

Technology Tools For Teaching RSNA Faculty Skills Update 2015

Harprit Singh Bedi, MD

Disclosures

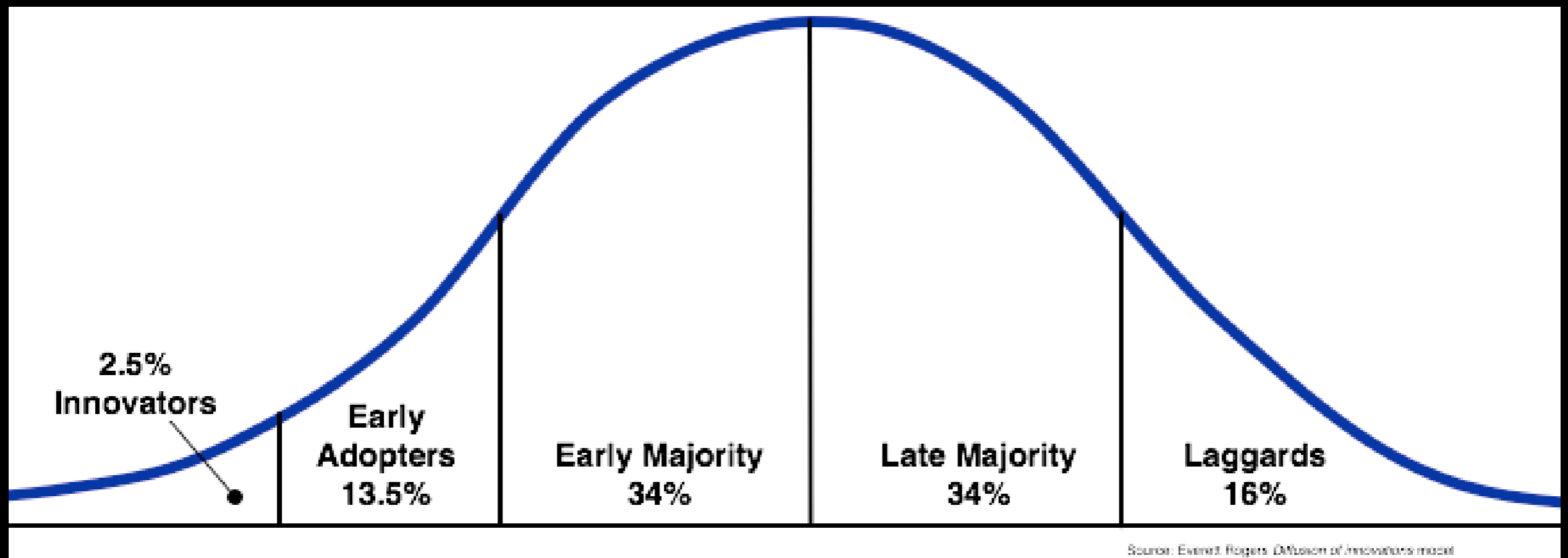
- No financial disclosures

The purpose of active learning

- Keep students engaged in the material
- Motivating students to learn
- Increase classroom satisfaction
- Facilitate higher-level thinking skills

“We move from idea of defined learning places
to a continuum of learning spaces”

