

**SPECIALITY
DAYS 2019**

8-9 NOVEMBER
MADRID, SPAIN

ESMA

European Sports Medicine Associates

SPORTS INJURIES.
NEW CONCEPTS!

Burt Klos MD PhD

Stephan Konijnenberg MD

Ultrasound imaging and conservative
treatment follow up



ICONE

Presenter Disclosure Information

Burt Klos

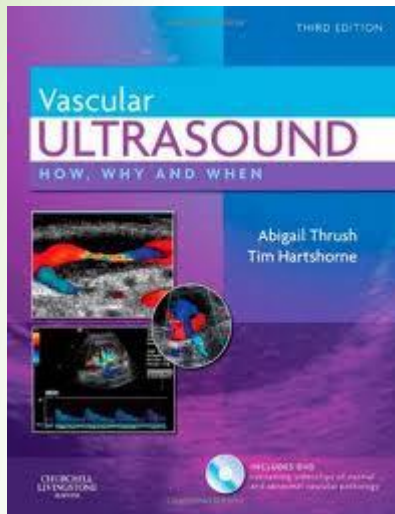
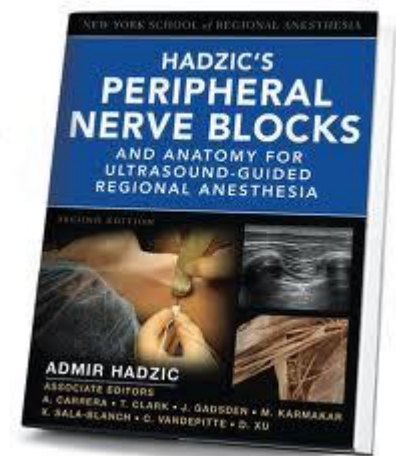
disclosed no conflict of interest.



ICONE

Musculoskeletal Ultrasound

- US Cuff /bursa
- Knee Bakers Cyst
- Knee Tendinitis



© MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. ALL RIGHTS RESERVED.



