

Morpho-functional approach of shoulder and elbow ultrasound in 12 scan planes

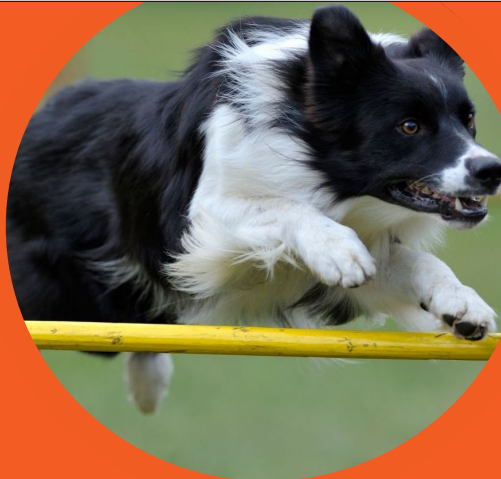
PART 2 Biceps-Subscapularis



Diagnostic Mindset

Thank to www.imaio.com

Giliola Spattini
DVM, PhD, DECVDI



Gross anatomy of the shoulder

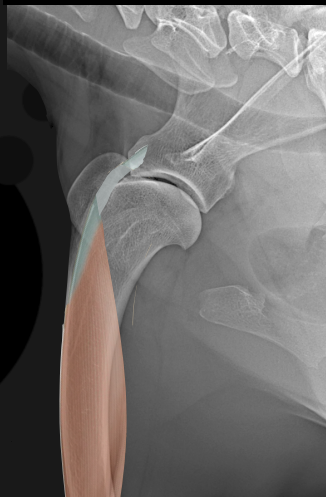
- Deltoidaeus
- Infraspinatus
- Teres Major
- Triceps
- Supraspinatus
- Biceps Brachii
- Subscapularis
- Brachialis



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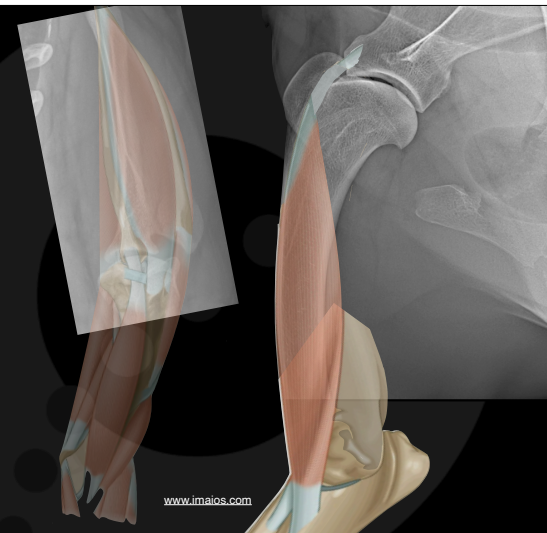
The biceps muscle