-Dr. Ruben Puentedura



Rogers Diffusion of Innovation



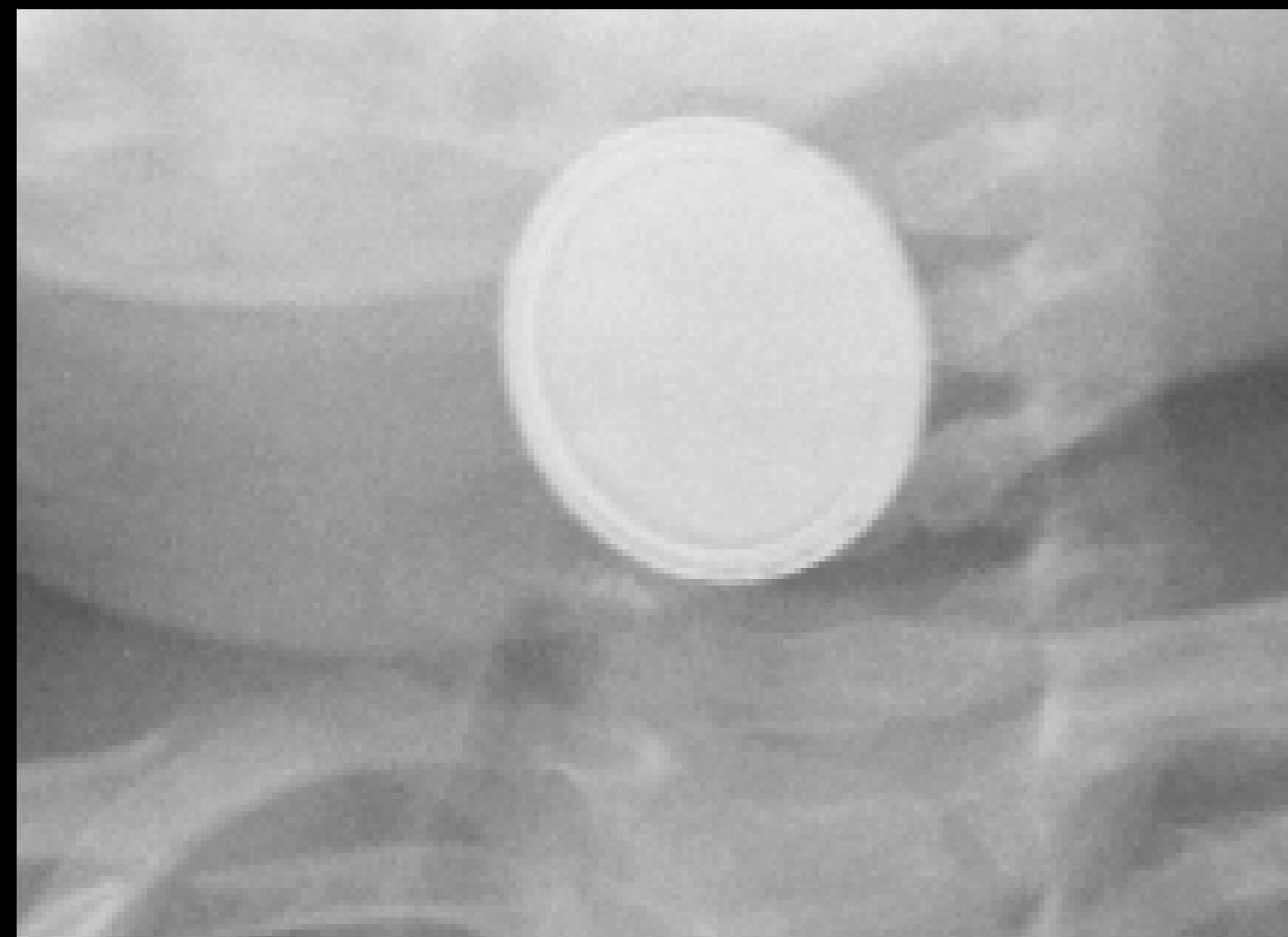
Role of Technology

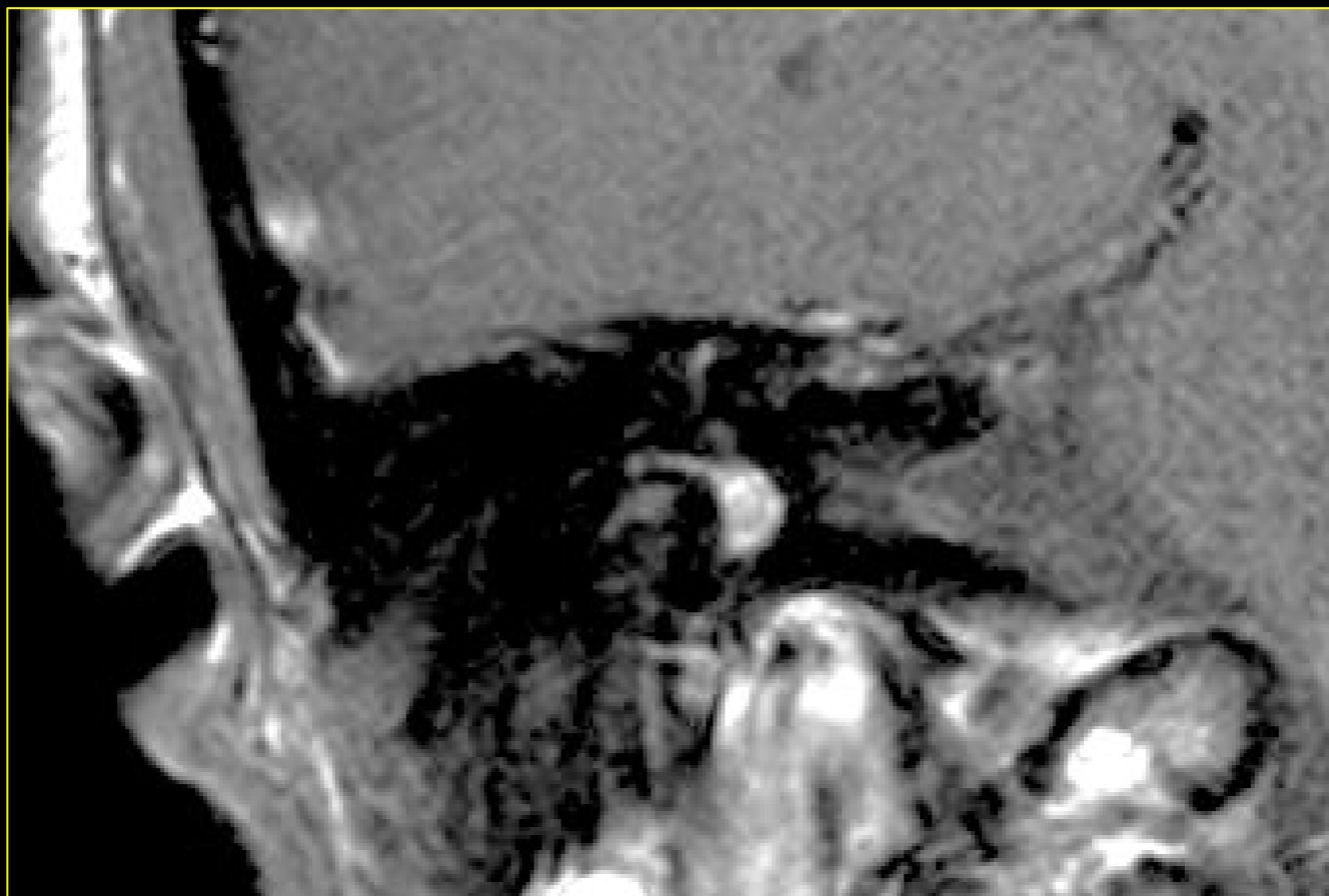
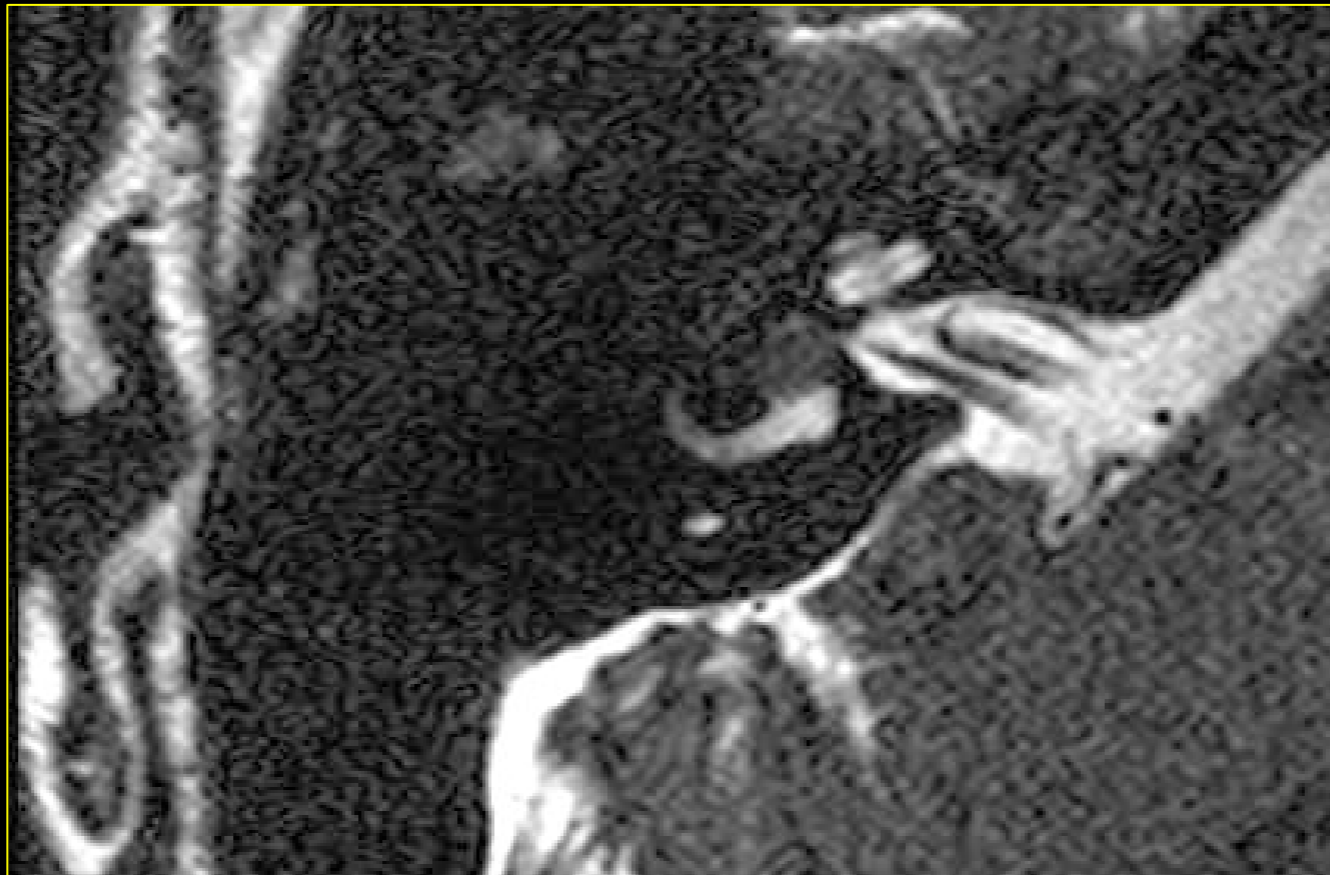


