

Diagnostic Imaging in Chiropractic Practice The WAVE 2019 part 1

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LIFE CHIROPRACTIC
COLLEGE WEST

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Jamie P. Motley, MS, DC, DACBR

- Professor-LCCW
- Continuing
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- Private Film
Reading Practice



Exciting Imaging News: Fall 2019

- ▶ New MSDI/DACBR training program at Life West
 - ▶ 3 years directed study in diagnostic imaging
- ▶ First Resident began in Fall 2019



Active DACBR Training Programs

DACBR/MSDI

- ▶ National University of Health Sciences
- ▶ New York Chiropractic College
- ▶ University of Western States

DACBR

- ▶ Logan College of Chiropractic
- ▶ Southern University of Health Sciences (Los Angeles College of Chiropractic)
- ▶ Palmer College of Chiropractic (Davenport)
- ▶ Parker University



Imaging Modalities

General Considerations Imaging

- Ionizing radiation
- ▶ Radiographs
 - ▶ Fluoroscopy
 - ▶ Computed Tomography
 - ▶ PET Scan
 - ▶ Bone Scan

- No ionizing radiation
- ▶ MRI
 - ▶ MRI Angiography
 - ▶ Ultrasound



Decision Making

- ▶ Clinical/ Imaging suspicions
- ▶ What imaging modality is most sensitive to the problem you suspect
- ▶ Logistics of getting exam
- ▶ Contraindications
- ▶ Imaging Parameters



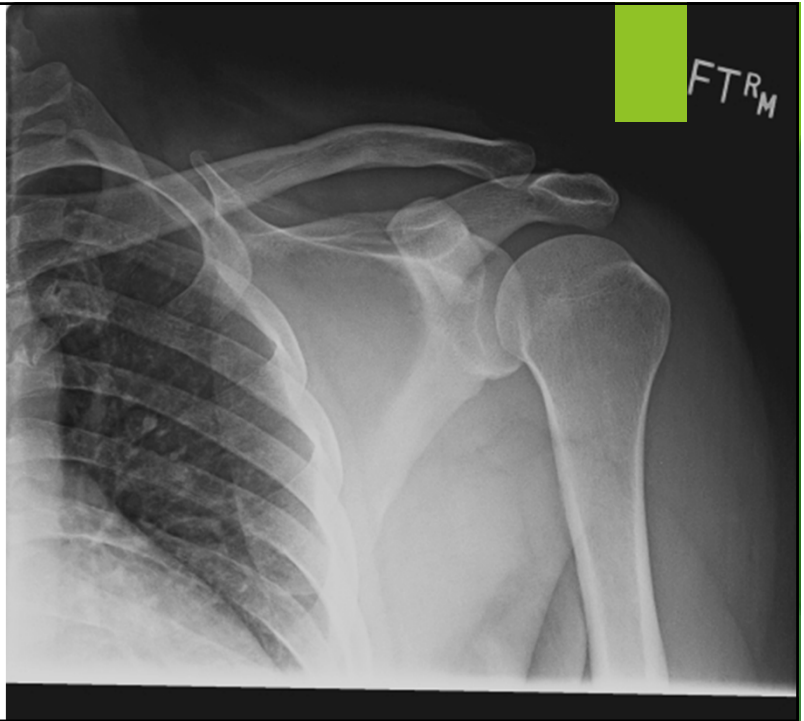
ALARA

“As Low As Reasonably Achievable”

No federal limits on patient radiation exposure.
Left up to clinicians to use reasonable judgment
when ordering imaging with ionizing radiation.



Radiography



Indications: Radiography

- ▶ Trauma
- ▶ Joint arthropathy
- ▶ Osseous infection
- ▶ Neoplasm in and tumor like conditions
- ▶ Metabolic disorders
- ▶ Congenital and acquired lesions
- ▶ Surgical planning/evaluation



