Neuberg ★ STAR
IMAGING & LABS

# Newsletter@Star

Vol 4 July-September 2026

## Greetings from the team at Neuberg Star Imaging and Labs

We are pleased to present the fourth volume of our Newsletter. This is a special edition which features emotional, heartfelt words penned by the Founder of Star Imaging, Dr. Sunil Patil, describing the circumstances that culminated into opening Star Imaging and Research Center at Akluj. Dr. Aparna Atre dissects, simplifies and unravels in detail the conundrum faced by radiologists, clinicians and patients over the looming spectre of AI in Radiology and Imaging. We continue with our format of introducing our dynamic Consultant Radiologists to you, together with new techniques being developed and employed in our day-to-day practice. We hope you find as much pleasure in reading this edition as we did in compiling it for you.

Warm regards,
Dr. Sanjay Vaid MD

**Dr. Sunil Patil**
Co-Founder, Star Imaging

## From Roots to Resolution: The Heart Behind Star Imaging, Akluj

Every institution has a founding date, but the true story of Star Imaging begins long before 2011, and far beyond the borders of our major cities. It begins in Paniv, a small village near Akluj — the place that shaped who I am, and the place my parents called home.

In 1972, my parents, Shri Shamrao Patil and Smt. Suman Patil, did something extraordinary for our region. They built Akluj's very first cinema theatre, ShreeRam Cinema. It wasn't just a local theater; it was miles ahead of its time in design, vision, and features. Growing up, I watched them pour their hearts into delivering the absolute best to our community, refusing to let a rural address mean settling for lesser quality.

Decades later, that lesson came full circle in the most profound way.

One afternoon, my mother Suman, fell ill and urgently needed a medical scan. As a doctor, it was a harsh reality check to realize that for a proper, high-end diagnostic scan, there was simply nothing available between our hometown and Pune. We had to make that long, stressful journey just to get basic answers. That day changed everything. I realized that the community that raised me, our neighbors, and our parents deserved better. They shouldn't have to travel hundreds of kilometers for standard medical answers. It reinforced the foundational belief that guided us when my wife Anu, our close friends Ashish and Aparna Atre, and I founded Star Imaging in 2011.

### Every life deserves world-class care: In 2017, we brought that belief home

When we established our Akluj branch, we followed the exact philosophy Shamrao and Suman Patil championed in 1972 — be ahead of the curve and provide the absolute best-in-class. We designed a state-of-the-art diagnostic facility and equipped it with a 3T MRI — a level of cutting edge technology which, at the time, was scarce even in major healthcare hubs like Mumbai and Pune. Many wondered why such advanced equipment was destined for a rural area. To us, the answer was simple. World-class care shouldn't be a luxury reserved only for metros; it is a necessity for every individual, no matter where they live. Star Imaging Akluj was born out of a desire to serve my own parents, but it stands today as a tribute to their legacy and to the entire region. It is our way of giving back to the soil we came from, living up to our promise every single day that truly, every life deserves world-class care.

**Thank you for being a part of this journey with us.**

## Know Your Centre

Our **AKLUJ** centre was established in 2017, and offers a range of services such as 3T MRI, CT Scan, USG Doppler, X-Ray, Pathology, and Genomics.

## Know Your Radiologists

**Dr. Vaishali Nimbkar MD**
Chief, Body Imaging Division

Dr. Vaishali Nimbkar is a Senior Consultant Radiologist, having done her under-graduation from Topiwala Nair Hospital and post-graduation from Sion Hospital in Mumbai. She was amongst the first to work on the first 16 slice cardiac CT machine in Asia. Dr. Nimbkar specializes in Chest, Body and Cardiac imaging and has extensive experience in PET CT. She joined Star Imaging and Research Centre in July 2023. She now heads the Body Imaging Division and is actively involved in Cardiac Imaging and supports Head and Neck Imaging when needed.
Vaishali is also a trained Bharatanatyam dancer and enjoys birding.