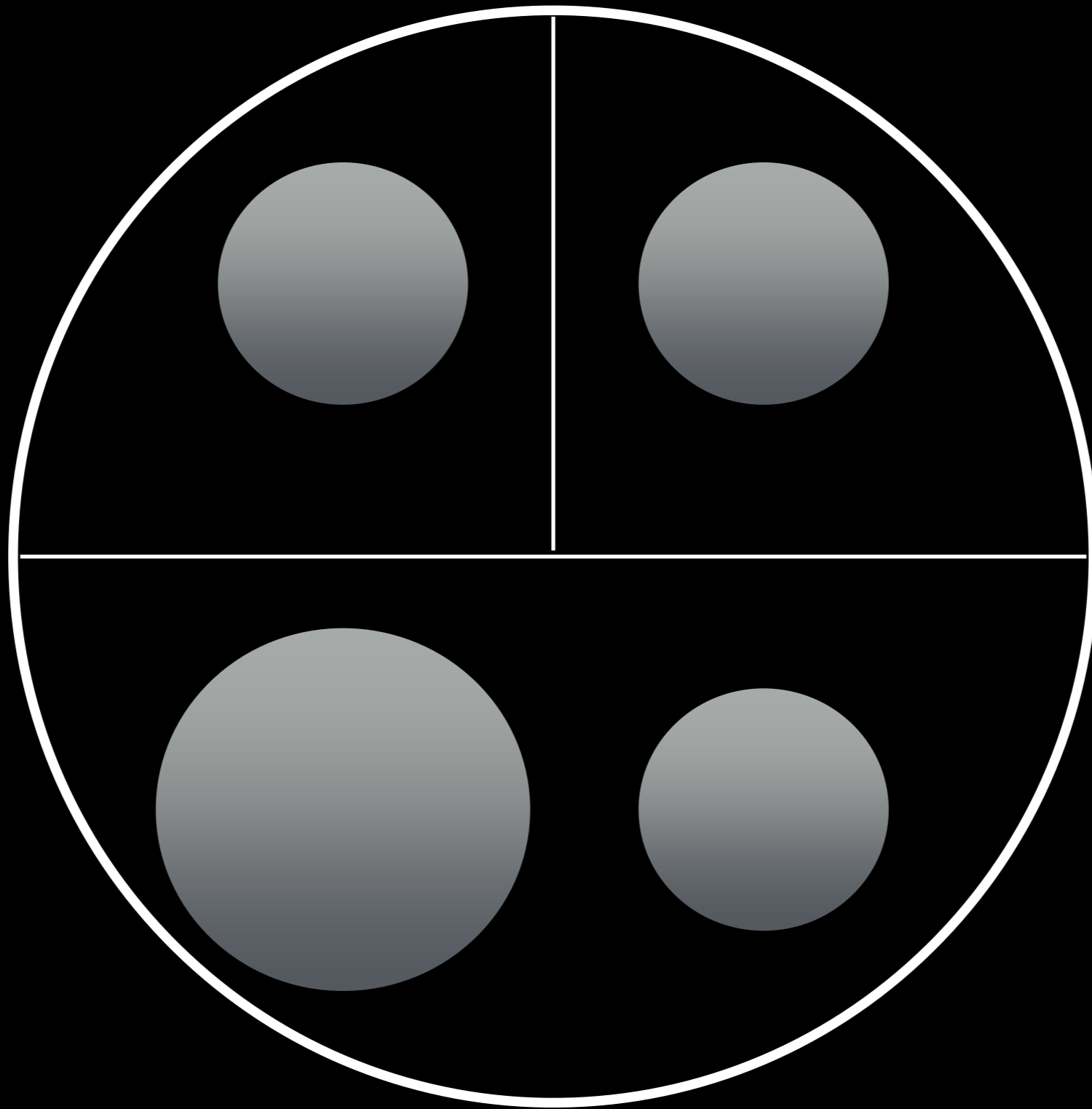
Role of Technology





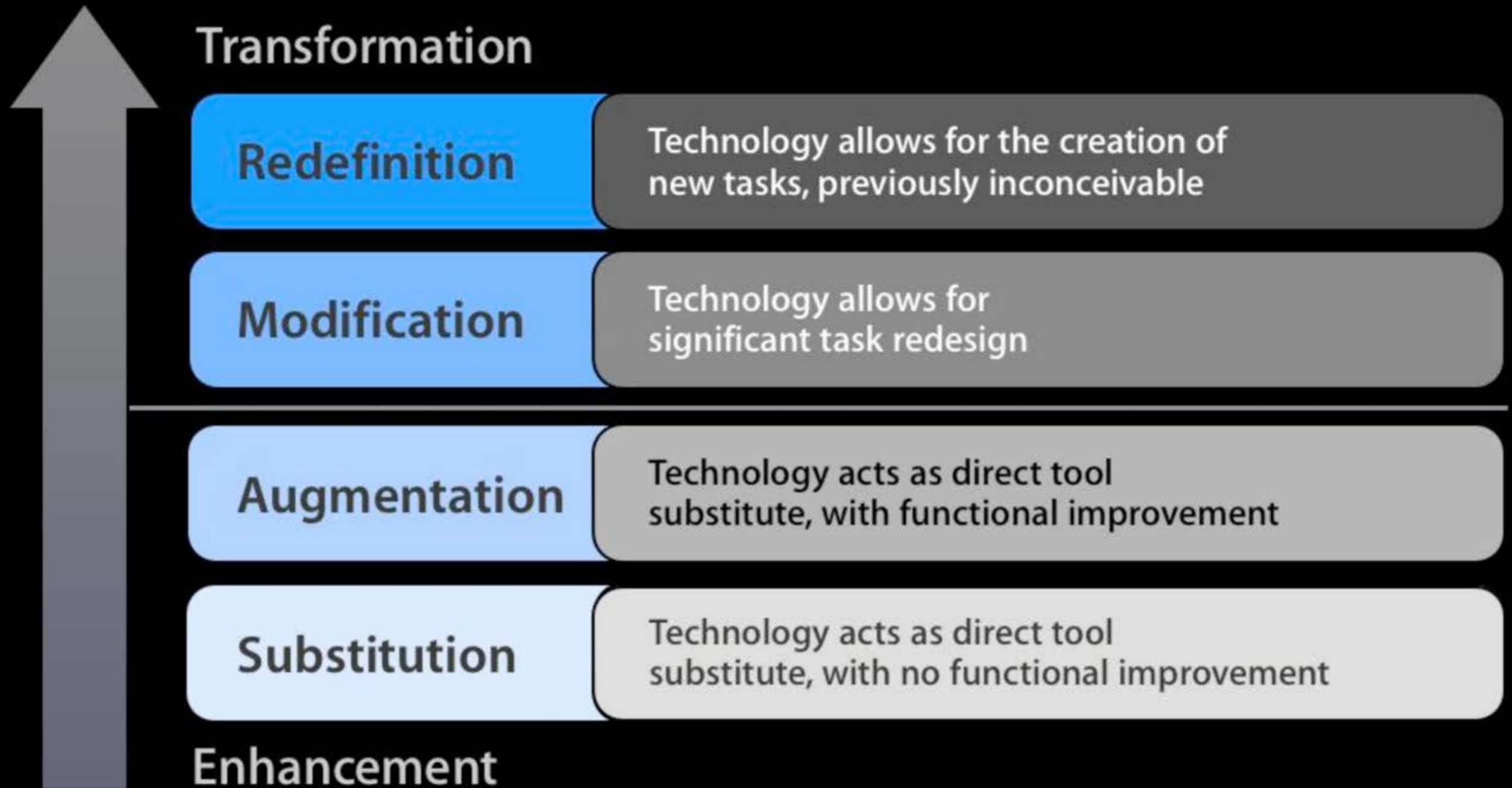






Internal Auditory Canal

SAMR: Technological levels of Use











Active learning techniques

- Audience response
- Small groups
- Peer-led learning
- Flipped classroom and blended curriculum

Audience Response







Poll Everywhere

KSNA Diagnosis Live™

Small Groups





Kellogg's
Special

K
Mini
Breaks



Special K

Nature
of Cereal

35

Mini-break

- After each learning objective
- Allows time to reset

Mini-break

- Open discussion
- Ask and answer questions
- Peer-led teaching
- Brainstorming

Peer and Instructor Led Learning





learning | **catalytics**

Flipped Classroom



Blended Curriculum



Brick



Click

Blended Curriculum



- Instructor-led
- At work

Brick



- Learner-led
- At home

Click

Blended Curriculum

Instructor-led learning



Brick

Independent Learning



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Independent Learning

Get content outside
the classroom



Resources

Online Lecture Content



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Lend your voice to the discussion on *RSNA News*.