- A weak medial stabiliser of the shoulder
- Connect shoulder and elbow

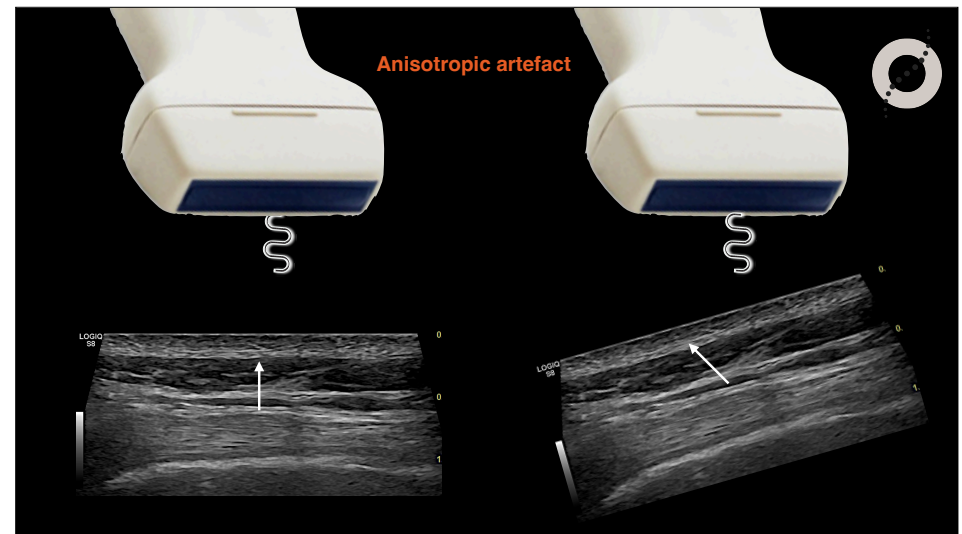
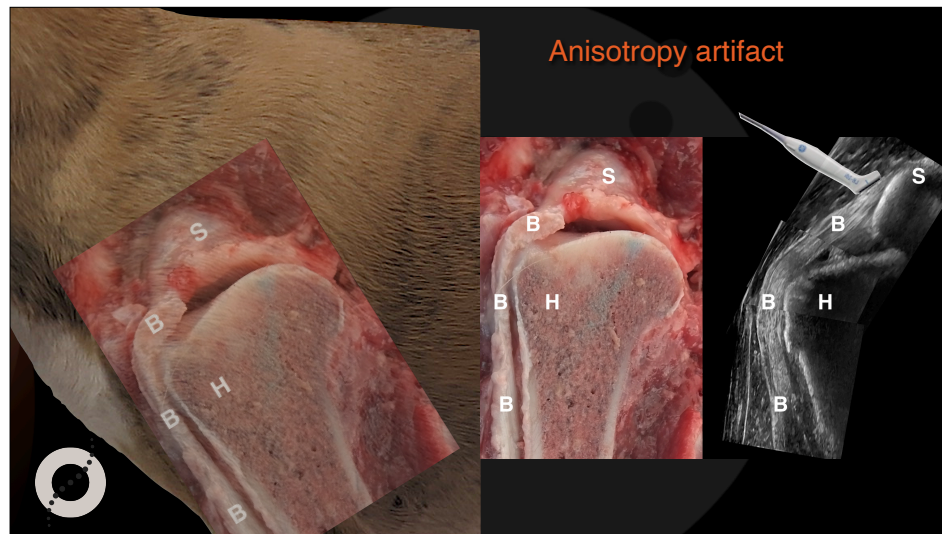


The biceps muscle

- Connect shoulder and elbow
- Flex the elbow and extend the shoulder



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Ultrasound of the normal canine supraspinatus tendon: comparison with gross anatomy and histology