**Dr. Aparna Atre DMRD, DNB**

Chief, Breast and Women's Imaging Division

## The X-Factor In Radiology

In the age of AI, the question foremost in the minds of radiologists is: Will we eventually be replaced or rendered redundant?

If radiology were limited to pattern recognition and the listing of differential diagnoses, AI may already have surpassed and replaced many radiologists. However, that has not happened, nor does it appear likely in the foreseeable future — because of what may be called the "X-factor."

So, what exactly is this X-factor? It is a combination of several qualities which, if expressed as an equation, might be described as:

**The X-Factor = Experience + Clinical Intuition + Intellectual Humility + Communication**

Let us examine this more closely.

Experience comes from interpreting thousands upon thousands of cases — something AI models can also be trained to do efficiently. Yet where radiologists truly distinguish themselves is through their mistakes. Indeed, some of the most valuable learning arises not from the many cases interpreted correctly, but from the few that were misinterpreted and, more importantly, from understanding why.

Clinical intuition is the instinctive pause before signing off a "normal" report — the moment that prompts a radiologist to reassess because something does not quite fit.

Intellectual humility is reflected in the ability to say, "I do not yet know what this is, but I am concerned." It is what drives a radiologist to go the extra mile; to acquire additional sequences, recommend further imaging, or pursue a finding until the correct diagnosis is reached.

Communication is equally essential. It means listening carefully to the patient, who is often the greatest teacher. It means speaking directly with the referring clinician and understanding the broader clinical context. Effective communication frequently makes the critical difference in arriving at the final diagnosis.

AI exists within the image. The X-factor extends beyond the image — it lies in understanding the patient behind it.

Let's look at a few cases where we, as radiologists, made a difference.

## CASE 1: Reading the patient — not just the pixels

**A 30-year-old female presented with a recently detected palpable lump in the right axillary region. An ultrasound and MRI performed externally had suggested the possibility of an arteriovenous (AV) malformation. She was subsequently referred for repeat imaging to further evaluate the extent and nature of the lesion.**

**A high-frequency ultrasound examination of the right axilla was performed.**

**Ultrasound evaluation of the right axilla was performed with a high frequency transducer:**

Figure 1A

Figure 1B

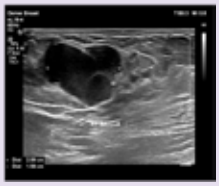


Figure 1C

**Figures** 1A, B, and C demonstrate high-frequency ultrasound images of the right axillary region corresponding to the palpable abnormality. A heterogeneous lesion measuring approximately 4cm was identified in the right axilla, comprising multiple cystic areas and tubular channels, most of which demonstrated internal echoes. The largest cystic lesion measured 21 × 11 × 19mm. Colour Doppler evaluation revealed no internal vascularity within the cystic lesions or tubular channels, although minimal surrounding vascularity was noted.

The first important learning point in this case is that the axilla should never be imaged in isolation. In the presence of axillary pathology, evaluation of the ipsilateral breast is essential.

Accordingly, targeted breast ultrasound examination was also performed.

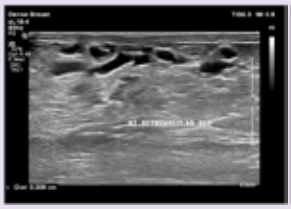


Figure 2A

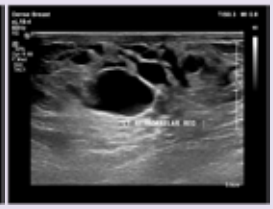


Figure 2B

**Figures** 2A and B reveal similar tubular channels and cystic-appearing lesions within the retroareolar regions of both breasts. In the breast, these findings are most consistent with ductal dilatation.

At this stage, an important clinical question became highly relevant:
"Are you currently lactating?"

The patient confirmed that she was actively breastfeeding her 3-year-old child.

**Diagnosis was now evident with this one relevant piece of information provided by the patient.**

With this key piece of clinical information, the diagnosis became evident.

The right axillary lesion represented ductal ectasia/dilatation within accessory breast tissue in the right axilla.