Use the new comment feature in *RSNA News* online articles to join--or start--a discussion about what you're reading.

Become an RSNA member and attend RSNA 2014 for free.

Non-member RSNA 2014 registration costs \$825. RSNA membership costs just \$465 (or less) and includes FREE annual meeting registration.

RSNA is proud of its partnership with JPR in Brazil.

RSNA and SPR have teamed up to plan the scientific and educational program for JPR 2014 in São Paulo.

DISCOVER

Radiology and *RadioGraphics*, the most read, most cited, and most prestigious journals in the field. [Subscribe now »](#)

RadioGraphics
The journal of continuing medical education

May-June 2011
Volume 31 • Number 3
radiographics.rsna.org

Science & Education

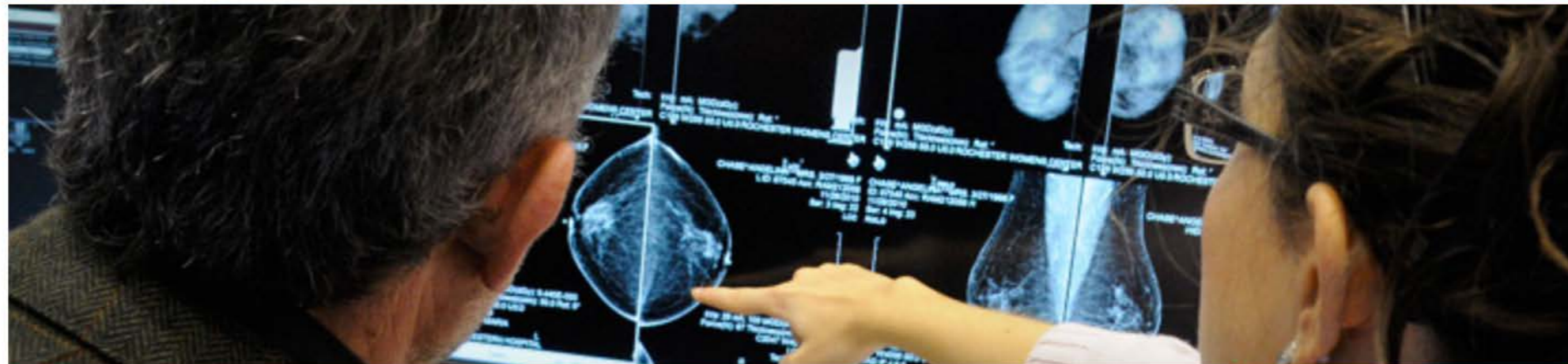
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Science

Education

Things to Know

Online Library

Search our library of radiology education including Refresher Courses, Cases of the Day, and more.

Apply Now: Clinical Trials Methodology Workshop

Get your career on a research track with this 6½-day workshop in Arizona.

Apply Now: Advanced Course in Grant Writing

Learn to prepare and submit a grant application to the NIH, NSF or other equivalent institution.

Science

Science & Education

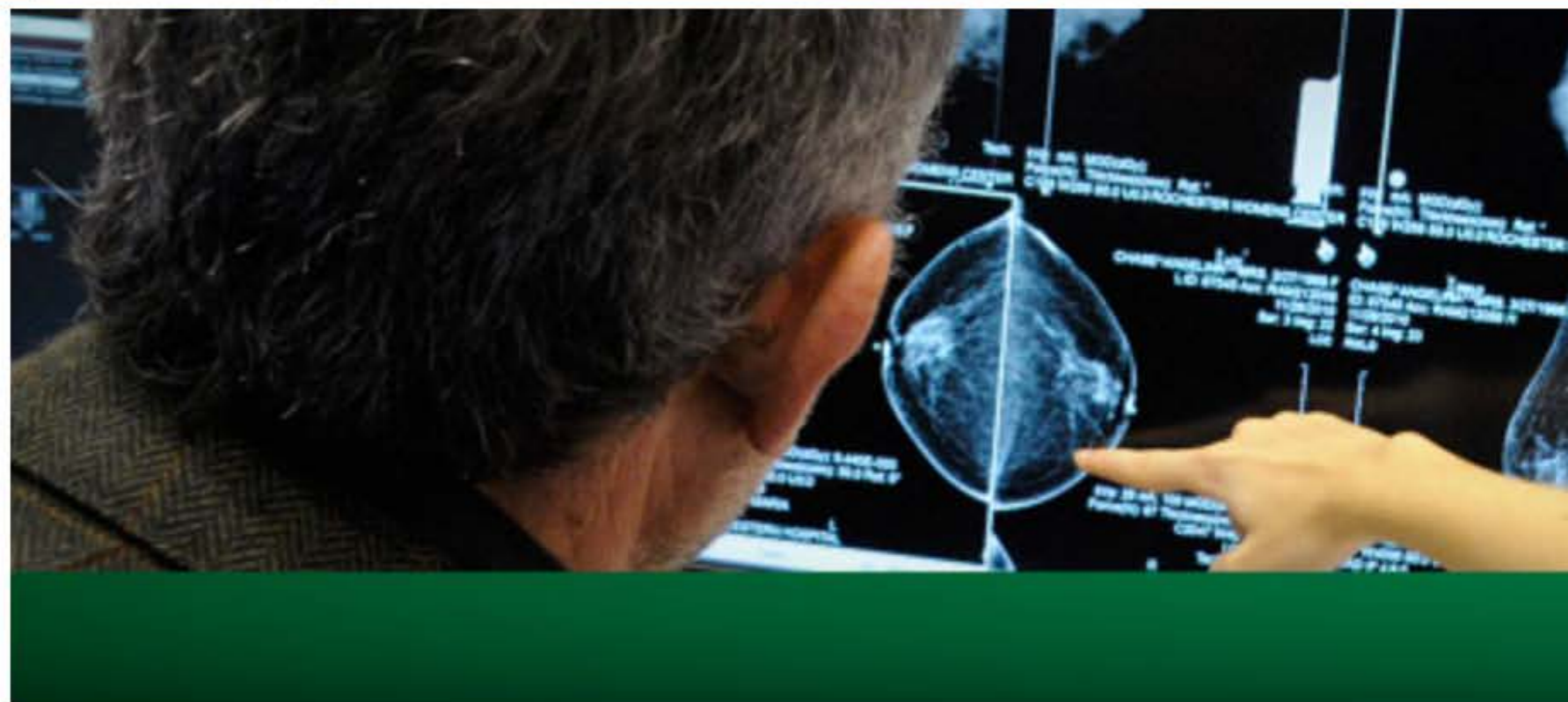
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My Enrollments

All online CME activities below can be applied toward the ABR MOC Self-Assessment Requirement