Ultrasound positions prone , supine , hyperflexion



Tendon imaging

MRI

vs

MSU

Static

Dynamic

Overview

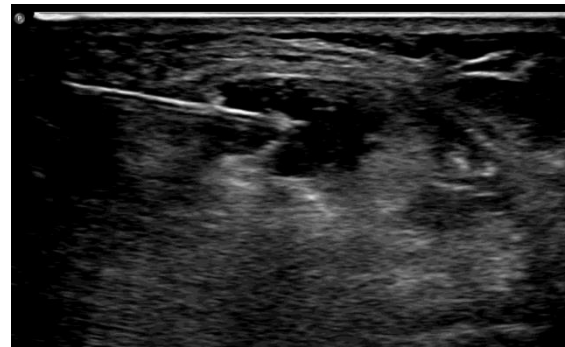
Focus

Recognition

Learning curve

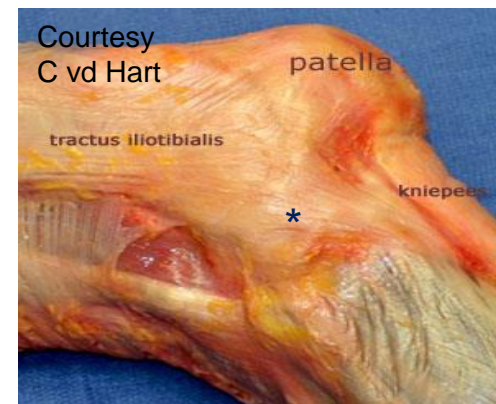
Less detail

Interactive



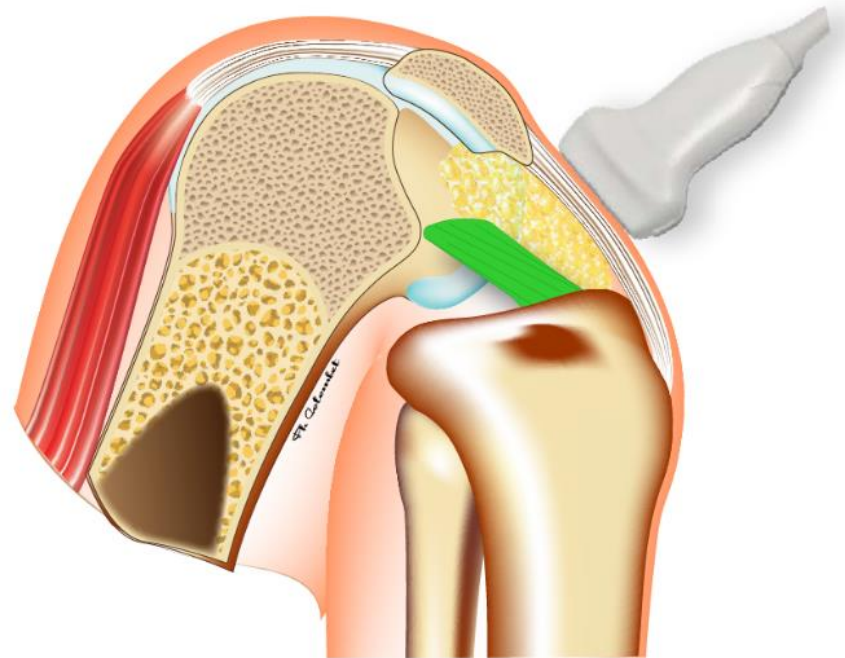
Relative value of MRI sports injury

- KSSTA 2017 MRI is not reliable in diagnosing of concomitant anterolateral ligament and anterior cruciate ligament injuries of the knee
- BM. Devitt et al AUS
- KSSTA 2017 High prevalence of Segond Avulsion in MS ultrasound not found with MRI
- Klos , Konijnenberg NL



Sport tendon injuries

- Achilles tendon
- Patella tendon
- Pes anserinus



Pes anserinus tendino/bursitis

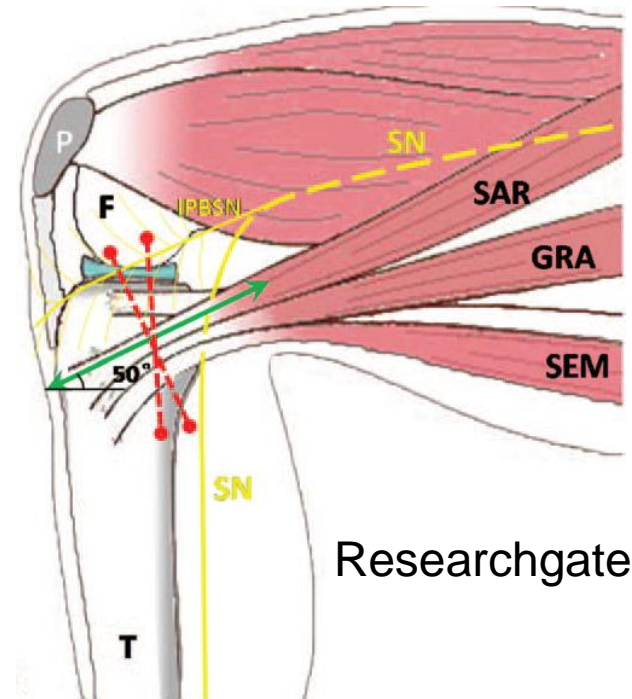
IA pathology (hydrops)