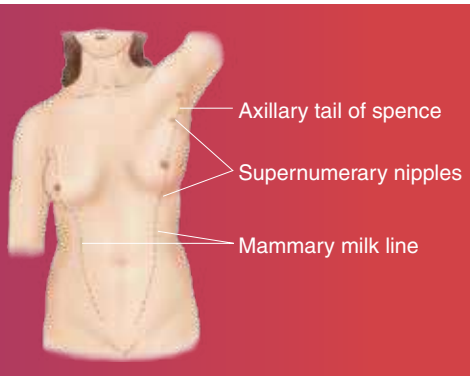
Fine-needle aspiration from the right axillary lesion yielded a small quantity of milky fluid. The patient was reassured and advised discontinuing breastfeeding.

**Follow-up Imaging (6 Months After Cessation of Breastfeeding)**

Repeat high-frequency ultrasound evaluation performed six months after cessation of breastfeeding demonstrated a marked reduction in the number and calibre of the tubular channels within the right axilla. The largest cystic lesion also showed significant interval reduction in size.

**Accessory Breast Tissue**

- Represents residual breast tissue persisting due to incomplete regression during normal embryological development
- Most commonly located in the axilla
- Distinct from the axillary tail of Spence
- Considered a normal anatomical variant
- Contains all components of normal breast tissue
- Subject to the same physiological and pathological processes that affect normal breast tissue



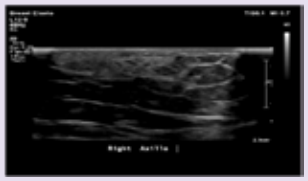

**Imaging Checklist**

**Mammography**

- May demonstrate variable amounts of fibroglandular tissue
- Typically, discontinuous from the normal breast parenchyma

**Ultrasound**

- First-line imaging modality
- Appearance parallels that of normal breast tissue
- Careful documentation is essential



**Management Options**

Management is generally guided by cosmetic concerns or symptomatic discomfort and may include:

- Liposuction
- Surgical excision
- Non-surgical techniques such as lipolysis or high-intensity focused ultrasound (HIFU)
- Combination procedures such as axillaplasty (surgical excision with limited liposuction)

## Take-Home Messages

- Never image only a limited area in isolation; the key diagnostic clue may lie elsewhere
- A focused clinical history and a few minutes of patient interaction often provide the most valuable diagnostic information

**Dr. Aparna Atre DMRD, DNB**

Chief, Breast and Women's Imaging Division

## CASE 2: The pause before the final diagnosis

**A 26-year-old female presented with a newly palpable breast lump. Two prior ultrasound examinations had characterized the lesion as a fibroadenoma.**

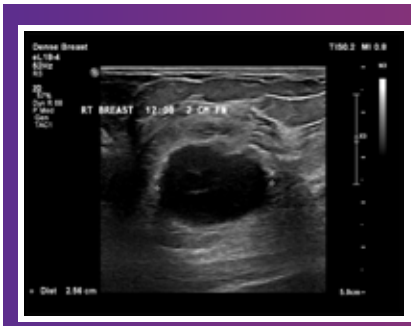


Figure 1A

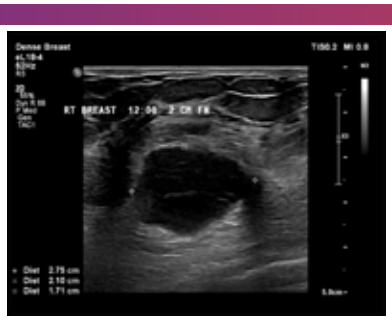
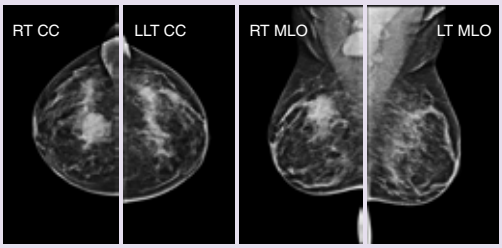


Figure 1B

Figure 1C

**Figures** 1A, B, and C demonstrate high-resolution ultrasound images of the palpable lesion. Ultrasound revealed an oval, fairly circumscribed hypoechoic lesion with minimal internal vascularity, initially favoring the diagnosis of a fibroadenoma, particularly given the patient's age group.