RSNA Scan: 2012 Year in Review



A collection of not-to-be missed science and education. [Click here for more information](#)

Total Products Returned: 460 (Newest Results on Top)

RadioGraphics CME Tests (271) [What's this?](#)

- NEW** The Thyroid: Review of Imaging Features and Biopsy Techniques with Radiologic-Pathologic Correlation
- NEW** Mass Lesions of the Dura: Beyond Meningioma—Radiologic-Pathologic Correlation
- NEW** Abdominal Complications Following Hematopoietic Stem Cell Transplantation
- NEW** Midgut Neuroendocrine Tumors: Imaging Assessment for Surgical Resection
- NEW** Pelvic Floor Failure: MR Imaging Evaluation of Anatomic and Functional

[Additional RadioGraphics CME Tests](#)

	HN	IR	US
	CT	MR	NR
CT	GI	GN	OI
	CT	GI	OI
	GU	MR	OB

+ [Additional Cases of the Day](#)

Refresher Courses (75) [What's this?](#)

- + **NEW** Renal Ultrasound and Doppler
- + **NEW** Abdominal Incidentalomas
- + **NEW** Brain Aneurysms
- + **NEW** Abdominal MRI Technique Update
- + **NEW** Clinical Breast MR Imaging
- + **NEW** RSNA Resident and Fellow Symposium 2013: Career 102: Survival Skills for Your Job
- + **NEW** RSNA Resident and Fellow Symposium 2013: Planning for Success After Residency
- + **NEW** Quality Improvement: Safety at Work—Quality Essentials Certificate
- + **NEW** Quality Improvement: Keeping our Customers Satisfied—Quality Essentials Certificate
- + **NEW** Musculoskeletal Pitfalls and Pearls
- + **NEW** First Trimester Ultrasound
- + From Research to Reimbursement: The Story of CT Colonography and What It Teaches Us about Healthcare Payment Policy
- + Imaging the Cardiac Valves and Valve Prostheses
- + Imaging Hodgkin and non-Hodgkin Lymphomas
- + CT and MR Techniques for Imaging the Pancreas
- + Quantitative Imaging in Brain Disorders and Brain Tumors
- + Imaging of Irradiated and Ablated Tumors
- + New Frontiers in Imaging COPD and the Airways: Imaging Emphysema
- + Dementia Imaging: From Structure to Function: Dementia Imaging in Practice
- + Practical Gynecologic MR Imaging: Evaluation of Female Pelvic Pain

	GU	US	VA
		GI	GU
	ER	HN	NR
	GI	GU	MR
		BR	MR
			GN
			GN
			QA
			QA
		MK	PD
		GU	US
		HP	LM
	CA	CT	MR
	CT	OI	RO
	CT	GI	MR
	BQ	NR	OI
CT	MR	NR	OI
	CH	CT	OI
	BQ	MR	NR
		GU	MR
	BR	NR	GI

+ Additional Cases of the Day

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	GU	US	VA
		GI	GU
	ER	HN	NR
	GI	GU	MR
		BR	MR
			GN
			GN
			QA
			QA
		MK	PD
		GU	US
		HP	LM
	CA	CT	MR
	CT	OI	RO
	CT	GI	MR
	BQ	NR	OI
CT	MR	NR	OI
	CH	CT	OI
	BQ	MR	NR
		GU	MR
	BR	NR	GI

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- [ARRS Annual Meeting](#)
- [KSR-ARRS MSK Web Symposium](#)



Publications & Books

- [American Journal of Roentgenology](#)
- [Books Offering Educational Credits](#)
- [Case Based Imaging Review Books](#)
- [Malpractice Issues in Radiology](#)



Online Learning



Practice Quality Improvement



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- Books Offered
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- Malpractice Issues in Radiology



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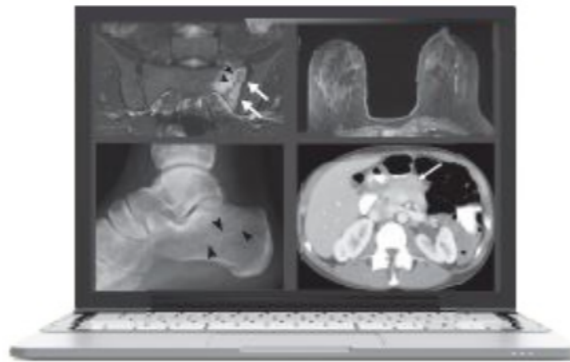
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- Ultrasound
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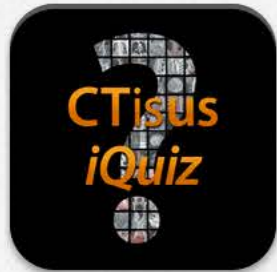
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ARTISTS AND MORE

Elliot Fishman >
Software Developer

iPhone Apps



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Medical

Free



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Medical

Free

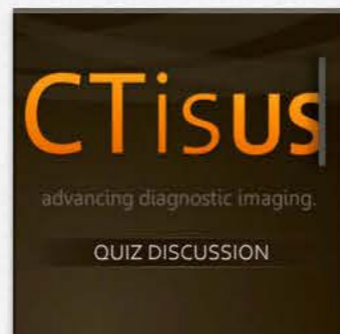
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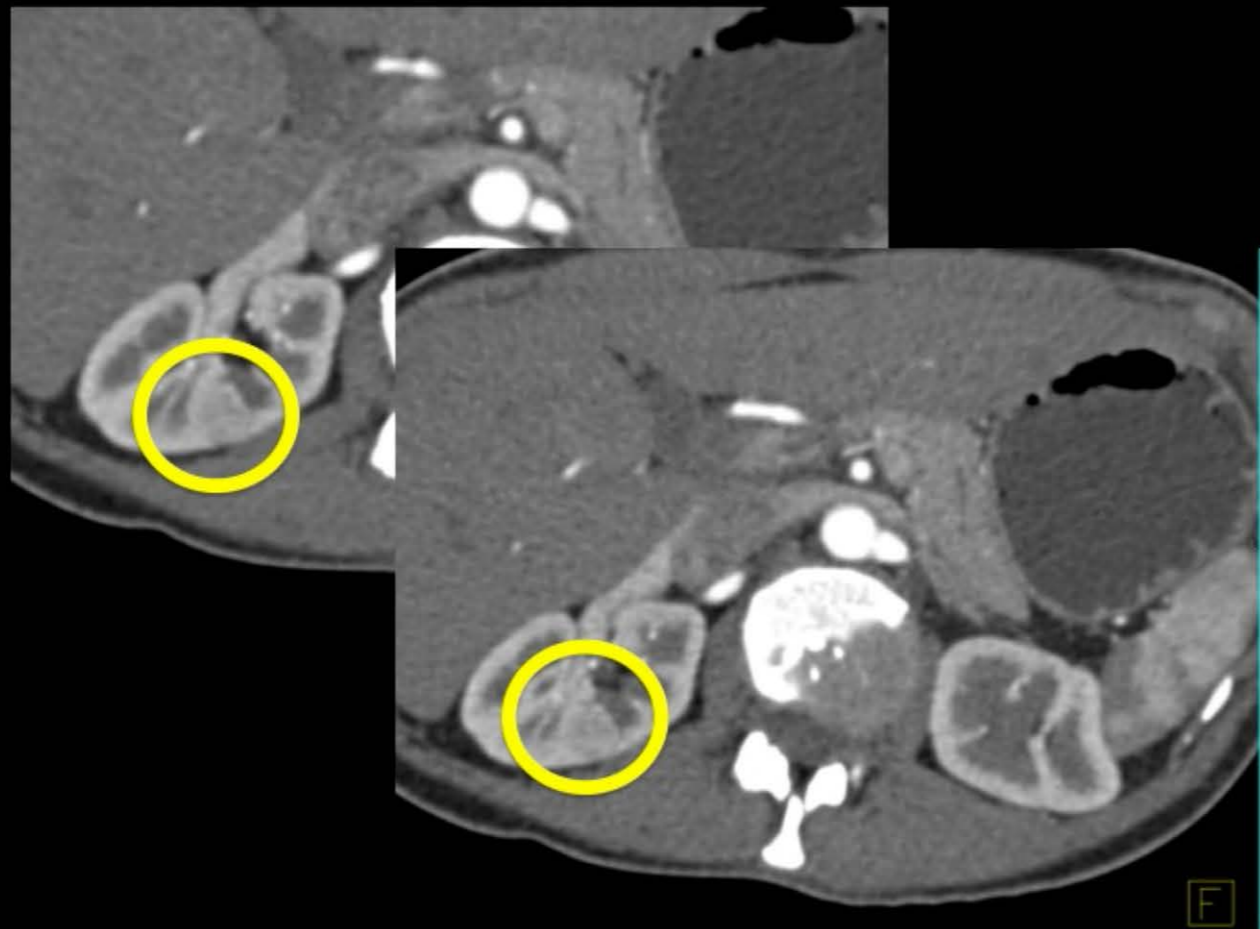
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★★★★★ (7)
 Video
 Medicine
LINKS
 Website
 Report a Concern