Caroline Chloe Lassaigne¹, Charlotte Boyer², Lucile Sautier³, Olivier Taeymans¹

Veterinary Record (2019) doi:10.1136/vetrec-2019-105552

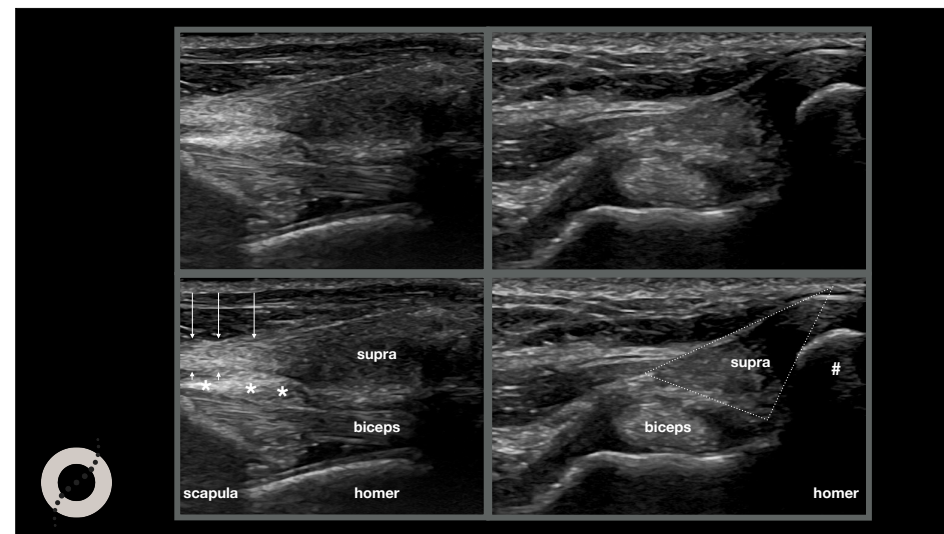