However, a momentary pause and closer reassessment of the lesion's internal architecture altered the level of suspicion. The lesion appeared more anechoic than hypoechoic and demonstrated a heterogeneous internal appearance. This raised concern regarding the possibility of a more sinister underlying pathology.




**Figures** 2A, B, C, and D show the CC and MLO mammographic views. The lesion is visualized as an obscured high-density mass. Notably, an enlarged lymph node is identified deep within the axilla.

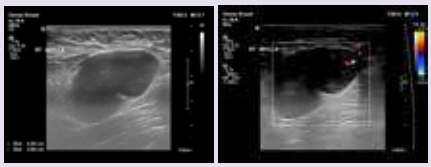
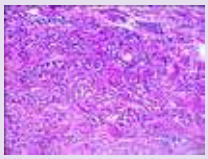


Figure 3A Figure 3B

**Figures** 3A and 3B reveal a significantly enlarged right axillary lymph node with marked cortical thickening and thinning of the central fatty hilum, findings that are highly suspicious and further increase concern regarding the right breast mass lesion.



Ultrasound guided core biopsy was performed which confirmed the presence of invasive breast carcinoma Grade 3, NST with all three IHC markers ER/PR/HEr2 negative – TNBC.

### What is Triple-Negative Breast Cancer (TNBC)?

**Defined by the absence of:**

- Estrogen Receptor (ER)
- Progesterone Receptor (PR)
- Human Epidermal Growth Factor Receptor 2 (HER2)

Accounts for approximately 15% – 20% of all breast cancers

### Key Clinical Challenge

TNBC often presents differently from other breast cancer subtypes and may mimic benign pathology. Common characteristics include:

- Younger age at presentation
- More advanced stage at diagnosis
- Higher likelihood of being missed on imaging due to deceptively benign imaging appearances

## Mammographic Features of TNBC

### 1. Mass Characteristics

- High-density masses
- Round or oval morphology
- Circumscribed or indistinct margins

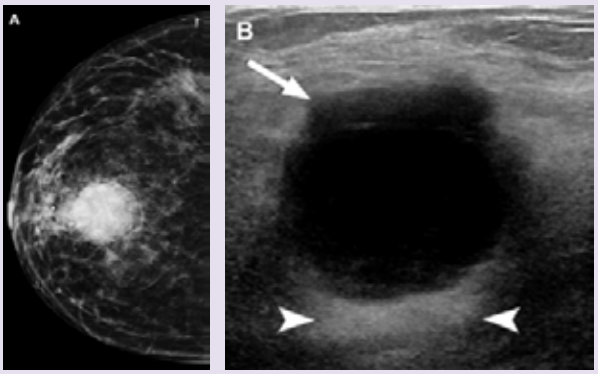
### 2. Lack of Calcifications

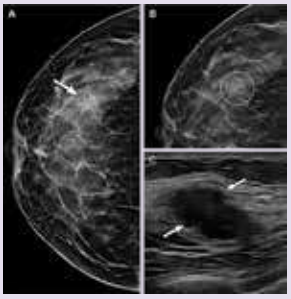
- Calcifications are frequently absent (approximately 70% of cases)

### 3. Less Common Presentations

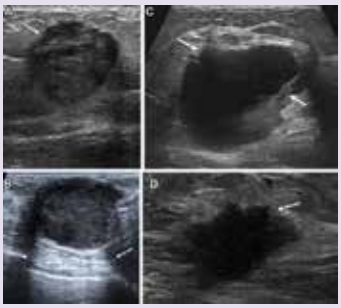
- Less likely to present as asymmetry, focal asymmetry, or architectural distortion