▲	Name	Time	Released	Description	Popularity	Price
1	Pitfalls and Errors in Body...	📺	Mar 31, 2014	03/31/2014 Pi...	i	Free
2	Pitfalls and Errors in Body...	📺	Mar 24, 2014	03/24/2014 Pi...	i	Free
3	Pitfalls and Errors in Body...	📺	Mar 17, 2014	03/17/2014 Pi...	i	Free
4	MDCT of the Small Bowel...	📺	Mar 10, 2014	03/10/2014 M...	i	Free
5	MDCT of the Small Bowel...	📺	Mar 3, 2014	03/03/2014 M...	i	Free
6	Imaging of "Incidentaloma...	📺	Feb 24, 2014	02/24/2014 I...	i	Free
7	Imaging of "Incidentaloma...	📺	Feb 17, 2014	02/17/2014 I...	i	Free
11	Dual Energy CT: Vascul...	📺	01/20/2014	Dual En...	i	Free
12	MDCT of the Small Bo...	📺	01/13/2014	MDCT o...	i	Free

Podcast Website
 Report a Concern

View In iTunes



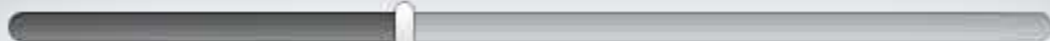
“ Unsuspected mesenteric arterial abnormality may elude diagnosis when axial MDCT sections are interpreted without 3D renderings.”

Unsuspected Mesenteric Arterial Abnormality:
Comparison of MDCT Axial Sections to
Interactive 3D Rendering
Chen JK, Johnson PT, Horton KM, Fishman EK
AJR 2007;189:807-813



Pitfalls and Errors in Body CT: what are they and

Elliot Fishman, MD — Video Podcasts, Lectures, and Mu

5:01  -8:24



“ Unsuspected mesenteric arterial abnormality may elude diagnosis when axial MDCT sections are interpreted

with the use of the following...”

SONO WORLD

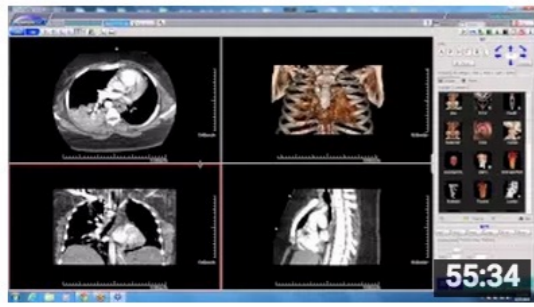
mediasite[®]
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Business of Radiology

Dr. David Yousem's lectures on the business of radiology.

 Jeffrey Kanne



STR Chest Web Case Conference 8/13/2015

by Jeffrey Kanne
6 days ago • 21 views

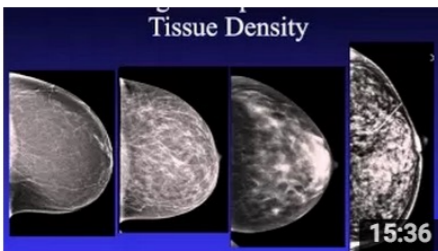
 Radiology Residency UM/JMH



Introduction to Adult Elbow Radiographs in the ER


by Radiology Residency UM/JMH
1 week ago • 71 views
Dr. Ty Subhawong is a Musculoskeletal Radiologist at the University of Miami and describes his approach to interpreting elbow radiographs...

 Petra Lewis



Introduction to Mammography

by Petra Lewis
1 month ago • 23 views
This is designed for medical students rotating through radiology, or 1st year residents. Video by Jordana Phillips MD from Beth Israel...

 Cardiac MRI Pulse sequences video 1 year ago



Cardiac MRI Pulse sequences

by Shawn Teague
1 year ago • 5,662 views
Basic description of the MRI pulse sequences used in cardiac imaging with some mention of clinical applications.



Blended Curriculum

Instructor-led learning



Independent Learning



Exchange Lectures



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by **CITRIX**[®]

Multisite Peds MSK ...  
Multisite Pediatric MSK Conference

Episode 6

Hosted by



Seattle Children's (Mahesh Thapa, MD)
Cincinnati Children's (Carl Merrow, MD)

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Tufts Medical Center





Virtual Grand Rounds

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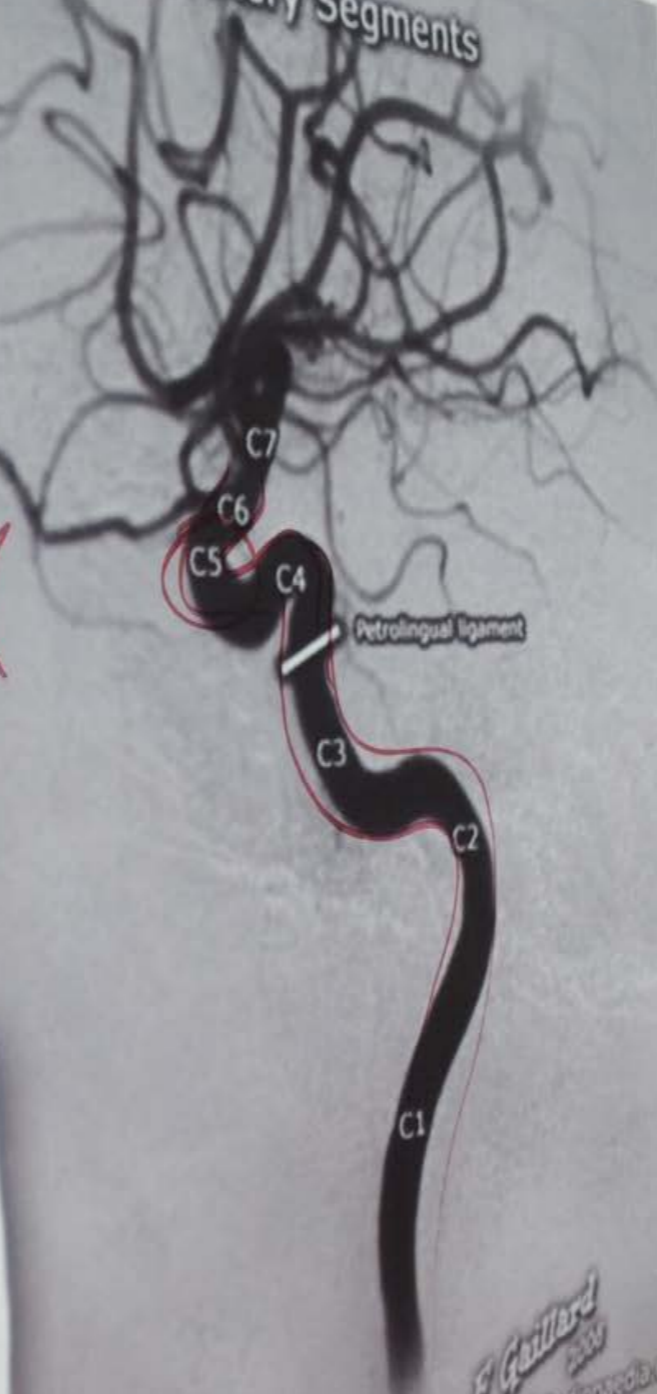
An Opportunity for Collaboration



