Time of scan:
17 Sep 2022, 02:30PM

Item:
Comprehensive whole body scan with VIP consult

Sex:

Height:
6' 0''

Weight:
200 pounds

Date of Birth:

TECHNIQUE:

Head: Flair, TOF, 3DT1; Neck: Axial T2; Whole-body: T1, STIR , DWI; Spine: Sagittal T2; Chest/ Abdomen/Pelvis: axial T2; Abdomen: Axial T2, Pelvis: Sagittal T2

DISCUSSION:

The patient was advised that whole-body screening: (i) does not evaluate the heart, (ii) does not evaluate lung microarchitecture, but will assess for mediastinal/hilar adenopathy, (iii) is not a replacement for colonoscopy but will detect bowel carcinoma constricting the colon, (iv) no cartilage based sequences are performed which limits detailed assessment of the joints, and (v) is effective for visualization of lesions on the order of 1 cm or larger within the neck, chest, abdomen and pelvis. As with any medical test, there are limitations which make it impossible to detect all malignancies, (vi) this examination is intended to supplement but not replace mammography.

COMPARISON:

The patient had a previous scan on 17 February 2021. Key observations: Prior Prenuvo scan.

FINDINGS:

Head and Neck

Brain
No adverse finding

No evidence of proximal intracranial arterial aneurysm.

Normal configuration of the circle of Willis.

No evidence of small vessel ischemia.

No worrisome intracranial lesion is identified within the brain parenchyma.

The generalized brain parenchyma volume is normal for age.

Sinuses and mastoids

1 finding requires minor attention

We detected a lesion which is consistent with a mucous retention cyst.

- The cyst is located in the left ethmoid sinus. The lesion measured 0.4 cm in diameter.

Most commonly these are of no concern, unless they become large at which point they cause discomfort.

- This is a benign finding.
- If you are asymptomatic, then this finding can be reassessed on your next Prenuvo scan.

The remaining paranasal sinuses are clear.

The mastoids are clear.

Nasal pharynx

No adverse finding

No worrisome mass is identified.

Oral pharynx

No adverse finding

No worrisome mass is identified.

Hypopharynx

No adverse finding

No worrisome mass is identified.

Thyroid

No adverse finding

No worrisome lesion is present within the thyroid.

Cervical lymph node chain
No adverse finding

No adenopathy is present.

Chest, Abdomen and Pelvis

Lungs and mediastinum
No adverse finding

No restricted solid mass is identified within the pulmonary parenchyma.

There is no mediastinal or hilar adenopathy.

Heart and great vessels
No adverse finding

Within the limitations of nongated cardiac MRI, no mass or pericardial abnormality is visualized.

Breasts
1 informational finding

Your breast tissue has a mixture of fat (>50% fat content) and scattered dense glandular tissue.

- This is a normal finding and may indicate you should have additional breast screening depending on age and family history.

Your breast tissue composition is important information to share with your doctor as it may be a factor in planning an appropriate screening program.

- Scattered fibroglandular tissue is a benign finding which describes the composition of your breast tissue.
- Based on your clinical exam and risk profile, which you should discuss with your doctor, in addition to screening mammography, you may need the addition of annual MRI or ultrasound.

No worrisome solid or cystic mass is identified within either breast. There is no axillary adenopathy.

Esophagus
No adverse finding

No solid mass is identified within the visualized esophagus.

Stomach
No adverse finding

No solid mass is identified within the stomach wall.

There is no fixed hiatal hernia.

Liver
1 informational finding

Stable subcentimeter cyst in segment 8.

> This is a benign finding and no followup is required.

There is no evidence of fatty liver disease.

There is no evidence of increased iron deposition in the liver.

No evidence of worrisome hepatic mass is identified.

Gallbladder and biliary system
1 informational finding

Stable mild dilatation of the common bile duct measuring up to 8 mm without obstructing stone or mass visualized.

> Finding is likely physiologic and no followup required.

No gallbladder calculi is present.

No biliary ductal dilatation is present.

No intrahepatic ductal dilatation is present.

No worrisome mass is visualized in the gallbladder.

Pancreas
2 findings 1 requires minor attention

We detected an indeterminant cystic lesion.

- There is a lesion located in the body of your pancreas. The lesion measured 0.5 cm in diameter.