### Imaging Appearance of TNBC



### Ultrasonographic Features



**Variable but Frequently Deceptive**

- **Common appearance**
  - Hypoechoic mass with circumscribed margins
- **"Cyst-like" cancers**
  - May appear oval or round
  - Can demonstrate posterior acoustic enhancement, mimicking a complicated cyst
- **More classic malignant features may also be present**
  - Angular margins
  - Microlobulations
  - Posterior acoustic shadowing

## Take-Home Messages

- Sometimes, the diagnosis is made in the pause — the moment when one chooses to reassess rather than accept the obvious
- TNBC is an aggressive malignancy that frequently wears a 'benign mask' on imaging. Radiologists must therefore maintain a low threshold for biopsy in suspicious or atypical cases to avoid delayed diagnosis

## Imaging Red Flags to Recognize

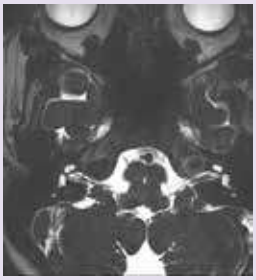
- A high-density round or oval mass on mammography, even when margins appear circumscribed
- An anechoic lesion on ultrasound with indistinct margins or mural thickening
- Wall thickening associated with a complex solid-cystic lesion, particularly in the absence of skin thickening or inflammatory changes
- A new or enlarging mass with non-circumscribed margins, even if oval in shape or oriented parallel to the skin surface

**Dr. Ashish Atre MD, DNB**
Chief Radiologist

# CASE: Out-of-the-Box Thinking — Tweaking the Algorithm

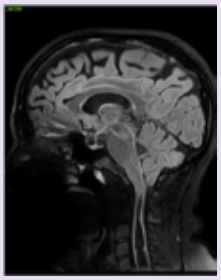
**A 44-year-old lady presented with right sided sensorineural hearing loss. Was advised MRI to evaluate her loss of hearing.**

**The brain MRI showed normal 7th / 8th nerve complex bilaterally, low placed cerebellar tonsils, and central cord cavitation s/o syringo-hydromyelia.**



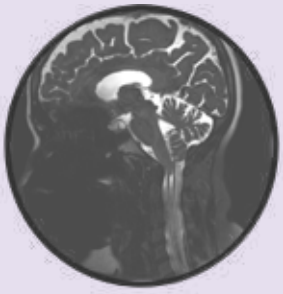
**T2 AXIAL** image showing normal 7th & 8th nerve complex

**FLAIR AXIAL** image showing low placed cerebellar tonsils with crowding at foramen

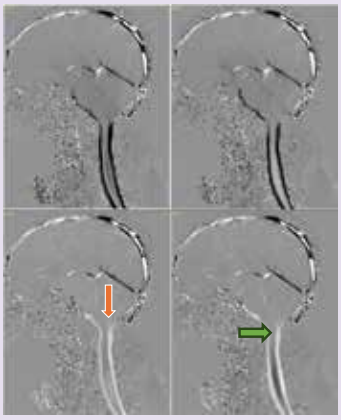


**FLAIR SAG** image showing cervical cord cavitation

Spine MRI confirmed long segment cord cavitation and marginally low placed cerebellar tonsils. The question was what should be done — consider it an incidental finding and leave it or perform a posterior fossa decompression.



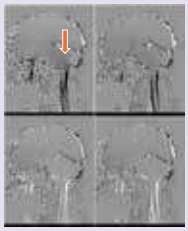
T2 SAG image of brain and cervical spine showing low placed cerebellar tonsils and cervical cord cavitation



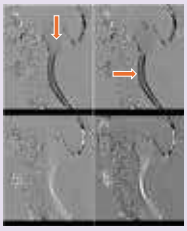
We decided to perform a CSF flow study to check for obstruction to the CSF flow at Foramen Magnum, which could help deicide the operation. However, the flow across the Foramen of Magendie and Foramen Magnum was normal.

Phase contrast sequence to evaluate CSF flow across the Foramen of Magendie ↓ and Foramen Magnum →

We decided to push ahead and perform the CSF flow study in flexion, and more importantly, the extension position of the neck.