Osteofyt impingement

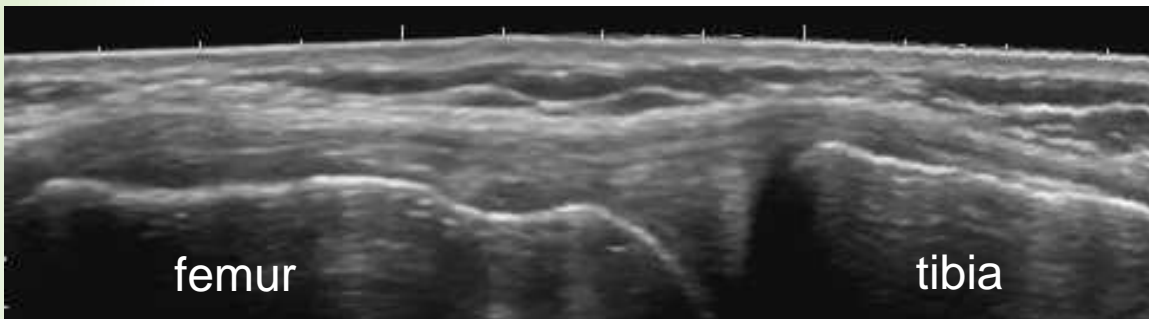
Endotorsion

/Hyperpronation /

Overload



Researchgate.net



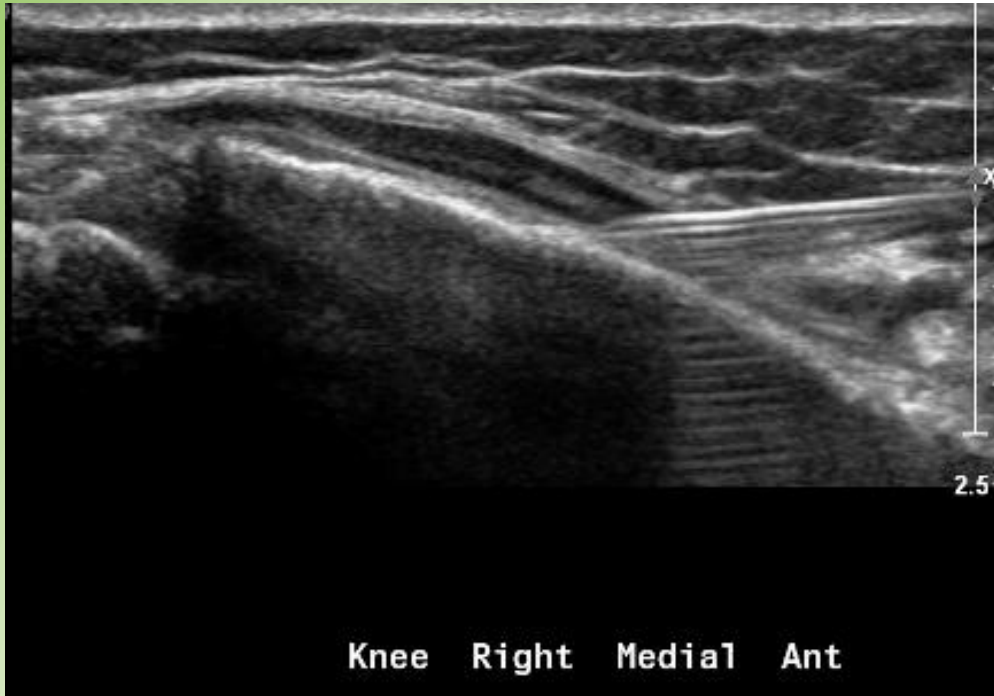
Ultrasound injection

- Image-guided versus blind corticosteroid injections in adults with **shoulder pain**: A systematic review
- Edmund Soh 2011 BMC
- statistically significant greater improvement in shoulder pain and function at 6 weeks after injection with MS Ultrasound
- **Sinus tarsi** US guided injections Mayo Clinic 2010
- MSU 90 % accurate
- Blinded injections 35 % accurate
- J of Clinical ultrasound 2018
- **Pes anserinus bursa** injection :
- Blind versus US guided injection
- 4/ 22 accurate placement in blind .