See Figure 1

This finding by imaging is indeterminant.

- In general, small pancreatic cysts with low risk features can be surveilled with follow-up imaging (MRI or CT) to confirm stability.

Stable tortuosity of the pancreatic duct within the pancreatic head, without underlying mass or upstream ductal dilation.

No followup required as this likely represents a normal anatomical variant.

There is no evidence of fatty atrophy in the pancreas.

Spleen
No adverse finding

The spleen is unremarkable and normal in size.

Kidneys
1 informational finding

Stable cortical volume loss/scar in the posterior superior right kidney with an adjacent small cystic focus, which may reflect calyceal dilatation secondary to volume loss.

This may represent a normal anatomical variant and no follow up is require if you are asymptotic (eg. no pain while urinating, no blood in urine, no persistent abdominal pain). This finding can be re-assessed on your next Prenuvo scan.

No worrisome mass is present within the renal parenchyma.

No obstructive kidney stones or abnormal calcification was detected (within the limits of MRI).

The kidneys are normal in size and position.

Adrenals
No adverse finding

The adrenals demonstrate normal morphology and signal.

Bowel
1 informational finding

On the axial T2 sequence, there is apparent wall thickening of the hepatic flexure, which is likely related to a combination of peristalsis and adherent stool as this does not persist on additional sequences.

> No follow up is required as this most likely represents a transient digestive issue.

There is no evidence of inflammatory changes involving the large bowel.

No dominant mass or abnormal wall thickening is identified. There is no pericolonic adenopathy.

There is no evidence of fixed inguinal hernia bilaterally.

Bladder and ureters
No adverse finding

There is no evidence of hydroureter bilaterally.

There is no visualized filling defect in the bladder.

Uterus
4 findings 1 requires moderate attention

There was a mild amount of fluid noted in the cul-de-sac.

- The composition of the fluid was simple.

> **A small amount of fluid in the cul-de-sac is normal. Discuss this finding with your doctor if you have pelvic pain (particularly if cyclic), or the pain is progressively getting worse.**
>
> - This finding can be reassessed on your next Prenuvo scan.

Incidental note is made of a C-section scar.

This is described for information.

We detected multiple findings consistent with uterine fibroids.

- There are multiple fibroids in the myometrium of your uterus. The largest lesion measured 3.3 cm in diameter.
- It appeared submucosal in location. This fibroid measured 1.4 cm in diameter. This fibroid previously measured 1 cm.

See Figure 2

This finding is benign.

- Fibroids are hormonally sensitive and over time may alter the shape of the uterus.
- Your fibroid uterus can be reassessed on your next Prenuvo scan.

The endometrial thickness measured 3.0 mm.

This is a normal measurement. No action is required.

The uterus is anteflexed abutting the superior aspect of the urinary bladder and may account for the reported "bladder pressure."

No followup is required. This likely represents a normal anatomical variant.

The uterus position is anteflexed.

Ovaries
1 finding requires moderate attention

We detected multiple lesions which are consistent with simple cysts.

- There is a lesion located in your right ovary. The lesion measured 4.5 cm in diameter. On prior exam, a simple cyst in the right ovary measured 2.2 cm.
- There is another lesion located in your left ovary. The lesion measured 1.3 cm in diameter.

See Figure 4

Discuss this finding with your doctor if you have symptoms or are post menopausal to come up with a surveillance plan.

- Most often this is a benign finding. Treatment is generally not required unless symptoms are present.
- This finding can be reassessed on your next scan.

Spine and MSK

Spine
7 findings 5 require minor attention

There are 7 cervical spine vertebrae, 12 thoracic spine vertebrae, and 5 lumbar spine vertebrae.

The conus terminates at L1 level.

Your spinal cord ends at the level of L1.

There is congenital spinal canal narrowing.

- This narrowing involves the cervical spinal canal.

No further investigations are required.

- Due to this congenital (born with) condition, it is important that you practice good spine care to prevent disc bulges from developing.

There is a mild scoliosis of your spine.

- The curve is centered in the lumbar spine. The convexity is to the right.

If you are asymptomatic, then no action is necessary.