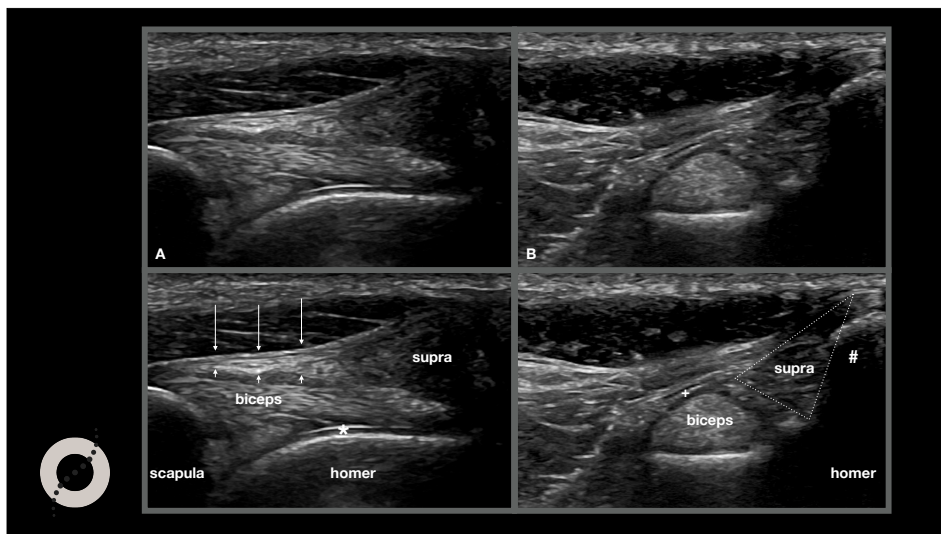
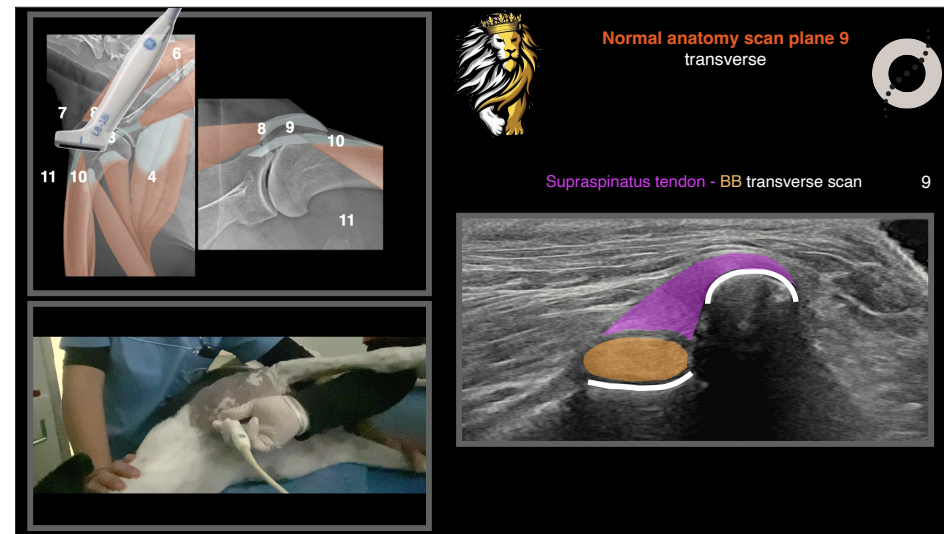
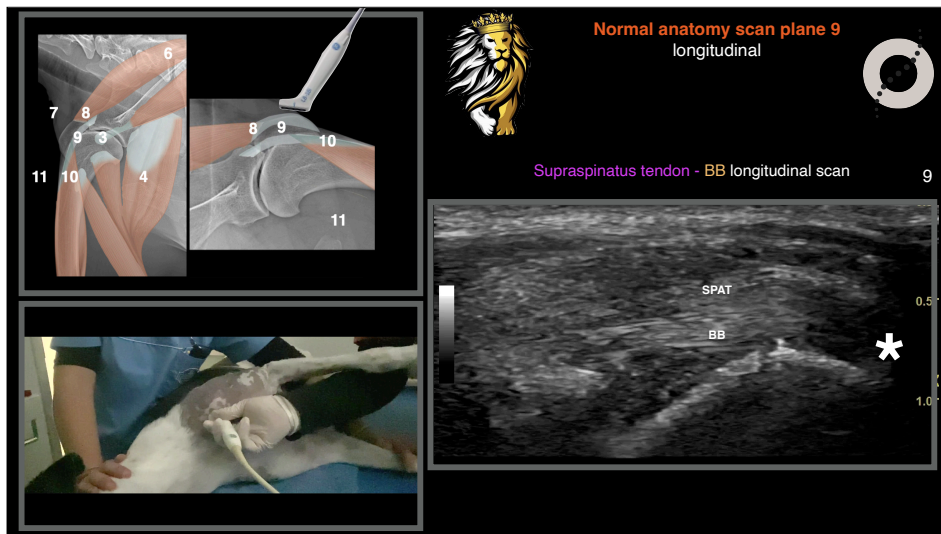
Supraspinatus tendon sustains 4,6 times the patient body weight during trot