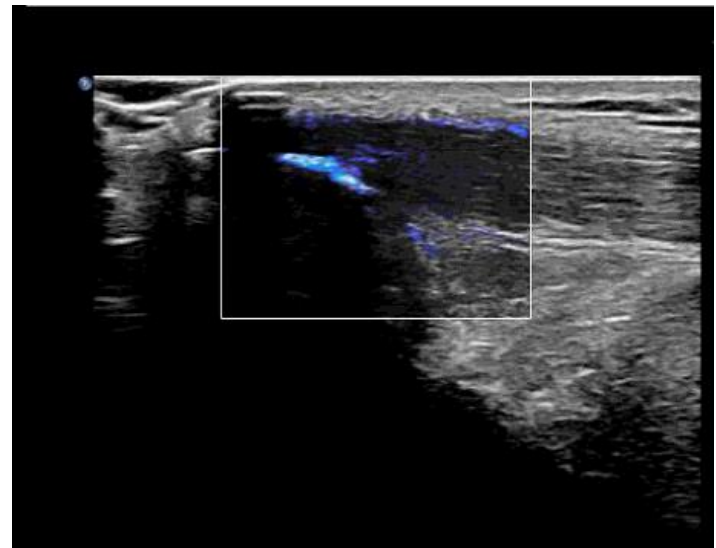
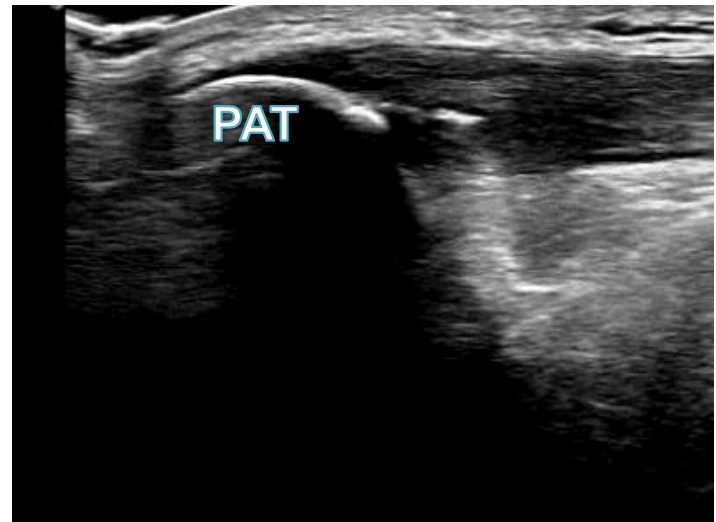


© MAYO FOUNDATION FOR MEDICAL EDUCATION AND RESEARCH. ALL RIGHTS RESERVED.

Pes anserinus bursa injection

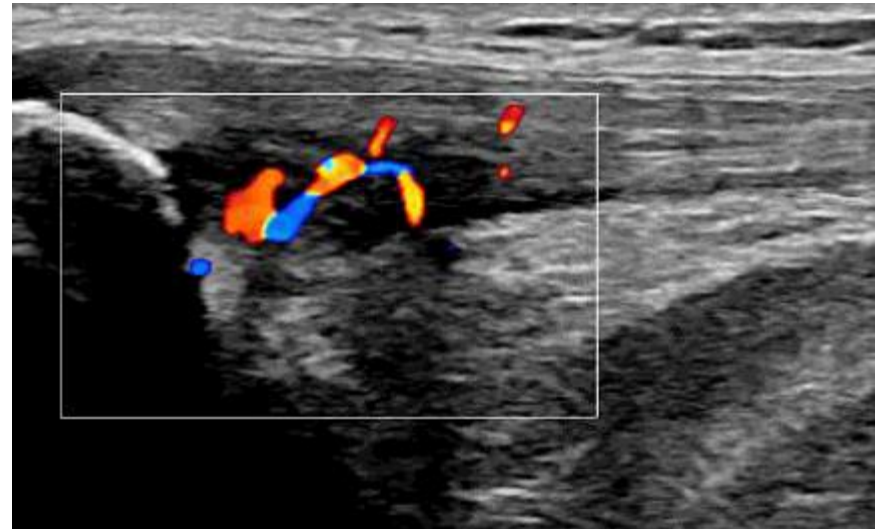
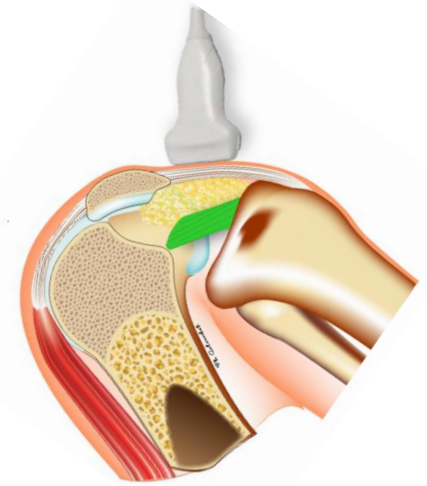