- If you have symptoms which are consistent with these findings, then you should discuss this finding with your doctor to determine physiotherapy or gentle chiropractic treatments that can prevent degenerative changes from developing/progressing with age.
- Scoliosis series standing Xrays are the best way to quantify the extent of the curvature of your spine by reproducibly measuring the Cobb angle between the affected vertebrae. The MRI measured Cobb angle is not as accurate and reproducible when patients are lying down.

There is an abnormal curvature of the cervical spine.

- This is characterized by mild reversal of the lordosis of your cervical spine.
- This may be related to or secondary to C5-7 anterior fixation.

Discuss this finding with your health practitioner.

- Improving your posture is important. It may be beneficial to see a physical therapist, occupational therapist or your chiropracter. If you have recent onset of severe pain, an accupuncturist may be helpful.

There are moderate degenerative spondyloarthropathic changes in your cervical spine.

Overall cervical:

- C2-3: No significant disc bulge. Spinal canal and neural foramina are adequately patent. Mild facet hypertrophy. C3-4: Congenital spinal canal narrowing without significant disc bulge. Uncovertebral osteophytes and facet hypertrophy results in mild left neural foraminal narrowing. C4-5: Asymmetric right disc osteophyte complex effaces the ventral CSF without frank cord compression. Uncovertebral osteophyte results in moderate–severe right neural foraminal narrowing. If clinically significant, this would result in a C5 radiculopathy. C5-6: Status post ACDF. Congenital spinal canal narrowing. Uncovertebral osteophytes results in moderate-severe neural foraminal narrowing bilaterally. If clinically significant, this would result in a C6 radiculopathy. C6-7: Status post ACDF. Congenital spinal canal narrowing. Uncovertebral osteophytes and facet hypertrophy results in mild right and moderate left neural foraminal narrowing. If clinically significant, this would result in a left C7 radiculopathy. C7-T1: No significant disc bulge. Spinal canal is adequately patent. Facet hypertrophy results in mild left neural foraminal narrowing.

See Figure 8, Figure 9, Figure 10, Figure 11

Discuss these findings with your doctor and ask about ways to prevent further deterioration of the spine.

- Moderate arthritis type neck changes are present. If you have progressive constant symptoms such as pins and needles which can progress to constant pain, discuss the findings with your doctor. If you have intermittent symptoms, it is best to take care of your spine to prevent these arthritis type changes from progressing. Good posture, physiotherapy, gentle chiropractic and spine care can be helpful.

There are moderate degenerative spondyloarthropathic changes in your thoracic spine.

Overall thoracic:

- T1-2: Central disc herniation without cord compression. Neural foramina are adequately patent. T5-6: Central/right paracentral superiorly migrated disc extrusion without cord compression. Neural foramina are adequately patent. T6-7: Left paracentral disc herniation without cord compression. Neural foramina are adequately patent. T7-8: Right posterolateral disc herniation without cord compression. Neural foramina are adequately patent.

See Figure 5, Figure 6

Discuss these findings with your family physician and ask about ways to prevent further damage.

- Moderate arthritis type upper and mid back changes are present. If you have progressive constant symptoms such as pins and needles in your toroso which can progress to constant pain, discuss the findings with your family doctor. If you have intermittent symptoms, worse with flexion, it is best to take care of your spine to prevent these arthritis type changes from progressing. Good posture, physiotherapy, chiropractic and spine care can be helpful.

There are moderate degenerative spondyloarthropathic changes in your lumbar spine.

Overall lumbar:

- L1-2 and L2-3: Interval development of small disc bulges without spinal canal stenosis or neural foraminal narrowing. Mild facet hypertrophy. L3-4: Asymmetric left disc bulge mildly narrows the left neural foramen. No significant spinal canal stenosis. Mild facet hypertrophy. L4-5: Broad-based disc bulge and moderate facet hypertrophy results in mild–moderate right and mild left neural foraminal narrowing. No significant spinal canal stenosis. L5-S1: Small central disc bulge without spinal canal stenosis or neural foraminal narrowing.

See Figure 7

Discuss these findings with your doctor. These moderate degenerative findings are an opportunity to make a change to ensure a healthy spine for the future.

- Moderate arthritis type back changes are present. If you have progressive constant symptoms such as pins and needles which can progress to constant pain, discuss the findings with your family doctor. If you have intermittent symptoms, it is best to take care of your spine to prevent these arthritis type changes from progressing. Good posture, physiotherapy, chiropractic and spine care can be helpful.