Other Tool and Techniques

Internal Carotid Artery Segments

Carotid Artery Segmentation



- Legend**
- C1 - cervical
 - C2 - petrous
 - C3 - lacerum
 - C4 - cavernous
 - C5 - clinoid
 - C6 - ophthalmic
 - C7 - communicating

LIVER	RLQ PAIN	IATRO-GENESIS	URINE TROUBLE	IT'S NOT A TUMOR 
<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>	<u>100</u>
<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>	<u>200</u>
<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>	<u>300</u>
<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>	<u>400</u>
<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>	<u>500</u>





Online Learning Cases/Modules

ACR's *Case*
in **Point**

CURRICULUM IN RADIOLOGY REPORTING
Lanier · Sistrom · Rathe

Impression:
1. Acute right MCA infarct

MedEdPORTAL |  **AAMC**

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SURGICAL MODULES
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DEMONSTRATION CASES

 **Children's Hospital**
Cleveland Clinic

 **Pediatric Radiology**



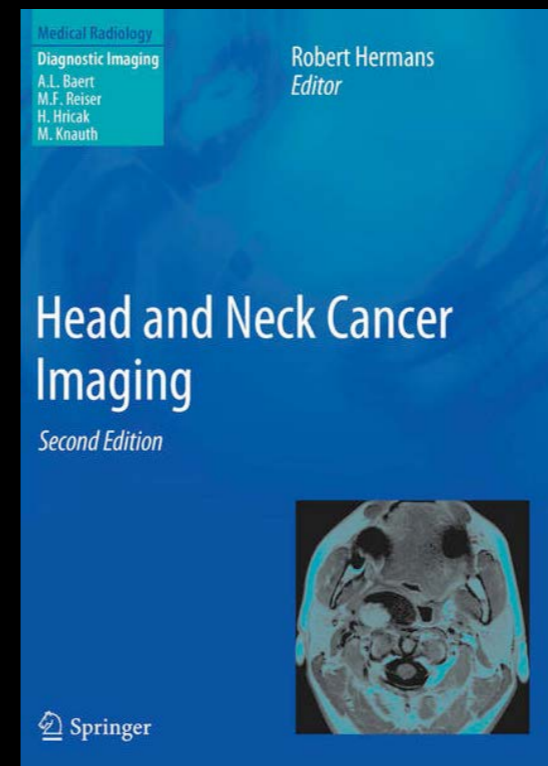
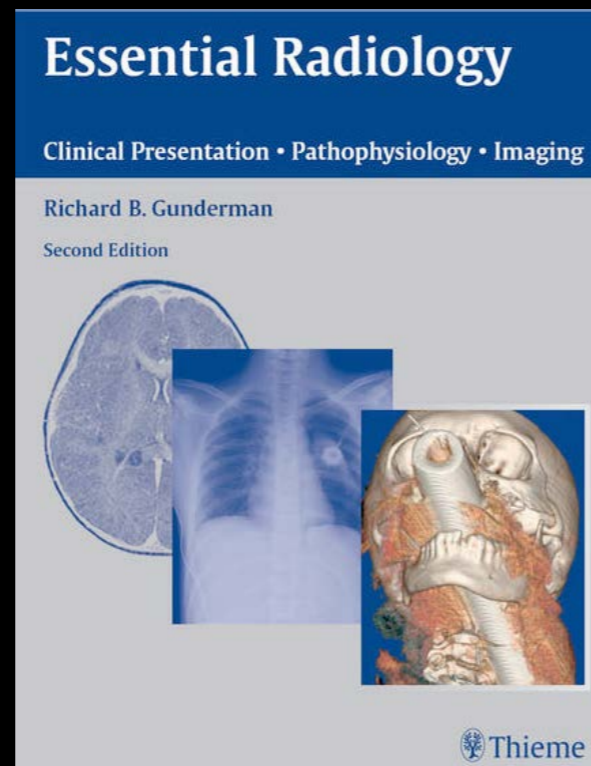
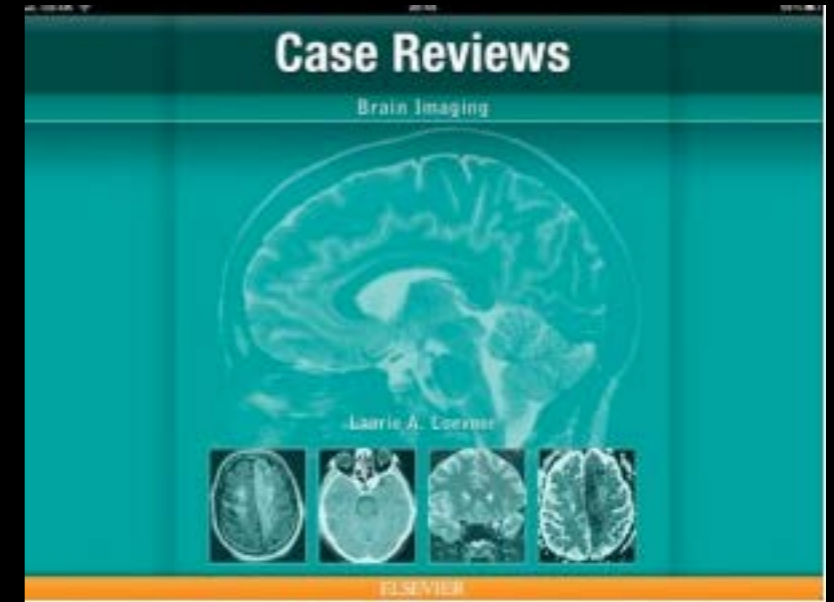
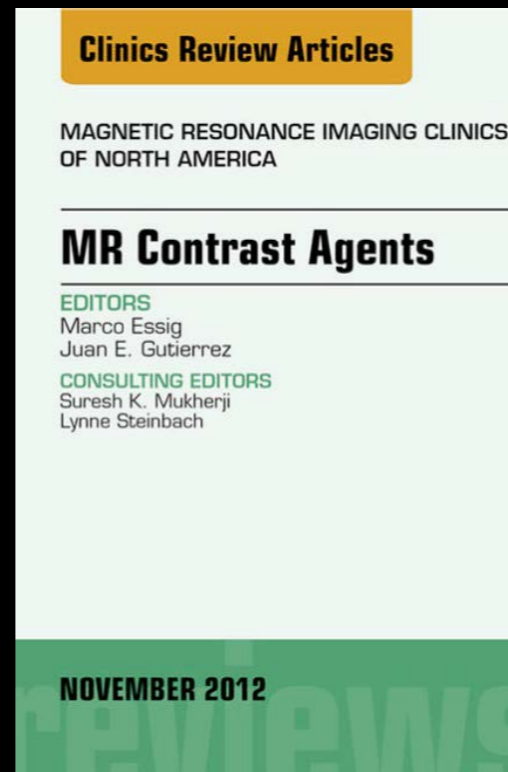
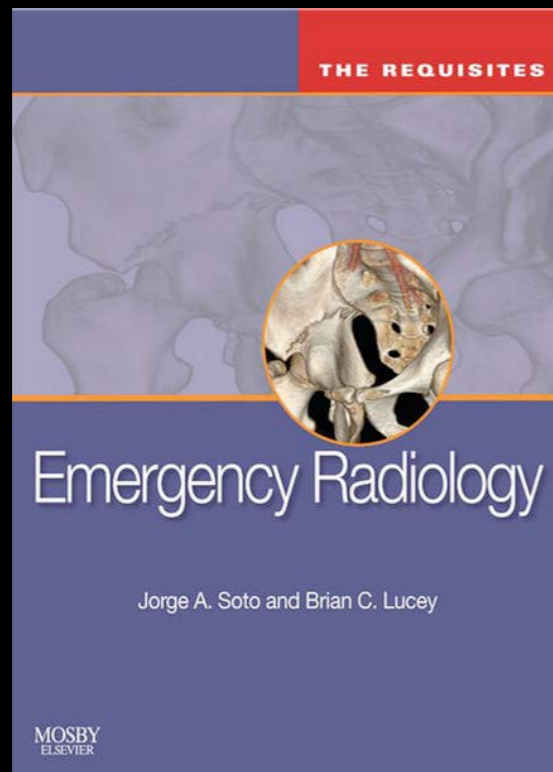
Active learning tools