Patella tendinopathy

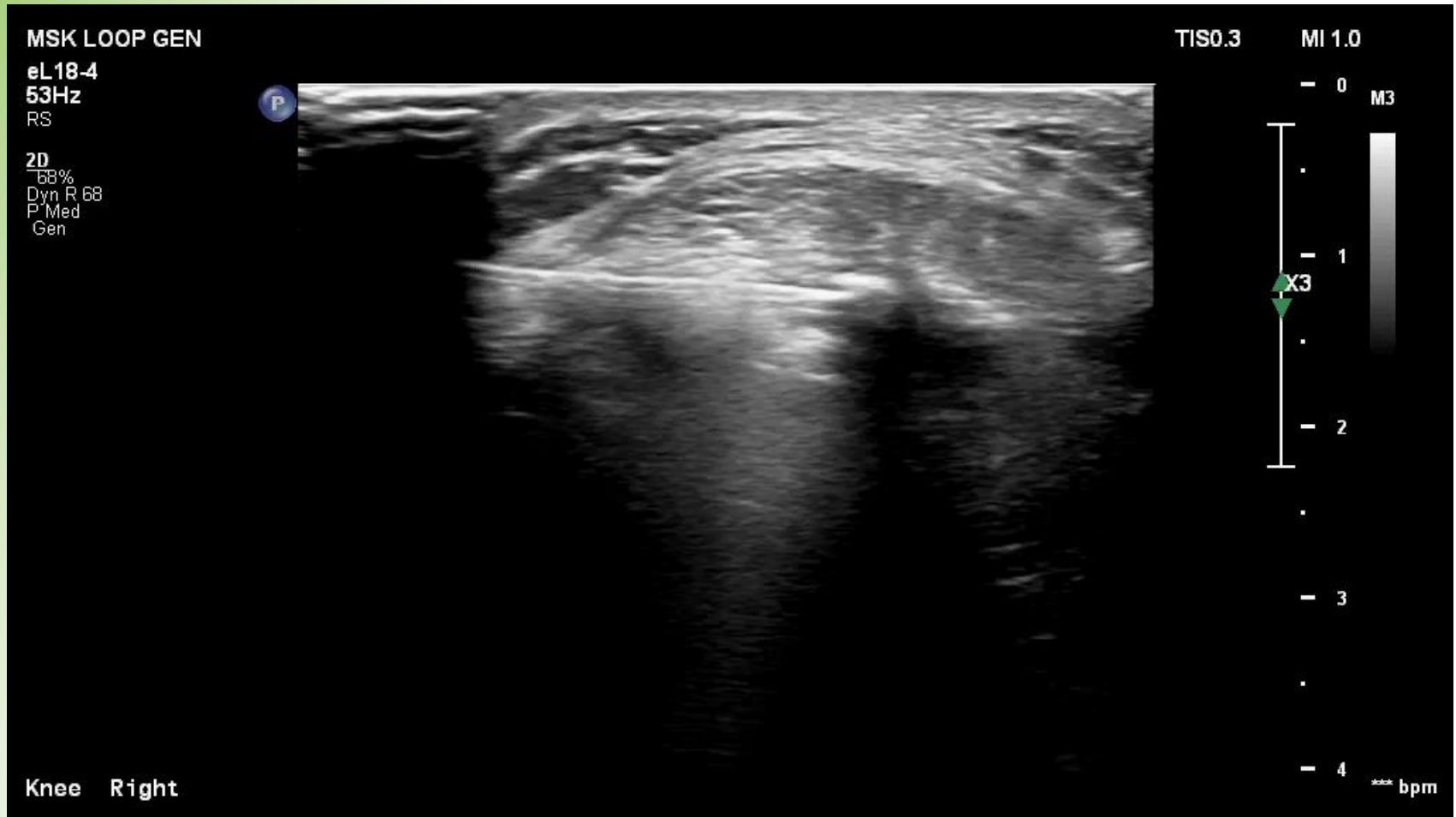


Patella tendinopathy

- Tendon vs subtendon pathology
- Mechanic impingement
- Bone to tendon (in flexion)
- Bursitis , Hoffa inflammation, calcification