The spinal cord is of normal signal.

Sacroiliac joints

No adverse finding

Normal appearance without evidence of active sacroiliitis or ankylosis.

Shoulders

2 findings 1 requires minor attention

We detected bilateral regions of bone marrow edema.

- There is a region of edema in the glenoid of your left shoulder.
- There are bilateral regions of edema in the acromioclavicular joint of each shoulder.
- Findings are new compared to prior exam and likely reflect degenerative/stress change.

See Figure 12

Let your doctor be aware of this finding so they can monitor for changes.

- Since you did not indicate symptoms pertaining to this joint, this is reassuring and favors a benign cause.

Trace right and small left subacromial bursal fluid is present.

No follow up is required. This may well reflect a normal response to exercise.

There is no joint effusion or advanced degenerative change affecting either shoulder.

Pelvis and hips

2 findings 1 requires minor attention

We detected bilateral regions of muscle atrophy with fatty replacement.

- The affected regions are located in each of your gluteus minimus.

Discuss this finding with your doctor, physiotherapist, or sports medicine physician.

- If you were unaware of this finding, then you may require further imaging or a nerve conduction test.
- At the very least, this can be reassessed on your next Prenuvo scan.

Interval development of high-grade partial-thickness tears of the right gluteus medius tendon with associated bursal fluid collection. There are there is chronic tendinopathy and partial-thickness tears of the gluteus minimus tendons bilaterally.

No immediate followup is required. Monitor your symptoms and, if necessary, see a physiotherapist to discuss posture and other improvements to minimize pain or additional tears.

There is no joint effusion or advanced degenerative change affecting either hip.

Knees

1 finding requires minor attention

We detected a small right knee joint effusion.

Discuss this finding with your doctor, physiotherapist and/or trainer so they are aware of your limitations at this joint.

- In the absence of arthritis, a joint effusion can indicate an underlying subtle injury to the joint, most commonly from repetitive trauma, however many other causes exist, and therefore it is suggested to monitor your symptoms.

There is no joint effusion or advanced degenerative change affecting the left knee.

Ankles
No adverse finding

There is no joint effusion or advanced degenerative change affecting either ankle.

Bony skeleton and soft tissue
1 informational finding

Stable nonspecific lobulated cyst-like lesion in the caudal right calf musculature measuring up to 3.5 cm.

No follow up is required at this stage. This finding can be reassessed at your next Prenuvo scan.

Within the limitations of MRI, no worrisome aggressive osseous lesion is identified.

FINAL IMPRESSION:

1. No suspicious findings concerning for malignancy.
2. Stable 5 mm pancreatic cystic lesion. Continued imaging surveillance is suggested and can be reassessed on follow-up screening exam to confirm stability.
3. 4.5 cm benign-appearing simple cyst in the right ovary. Uncertain if this is a new cyst or an enlarging cyst as there was a 2.2 cm cyst on the prior exam. Pelvic ultrasound follow-up in 6-12 weeks is suggested to assess for resolution.
4. Fibroid uterus, with a small submucosal fibroid demonstrating slight interval enlargement. Of note, the uterus is anteflexed abutting the superior aspect of the urinary bladder and may account for the reported "bladder pressure."
5. Multilevel degenerative changes of the spine. In the cervical spine, patient is status post C5-C7 ACDF with spondylitic neural foraminal narrowing at the C4-5 through C6-7 levels. Correlate with level specific radicular symptoms. Please see above for level specific details.
6. Interval development of high-grade partial-thickness tear of the right gluteus medius tendon with associated bursal fluid collection, which likely accounts for reported right hip pain.

7. Additional incidental findings as above.
Imaging findings were reviewed with the patient.

NEXT APPOINTMENT:

A follow up scan in 12 months is suggested for further proactive health unless clinically indicated sooner.