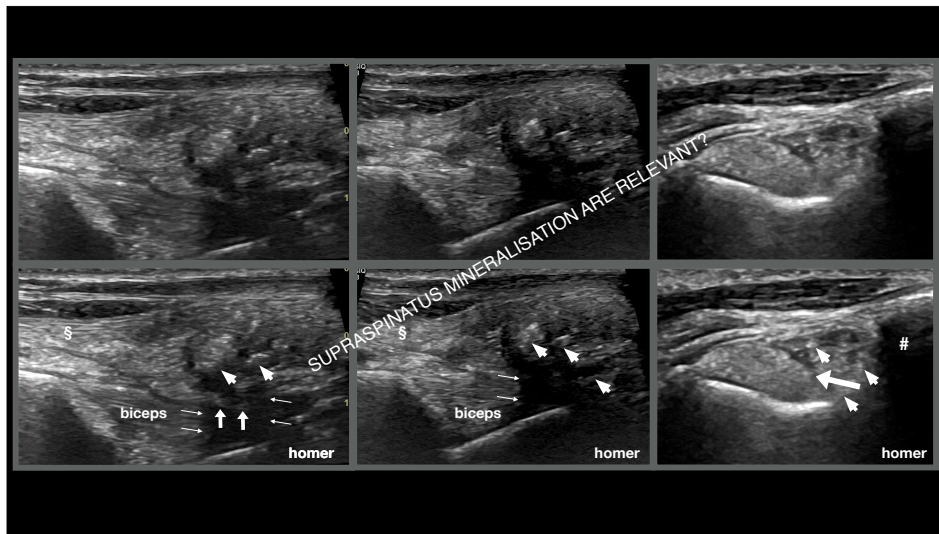
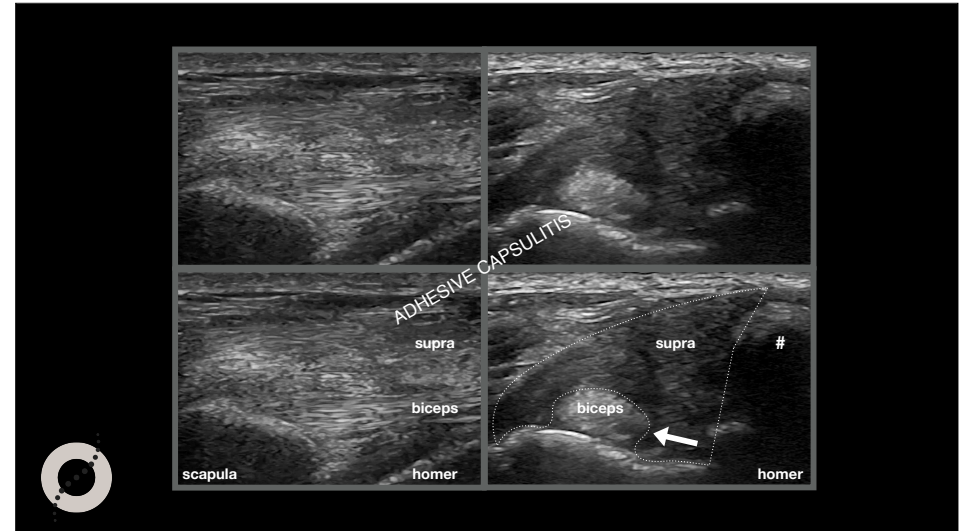
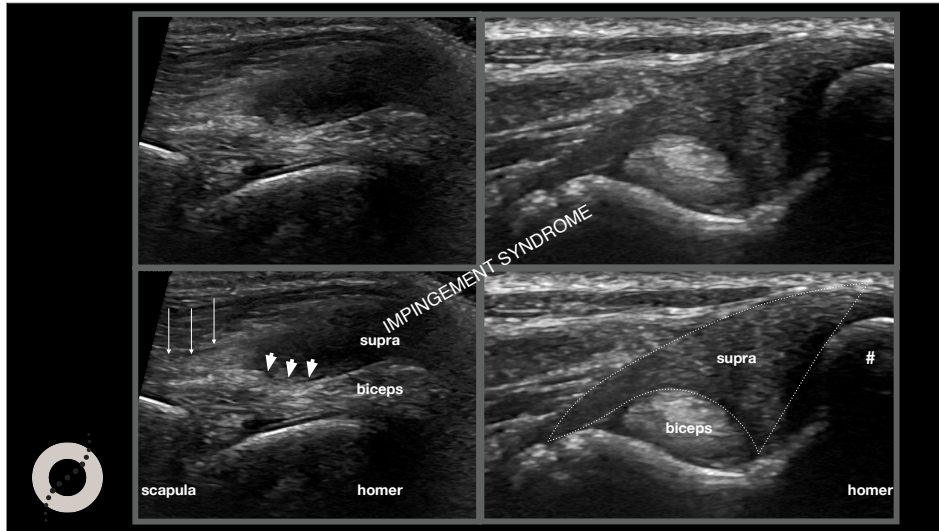
There are few nervous terminations