Patella tendon calcification

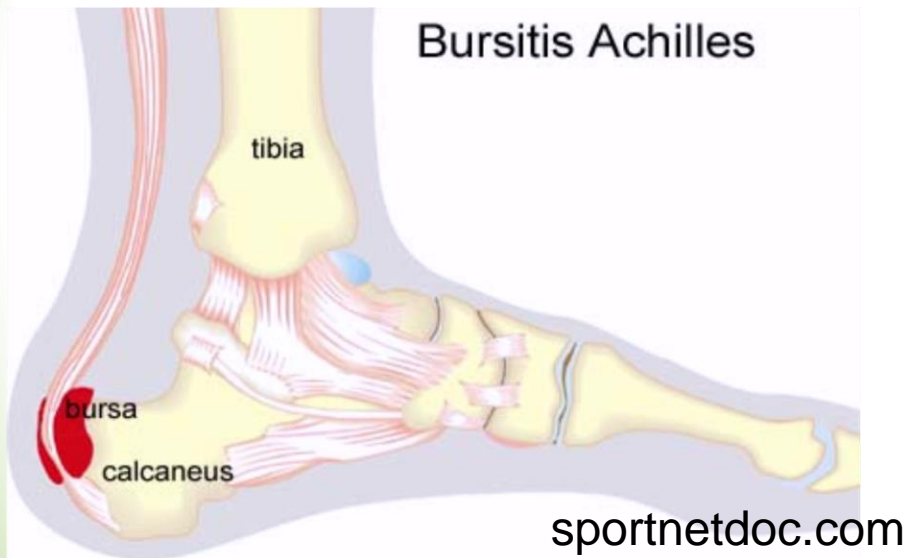


Achilles tendon pathology

1. Achilles tendinitis
2. Achilles partial degenerative rupture
3. Achilles tendon insertional tendinopathy
4. Haglund exostosis bone impingement
5. Bursitis
6. Retrocalcaneal bursitis
7. Posterior ankle impingement



Achilles tendon

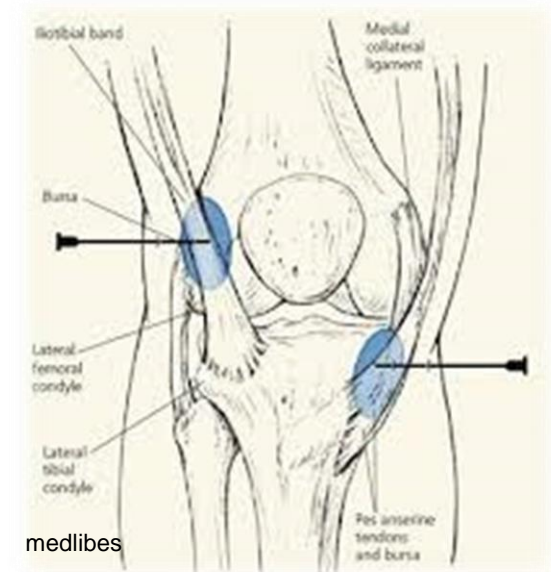


Achilles tendon bursa



Post operative/ rehab imaging

- Pes anserinus?
- Healing meniscus/ligament ?
- For this problem MRI is less helpful in the short term (0-2 months)
- We use dynamic HR ultrasound if there is any problem in rehab.



Conclusion

- Dynamic HR ultrasound useful for tendon pathology especially :
 - Patella tendinopathy with injection / barbotage
 - Bursa injection : interactive diagnosis and treatment.
 - Monitoring healing /conservative treatment