Andrew Lacy
18 October 2022

CLINICAL IMAGES:

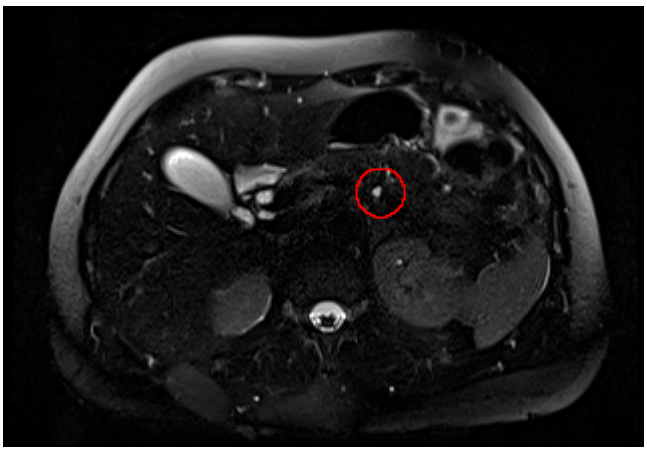

Figure 1. Pancreatic cystic lesion .

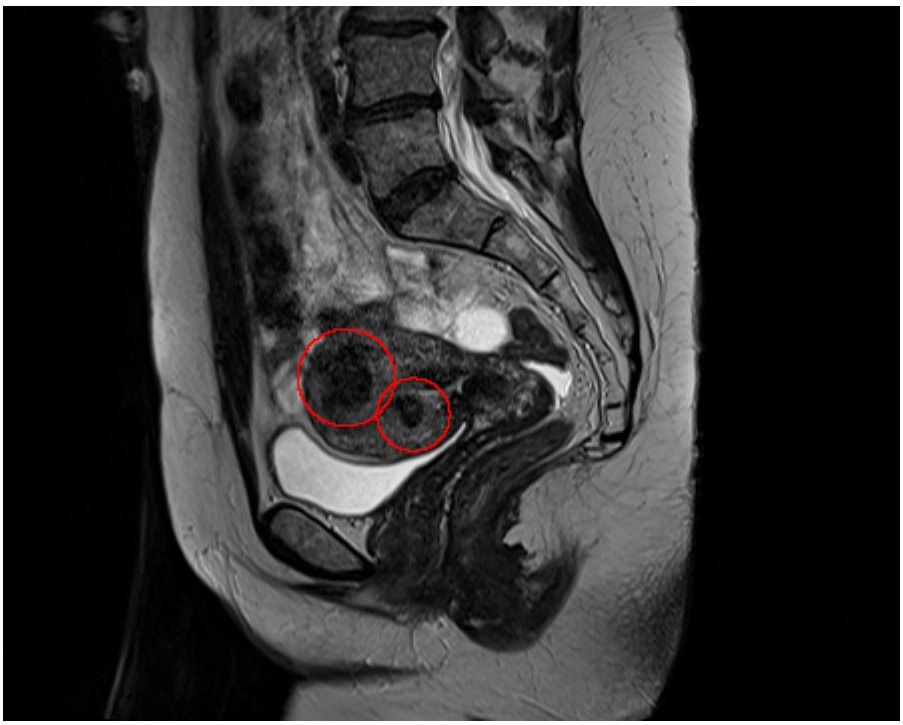

Figure 2. Uterine Fibroid.

