay and Long Delay Arterial Spin Labelling
- NR294-ED-X** The Role and Utility of Diffusion-Weighted MR Imaging in the Head and Neck
- NR295-ED-X** Impact of ACR-TIRADS in Lesions Submitted to Fine Needle Aspiration: Experience in 1000 Cases
- NR296-ED-X** Decoding Post-Therapy Changes in Cancers of Head and Neck: Experience from an Oncology Referral Center
- NR297-ED-X** Hearing Implants: What the Radiologist Needs to Know
- NR298-ED-X** Canals and Fissures of the Temporal Bone: Anatomy and Clinical Relevance
- NR299-ED-X** Arbovirus: Summer is Coming
- NR300-ED-X** Can You Explain the Neurological Symptoms? A Clinical-Radiological Approach of Intracranial Lesions
- NR301-ED-X** 'Sick Sea Horse': Imaging Review of Pathologies of Hippocampus
- NR302-ED-X** Deltas in Venous Lakes Common to Uncommon Etiologies of CVT: Combined Radiological and Clinical Approach
- NR303-ED-X** In Matter of Fat, What Lesion is That? Reviewing Patterns and Differential Diagnosis of Lipomatous Lesions of the Head and Neck
- NR304-ED-X** Understanding the Dementias and the Clinical Importance of MRI-based Cognitive Neuroimaging
- NR305-ED-X** Improved Delineation of Brain Perforating Arteries in Brain CTA by Ultra High-Resolution CT: What the Radiologist and Radiology Technologist Need to Know
- NR306-ED-X** Caught in the Middle: Anatomy, Embryology, and Pathology of the Corpus Callosum: Case-based Review
- NR307-ED-X** Brain Aging Assessment with Advanced MRI Diffusion Techniques: A New Approach for Years Old Quantification?
- NR308-ED-X** Conventional and Advanced MRI Evaluation of Hypophysis: Is it Possible to Minimize the Use of Gadolinium with DWI and t2-Mapping Techniques?
- NR309-ED-X** Toolkit for Functional MRI Assessment of Peritumoral Non-Enhancing Areas in Brain Lesions
- NR310-ED-X** Understanding Pediatric Neuroimmune Disorders Conflicts: A Neuroradiological Approach in the Molecular Era
- NR311-ED-X** Carotid Cavernous Fistula: Imaging Spectrum and Endovascular Management
- NR312-ED-X** From Rathke's Cleft to You: Imaging Craniopharyngiomas-A Pictorial Review
- NR313-ED-X** Sinonasal Fungal Disease Spectrum: From Indolent to Aggressive
- NR314-ED-X** Retinoblastoma Nerve Optic Invasion: How Color Doppler Can Improve Diagnosis Better than MRI
- NR315-ED-X** Modern Applications of SWI: Recognizing Uncommon Disorders Based on Typical Susceptibility Abnormalities When Conventional Sequences Resulted Unremarkable
- NR316-ED-X** Cerebral Venous Thrombosis: Beyond Diagnosis-Follow-up, Pearls, and Pitfalls
- NR317-ED-X** Subtle Image Findings Possibly Overlooked in Emergency Head and Neck Exams: Do Not Lose Them!
- NR318-ED-X** Clinical Utility of Dual-Energy CT in Acute Spinal Trauma
- NR319-ED-X** Evolution of Acute Ischemic Stroke Treatment as Supported by Clinical Trials
- NR320-ED-X** Tumor or Not Tumor: That is the Question!



- NR321-ED-X** The Diversity of Cerebral Vascular Malformations
- NR322-ED-X** Missed One? Skull Base Osteomyelitis: The Forgotten Diagnosis
- NR323-ED-X** Carotid Arteries Doppler Ultrasound: Fighting a Silent Enemy
- NR324-ED-X** The Plethora of Pineal Region Tumors: Neuroimaging Findings of Both Common and Rare Entities
- NR325-ED-X** Imaging Challenges for Evaluation of Treated Glioblastoma: Past, Present and Future
- NR326-ED-X** Role of High Resolution Vessel Wall Imaging in Recognizing Vulnerable Intracranial Atherosclerotic Plaques
- NR332-ED-X** Flux of Cutting-Edge MRI Techniques into the Head and Neck Tumor
- NR333-ED-X** Imaging of the Parasitic Infection of the Central Nervous System: The Flatworms, Roundworms, and Protozoans
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