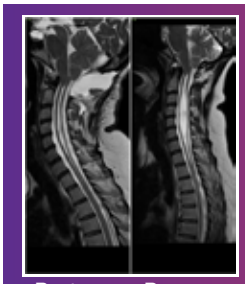
CSF flow in flexion showed accentuated flow across both foramina



CSF flow in extension, showed lack of flow across both foramina and surprisingly flow in syrinx cavity →

**This out-of-the-box thinking demonstrated a clearcut obstruction to normal CSF flow only during neck extension.**

**The surgeon was confident enough to perform the surgery.**



Post-op Pre-op

The patient underwent sub-occipital craniotomy with removal of the excess bone along the inner table of the occipital bone.

Syrinx cavity significantly collapsed. But most importantly, the patient's hearing improved.

## Take-Home Messages

- Hearing loss (with conductive and sensorineural components) is well described, (but not well known) in Arnold Chiari malformation
- Careful monitoring of the patient's examination and picking up findings, seemingly unrelated to patient's complaints, differentiates men from boys
- In a symptomatic patient, if structural imaging findings of cerebellar tonsillar ectopia are borderline, CSF flow analysis may help
- Thinking out-of-the-box, while monitoring the patient's scan and changing the examination protocols when needed, can ensure you arrive at the right diagnosis
- More importantly, it helps in treating and curing patients

**Dr. Anupama Patil MD**

Chief, Musculoskeletal Imaging Division

# CASE 1: Experience and expert eyes see much more

**A 31-year-old male rickshaw driver c/o pain in the right shoulder since a year. Has been taking over the counter analgesics for relief.**

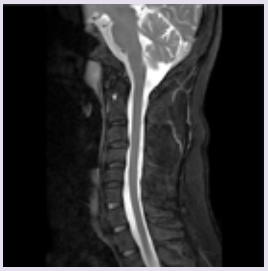
**These X-rays were taken at a government hospital.**

AP

LATERAL

**MRI images: Small insertional tear**

**The tear was too small for surgery, so he was put on shoulder rehab exercises. There was no improvement nor any reduction in pain. An MRI cervical spine was done to look for a cervical disc as the cause of pain.**



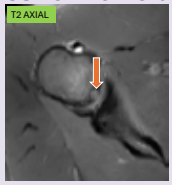
Almost normal

**Diagnosed as psychological pain, the patient was given anti-anxiety and anti-depression drugs, all of which affected his work.**

**Finally, the patient was sent to Neuberg Star for a review of the MRI.**

Really small persistent insertional SS tear

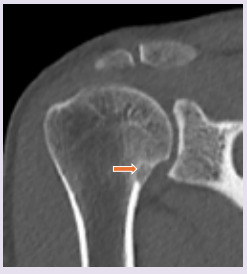
**However, there was a lesion in the inferomedial cortex humeral neck.**


Well defined lesion isointense on T1 and T2 in the inferomedial cortex of the humeral head, with no cortical destruction or surrounding edema.

**Radiofrequency Ablation was performed and the patient is now asymptomatic.**

**CT**



CT images through the lesion reveal an osteolytic lesion — Osteoid Osteoma

## Take-Home Messages

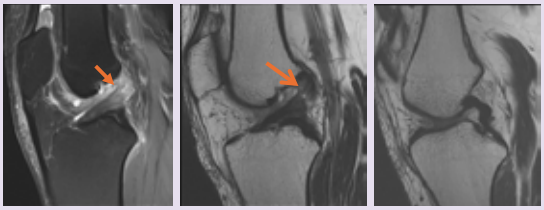
- It is important to pay attention to the **clinical** symptoms of the patient
- This patient, on further questioning, gave a distinct h/o night pain, subsiding with NSAIDS
- Also, when the MRI picture does not match the clinical symptoms, it is important to look closely for something else. 3T imaging is the answer for all MSK cases as the soft tissue resolution is excellent