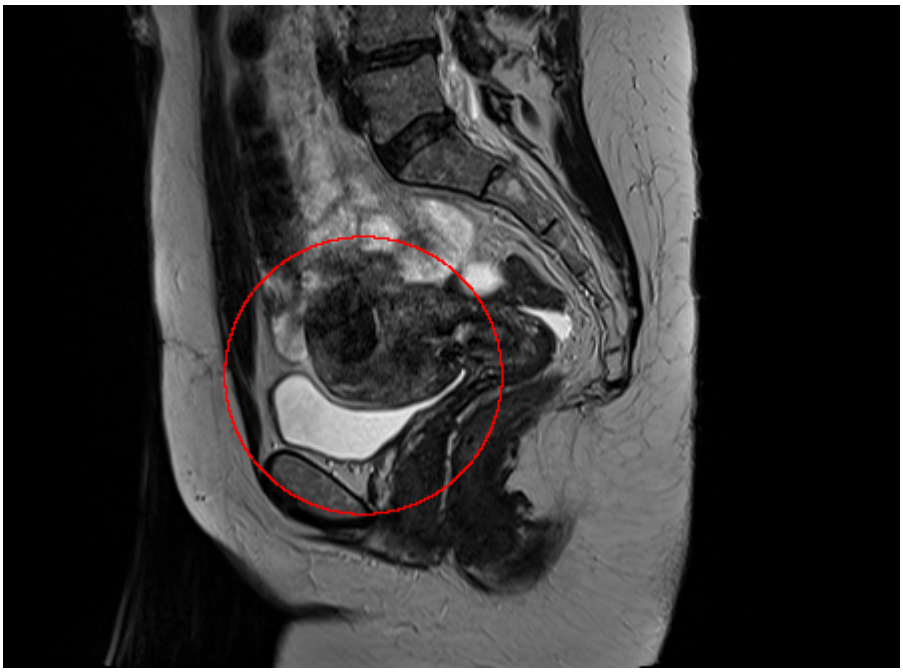

Figure 3. Anteflexed uterus abutting superior aspect of bladder .

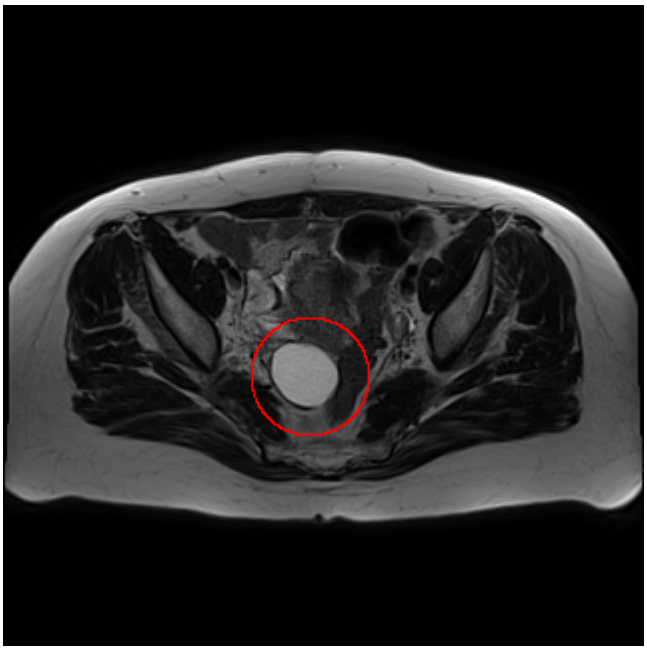

Figure 4. Right ovarian cyst .

Figure 5. Spondyloarthropathy Of The Thoracic Spine.

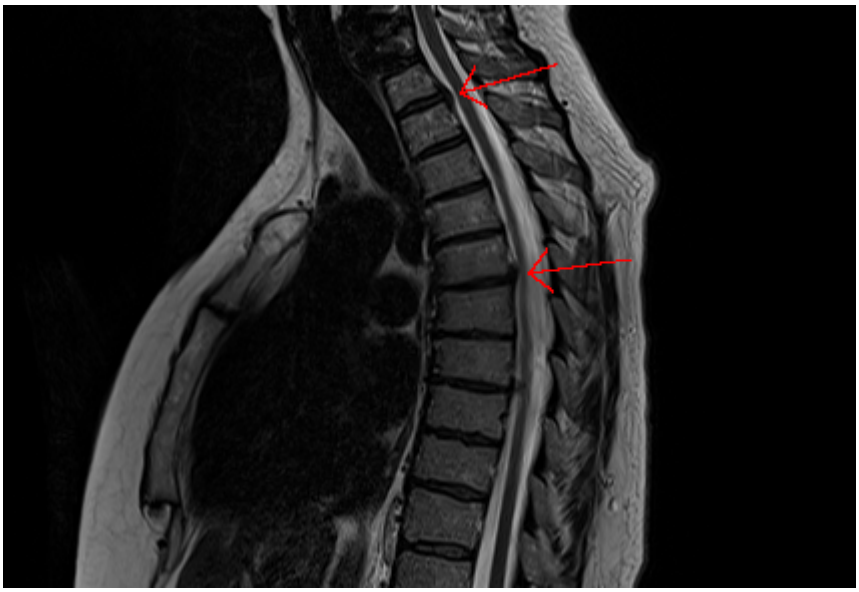

Figure 6. Spondyloarthropathy Of The Thoracic Spine.