Magnetic Resonance Imaging

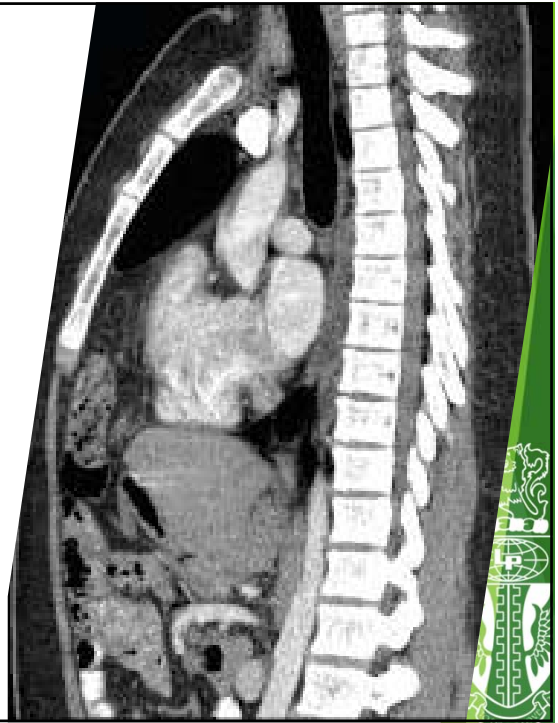


Indications: MRI

- ▶ Vast range of indications
- ▶ Structural evaluation with superior soft tissue contrast
- ▶ MSK:
 - ▶ Acuity of fracture
 - ▶ Neural tissue evaluation in spine
 - ▶ Disc evaluation



Computed Tomography



Indications: CT

- ▶ Vast indications
- ▶ Quick scan time
 - ▶ Great for acute trauma/injury
- ▶ Acute brain bleeds
- ▶ Fracture evaluation
- ▶ Imaging regions with inherent motion (Abdomen/Chest)
 - ▶ MRI exceptionally sensitive to motion



Ultrasound



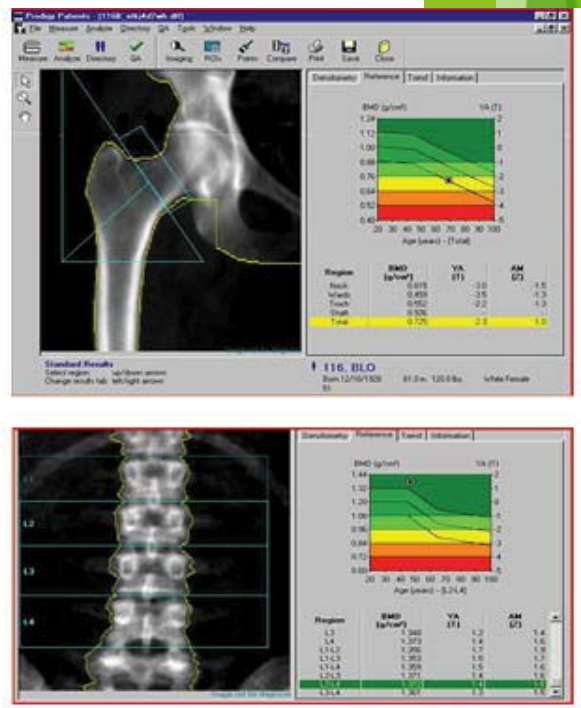
Indications: Ultrasound

Great for soft tissue evaluation of superficial anatomy

- ▶ Visceral evaluation
- ▶ Rotator cuff
- ▶ Superficial soft tissue lesions



DEXA

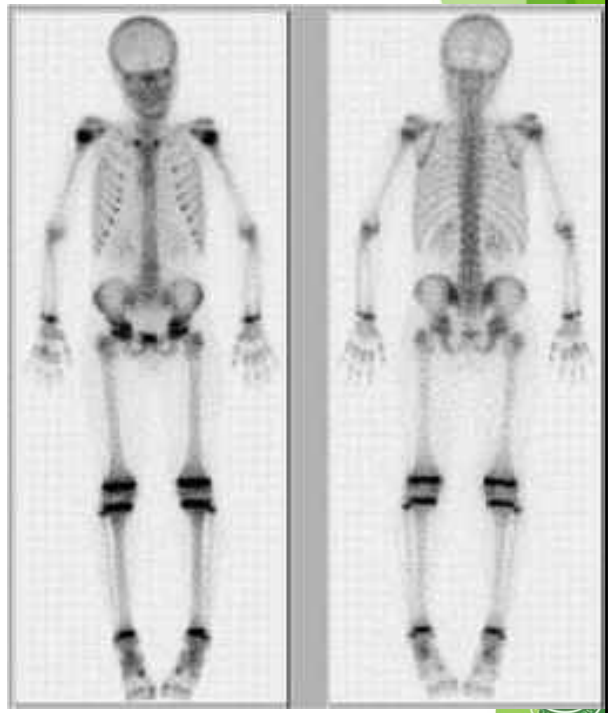


Indications: DEXA

- ▶ Bone mass quantification
- ▶ Gold standard exam for evaluating bone density



Bone Scan



Indications: Bone Scan

- ▶ High sensitive to metabolic alterations in bone turn over
- ▶ Sensitive but non-specific
- ▶ Evaluation for polyostotic involvement of abnormalities



INTERESTING CASES

Case 1

- Age/Gender: 27 / M
- History: Blunt trauma to head with fall.