**Dr. Anupama Patil MD**
Chief, Musculoskeletal Imaging Division

# CASE 2: Seasoned eyes, subtle signs

**A 33-year-old male with a h/o a recent twisting injury. Lachman negative but Anterior drawer test positive. MRI scan done elsewhere reported it as an ACL tear. Pain on palpation along the posterior knee. Suspected PCL tear / medial meniscus root tear. Sent to Neuberg Star for a review.**

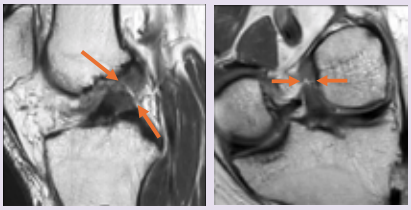
**MRI done outside on 23-04-2026**



PD FAT SAT SAG T2 SAG BUCKLED PCL

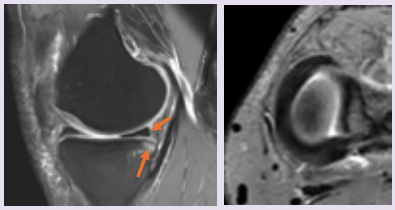
Suspicious ACL tear

**MRI at Neuberg Star on 12-05-2026**



OBLIQUE SAG T2 OBLIQUE CORONAL

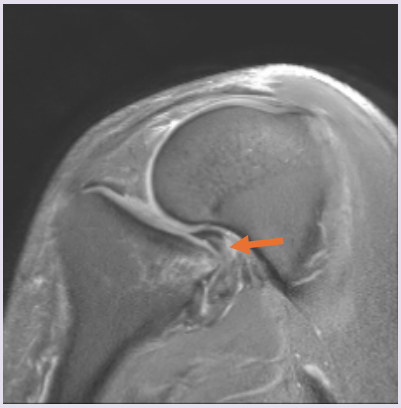
Confirmed full thickness tear ACL proximal body



Tibial Marrow Edema is a pointer to the ramp lesion

Thin axial reformats in the plane of the meniscus

**PD FAT SAT SAG in full fexion**



RAMP

Opens up the posterior meniscus region: better visualization of the RAMP

**Importance of 3T MRI in diagnosing RAMP lesions**

**Medial meniscus is a key secondary stabiliser of an ACL deficient knee.**

**RAMP lesions are:**

- Tear at the menisco-capsular interface of the posterior horn medial meniscus
- Longitudinal tear within 3mm of the posterior margin of the posterior horn medial meniscus
- Potential **hidden** lesions on arthroscopy hence the importance of MRI

## MRI Findings

- T2 bright signal at the menisco-capsular interface
- Vertical longitudinal tear within 3mm of the posterior joint capsule
- Tear of the menisco-capsular / menisco-tibial ligament
- Medial tibial contusion / edema

**GREIF MRI Classification**

| | | | |
|---|---|---|---|
| **Type 1**<br>Meniscocapsular ligament tear |  | **Type 2**<br>Partial superior PHMM tear |  |
| **Type 3A**<br>Partial inferior PHMM tear |  | **Type 3B**<br>Meniscotibial ligament tear |  |
| **Type 4A**<br>Complete PHMM tear |  | **Type 4B**<br>Complete Meniscocapsular junction tear |  |
| **Type 5**<br>Double PHMM tear |  | | |

## Take-Home Messages

- Clinical significance
- Failure to identify and repair RAMP lesion increases anterior translation and rotational instability in an ACL deficient knee
- Failure to identify and repair RAMP lesion adds increased stress on the ACL graft by 33% – 50% and can cause instability

# Breaking New@STAR

## The Next Evolution in Dementia Imaging: Amyloid Assessment from Routine MRI

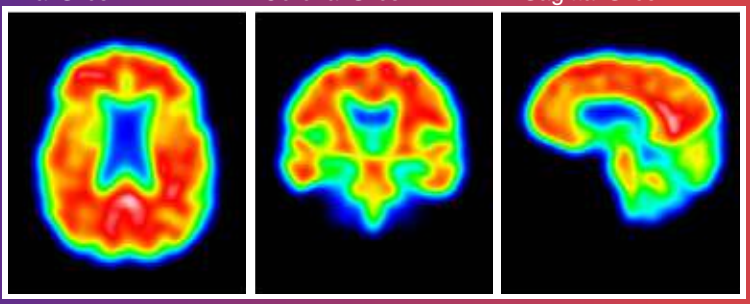
**Dr. Yogeshwari Deshmukh DMRD, DNB**
Chief, Neuroradiology Imaging Division

We are excited to introduce **White Scan**™, an AI-powered tool that provides amyloid burden assessment from routine T1-weighted MRI, enhancing the evaluation of patients with cognitive impairment and suspected Alzheimer's disease.