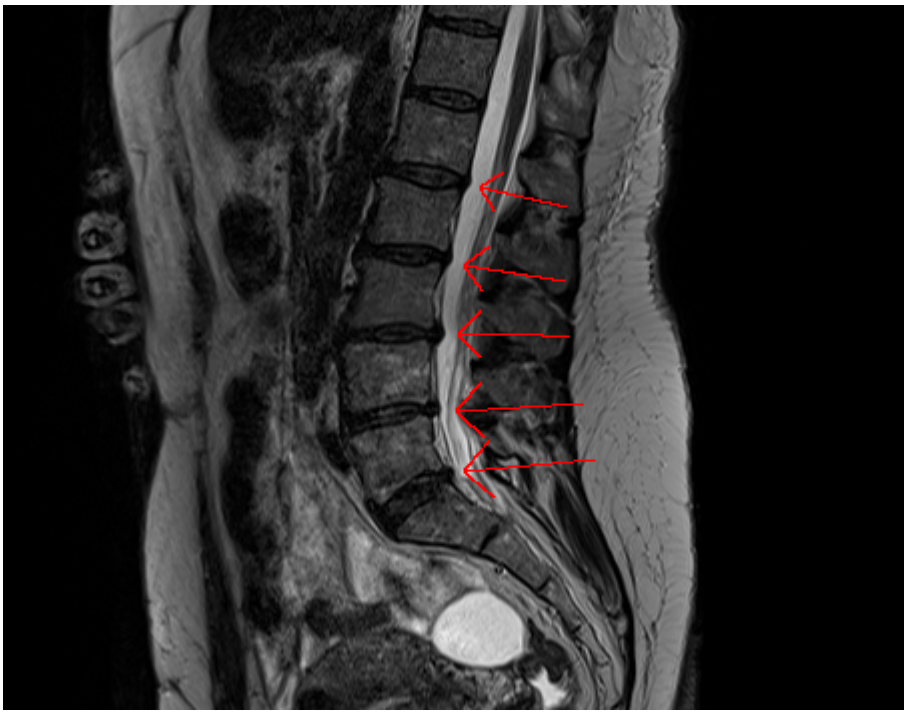

Figure 7. Spondyloarthropathy Of The Lumbar Spine.

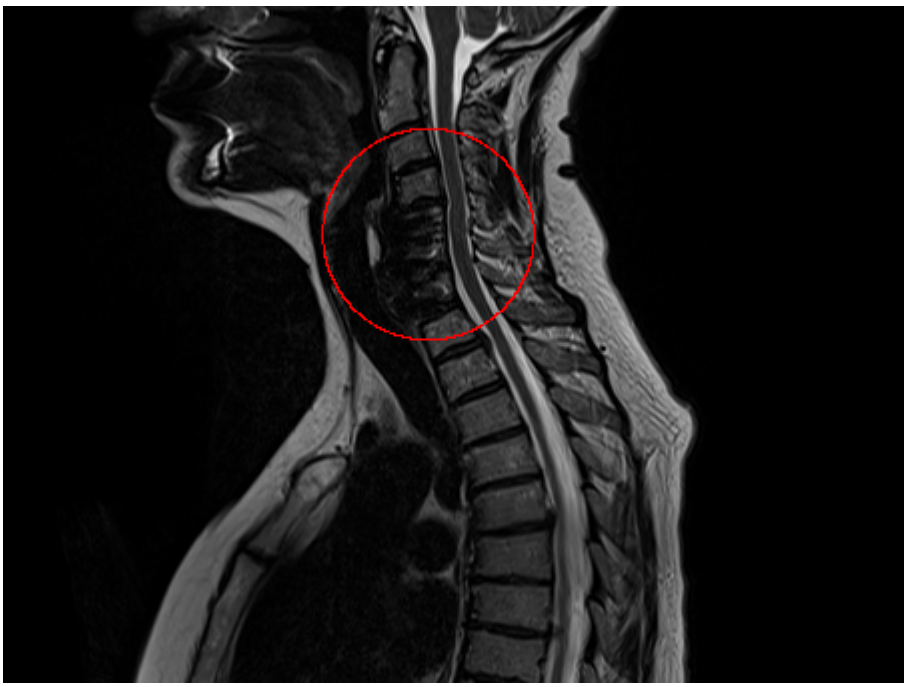

Figure 8. Spondyloarthropathy Of The Cervical Spine.