CT EXAMINATION

CT SCOUT







Key Images:

27/M Blunt trauma to head with fall



left

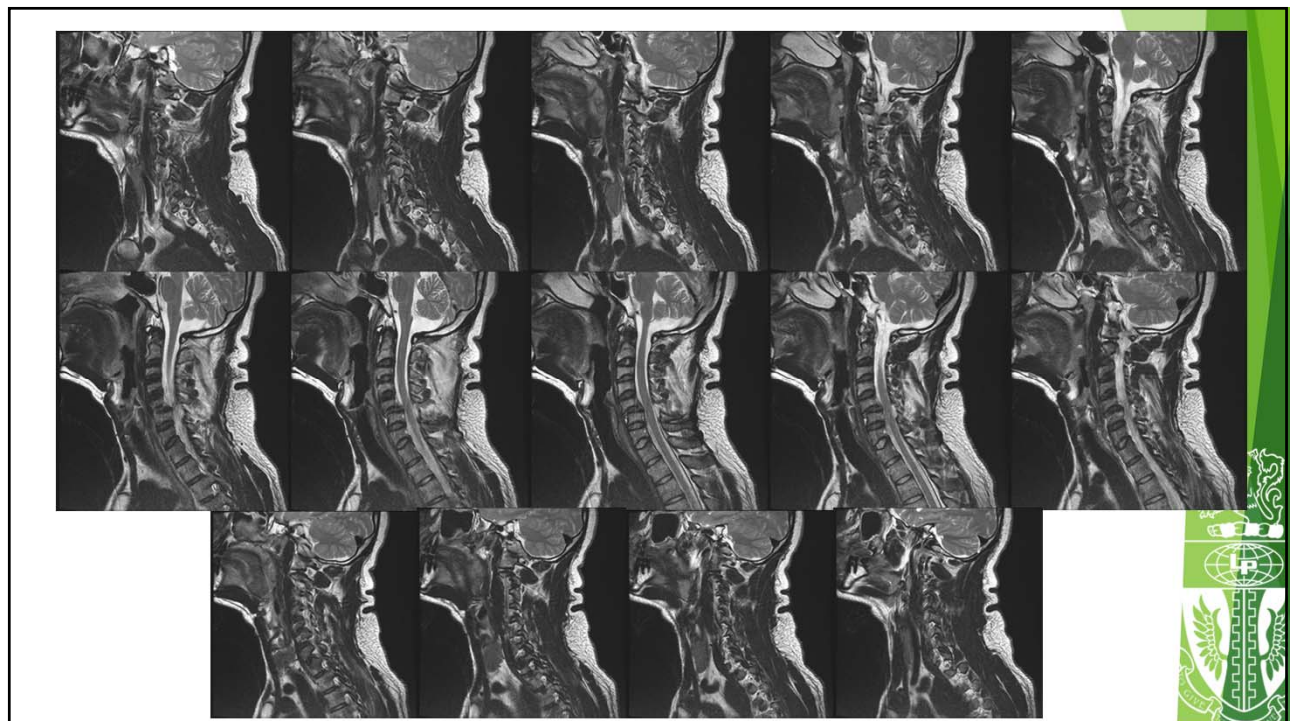


midline



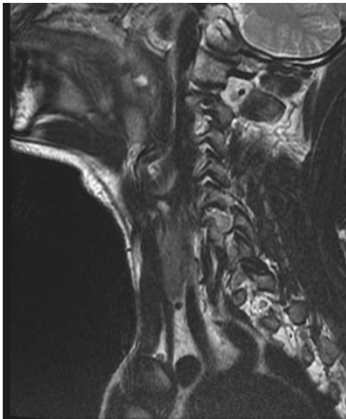
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MRI EXAMINATION



Key Images:

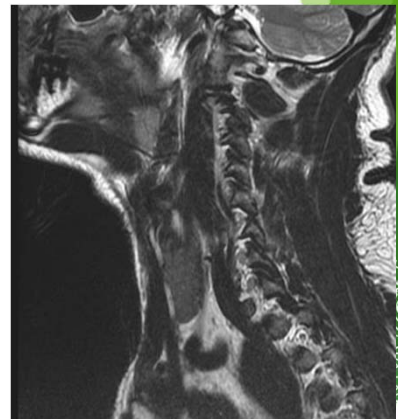
27/M Blunt trauma to head with fall



left



midline

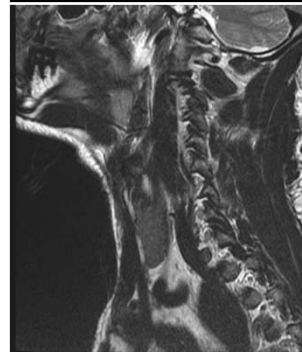
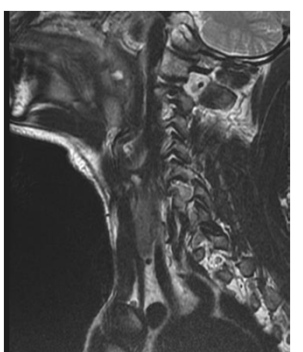


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CT



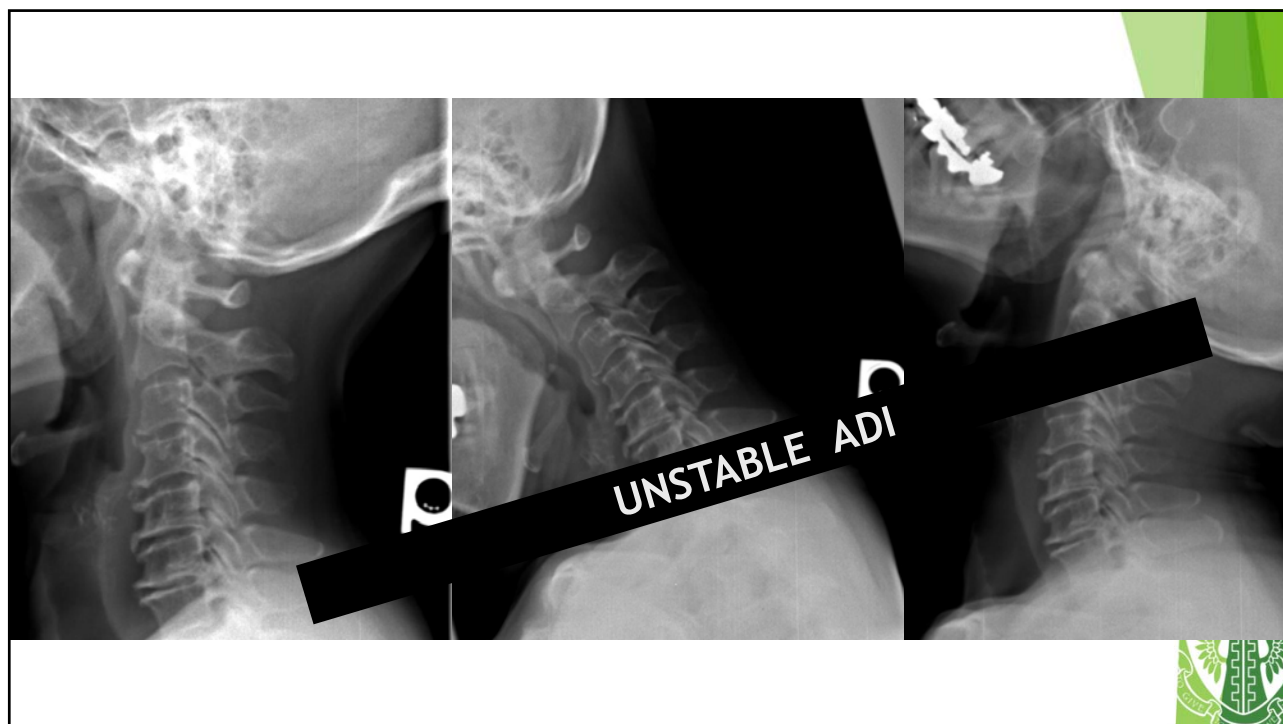
MRI



Case 2

- ▶ **Age/Gender:** 54 / F
- ▶ **History:** Rear-ended while driving on freeway





How to proceed?



Follow up...

MRI of cervical spine

-evaluate integrity of transverse ligament and cord



Bonus Case



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