Chronic supraspinatus tendinopathy in sportive dogs

- Repetitive traumas results in hemorrhages that mineralise
- The patient is usually asymptomatic but the tendon diameter increases
- The end result is an impingement syndrome on the adjacent biceps tendon

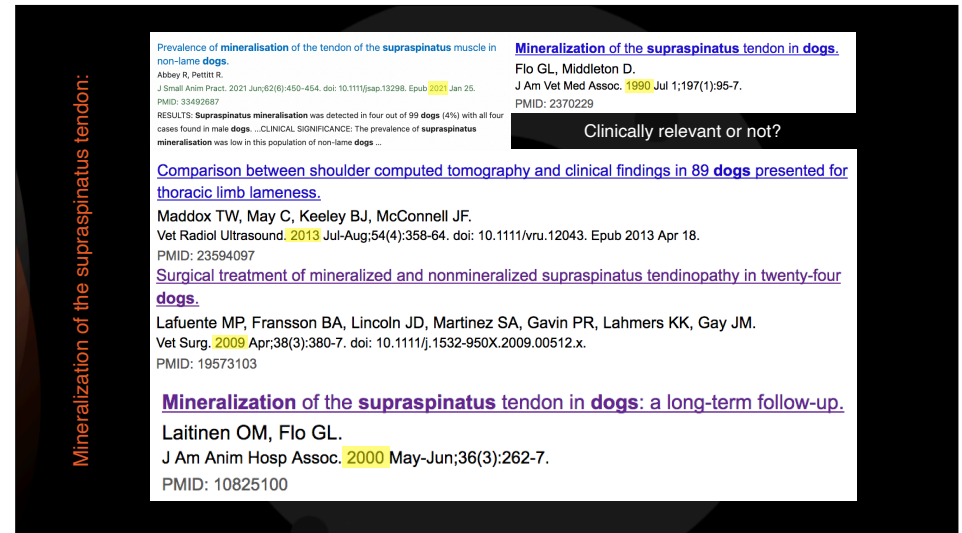
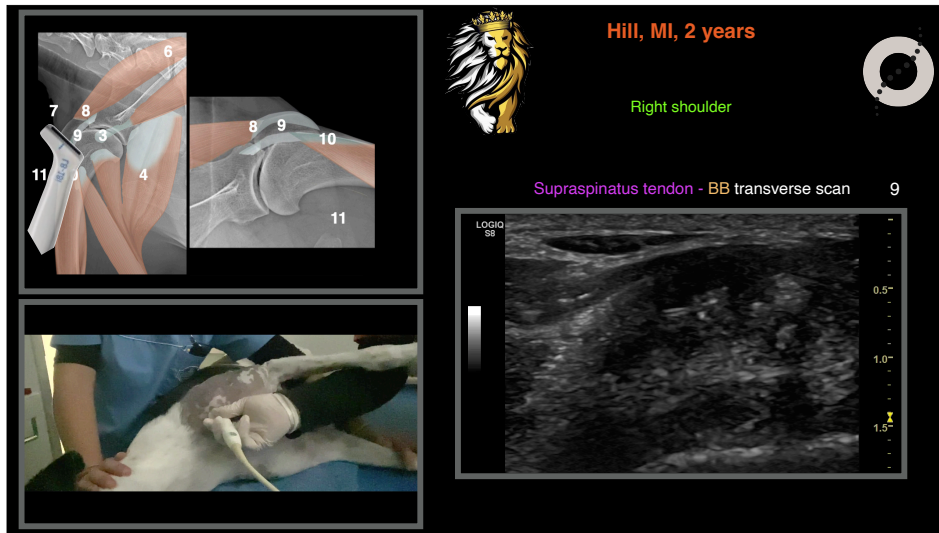
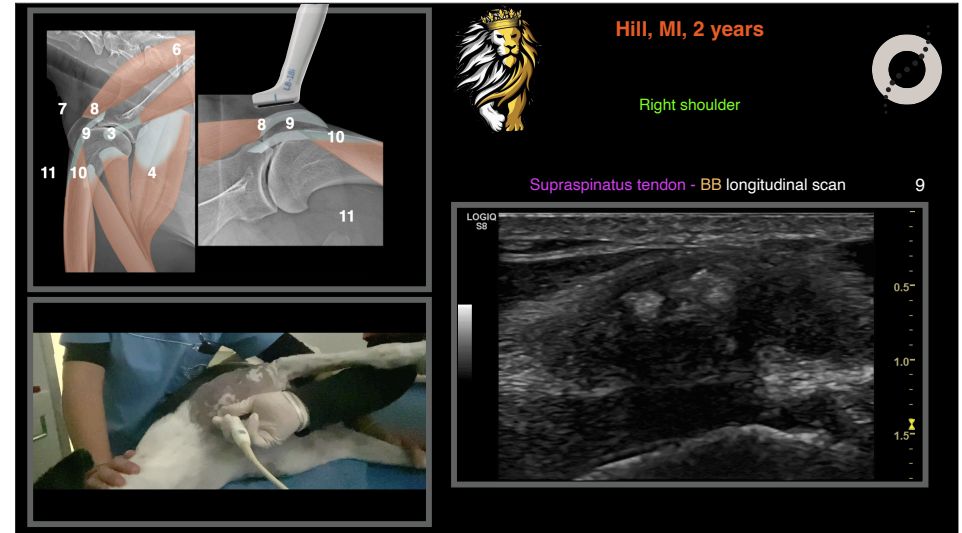
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Hill, German Shepherd, MI, 2 years