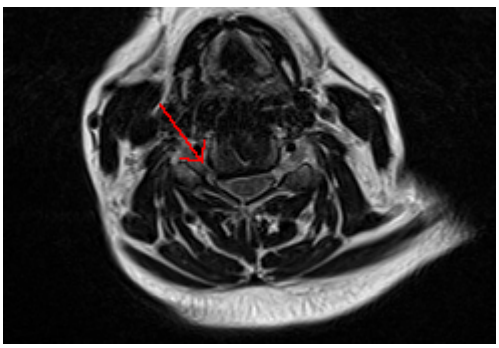

Figure 9. Spondyloarthropathy of C4-5.

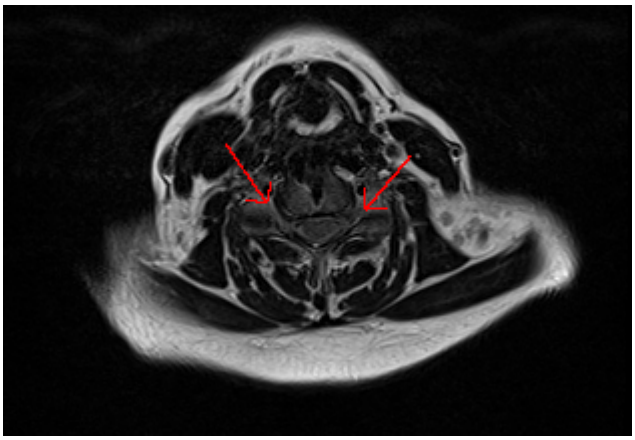

Figure 10. Spondyloarthropathy of C5-6.

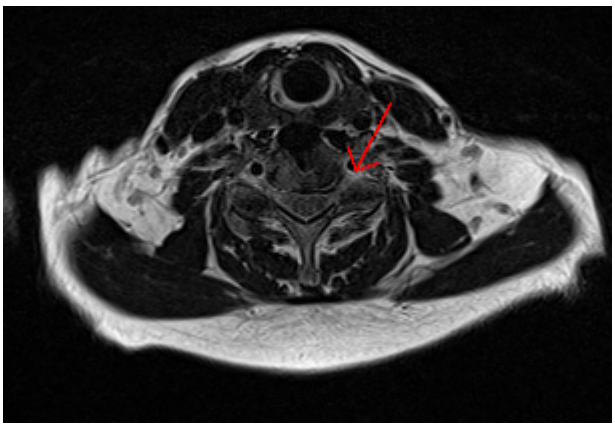

Figure 11. Spondyloarthropathy of C6-7.

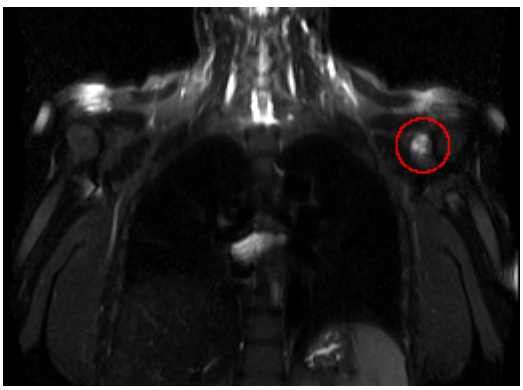

Figure 12. Bone Marrow Edema Of The Shoulder.

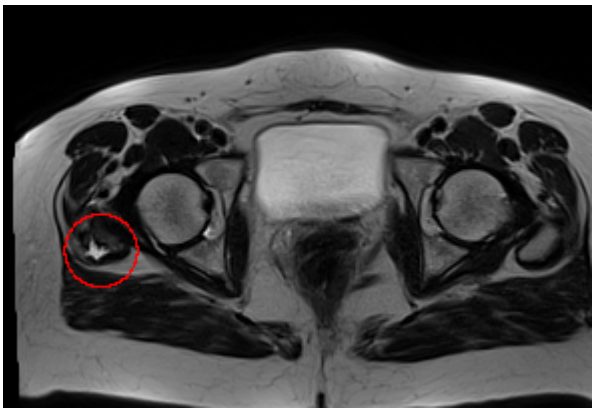

Figure 13. Right gluteus medius tendon tear.