Journals

Academic Radiology



Textbooks



Interactive Books

Intergalactic Online MSK Conference

Cool Case Book 1



Richardson / Petscavage / Hunter
Thapa / Martin

Muscle Atlas of the Extremities



Michael L. Richardson, M.D.

Cool Technology for Academic Medicine

(with shameless emphasis on Radiology)



Richardson / Thapa / Petscavage

Intergalactic Online MSK Conference

Cool Case Book 2



edited by
Michael L. Richardson, M.D.

Multi-touch Books

practical
pediatric
imaging



Hank Baskin, MD

Internet-based Radiology resources



STATdx.

The logo for STATdx features the word "STAT" in a bold, red, sans-serif font, followed by "dx" in a black, sans-serif font. A red circular graphic element, resembling a stylized 'x' or a medical symbol, is positioned behind the 'x'.

RAD PRIMER

The logo for RAD PRIMER features the words "RAD PRIMER" in a bold, blue, sans-serif font. The text is set against a white background with a blue gradient and a stylized blue graphic element resembling a film strip or a checkmark on the right side.

Radiology Resident Education

Radiology Apps

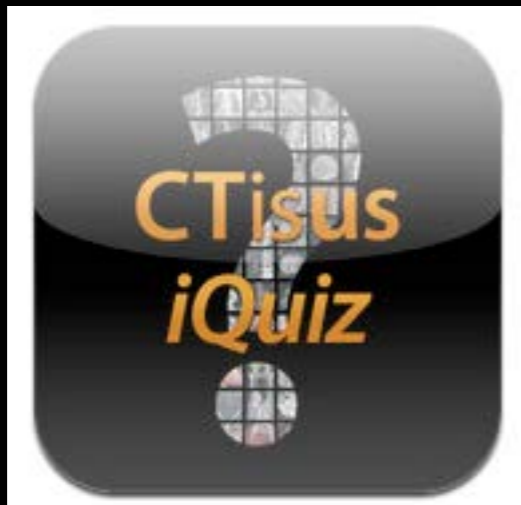
Radiopaedia



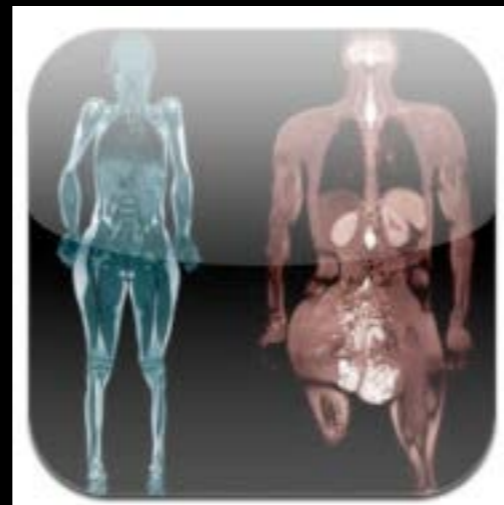
Neuro Rad



Chest Anatomy



CTisus



Essentials of
Pediatric
Radiology
Companion



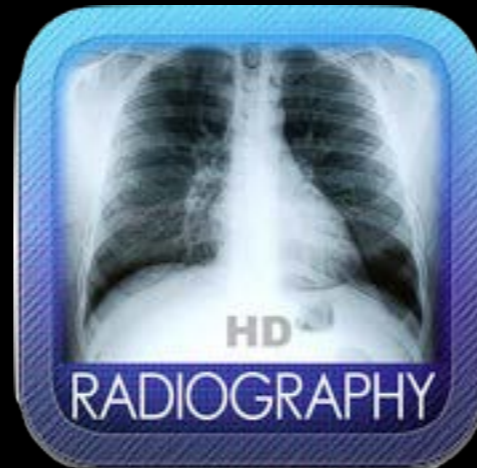
Radiology Assistant

Radiology Apps

CT Contrast Protocols



hd radiography



Radiology 2.0: One Night in the ED



Monster Anatomy



RadLinks



Radiology Toolbox

Radiology Apps



Surgical Radiology



SeeMyRadiology Mobile



iRadiology



CARDIO3® Atlas of
Interventional Cardiology – HD
Lite

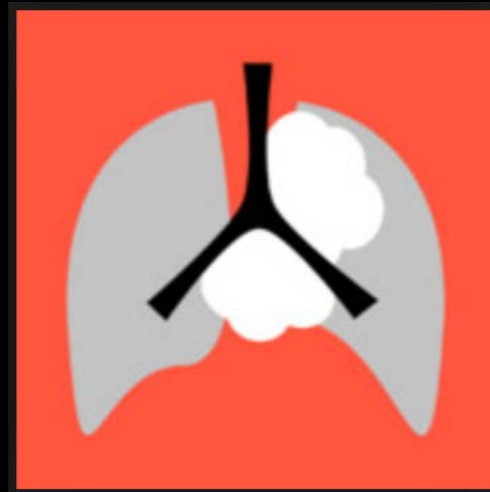


MIRC Viewer



IMAIOS e-Anatomy

RadiologIQ





CTisus
CT of the
Hand & Wrist



CTisus iLecture Series



Version 3.0



CTisus
CT of the Foot



CTisus
iQuiz





Read

by qxMD

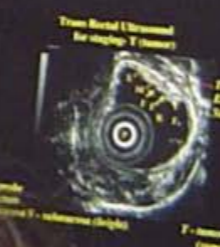








Colon Cancer



CT Scan used to stage cancer (T of ENM)



MRI of circumferential adenocarcinoma shows
In the gross specimen that you saw previously.



C2