**Key Benefits**

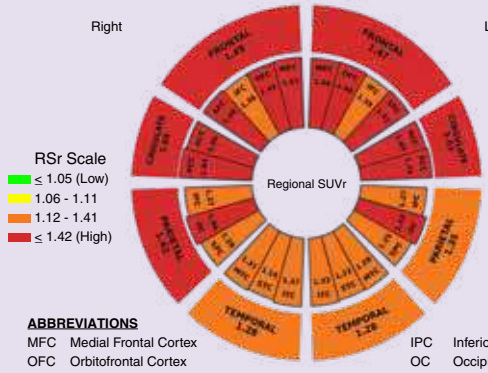
- AI-derived amyloid assessment from routine MRI
- No radiotracer injection or radiation exposure
- No additional scan required
- Faster and more accessible biomarker evaluation
- Complements conventional MRI findings in dementia work-up

Axial Slice | Coronal Slice | Sagittal Slice



Now included in our MRI Dementia Protocol, **White Scan**™ combines structural brain imaging with advanced AI analysis, helping clinicians gain deeper insights into neurodegenerative disease from a single examination.

Amyloid - **White Scan**™ Regional Distribution




**ABBREVIATIONS**

| | | | |
|---|---|---|---|
| MFC | Medial Frontal Cortex | IPC | Inferior Parietal Cortex |
| OFC | Orbitofrontal Cortex | OC | Occipital Cortex |
| IFC | Inferior Frontal Cortex | SPC | Superior Parietal Cortex |
| SFC | Superior Frontal Cortex | MTC | Medial Temporal Cortex |
| ACC | Anterior Cingulate Cortex | STC | Superior Temporal Cortex |
| PCC | Posterior Cingulate Cortex | ITC | Inferior Temporal Cortex |

## The Team at Neuberg Star Imaging & Labs

Ashish Atre • Anupama Patil • Aparna Atre • Sanjay Vaid • Joban Babhulkar • Sonali Deshmukh • Vaishali Nimbkar
Preeti Neve • Yogeshwari Deshmukh • Unmesh Bhosale • Amit Zope • Aniket Jadhav • Akshata Phade • Swati Shah
Sukhada Kulkarni • Nishita Pradhan • Mayuresh Akolkar • Manali Khedkar • Prashant Kokate

**India's First Widest Bore 3-Tesla Digital MRI with Inbore Experience**

**ALL DIAGNOSTIC FACILITIES UNDER ONE ROOF**

3T MRI • Cardiac CT Scan • Digital Mammography with Tomosynthesis • USG & Doppler • BMD • Digital X-Ray • Scanogram • Genomics • Pathology Lab

**Deccan:** Joshi Hospital Campus
Opp. Kamla Nehru Park, Erandawane
Pune - 411004

**Bund Garden:** Connaught Place
Ground Floor, Bund Garden Road
Pune - 411001

**Wakad:** Solitaire Business Hub
Wakad, Pimpri-Chinchwad
Pune - 411057

**Baner:** 1, Deron Heights
Opp. Hotel Mahabaleshwar
Baner Road, Pune - 411045

**Akluj:** Shamrao Patil Medical Complex
Akluj - 413101

Neuberg ★ STAR
IMAGING & LABS

**For Enquiries and Appointments (Pune Centres) Tel: 9713 611 611, (Akluj Centre) 8421 166 261**
**Email:** info@starimagingindia.in • **Website:** www.starimagingindia.com