- Left front lameness from 2 weeks
- Last year right front lameness
- Doesn't respond to NSAID



Hill, MI, 2 years

Left shoulder

Supraspinatus tendon - BB longitudinal scan

Adhesive Capsulitis in Eight Dogs: Diagnosis and Management.
 Carr BJ, Canapp SO, Canapp DA, Gamble LJ, Dycus DL.
 Front Vet Sci. 2016 Jul 14;3:55. doi: 10.3389/fvets.2016.00055. eCollection 2016.
 PMID: 27471728 **Free PMC Article**

Patient	Radiographs	Ultrasound	MRI	Arthroscopy	Cytology and histopathology
1	Normal	Supraspinatus disruption; biceps tendon sheath effusion	Marked joint effusion and synovitis; damage to the supraspinatus tendon and medial glenohumeral ligament	Biceps tendinopathy; impingement of the biceps tendon; fraying and disruption of the subacromial and of the MGL; disruption of joint capsule; grade III/IV cartilage erosion along the caudal humeral head and glenoid. RF treatment was performed	Mild mononuclear inflammation (70% large mononuclear cells and 24% small mononuclear cells) Negative culture

Hill, German Shepherd, MI, 2 years

Ultrasonographic diagnoses:

- Right supraspinatus mineralisation and chronic tendinopathy
- Left sclerosing capsulitis with adhesions

What next?

Laser

Shock waves

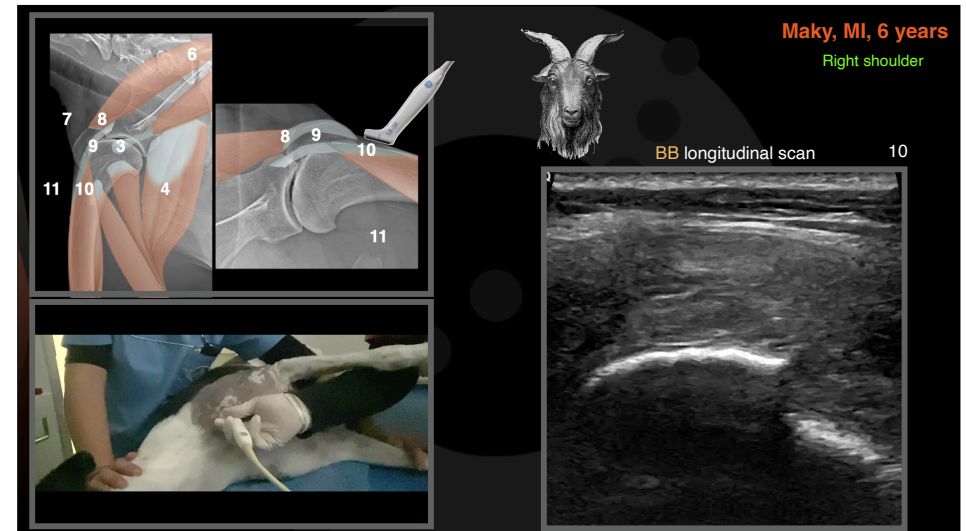
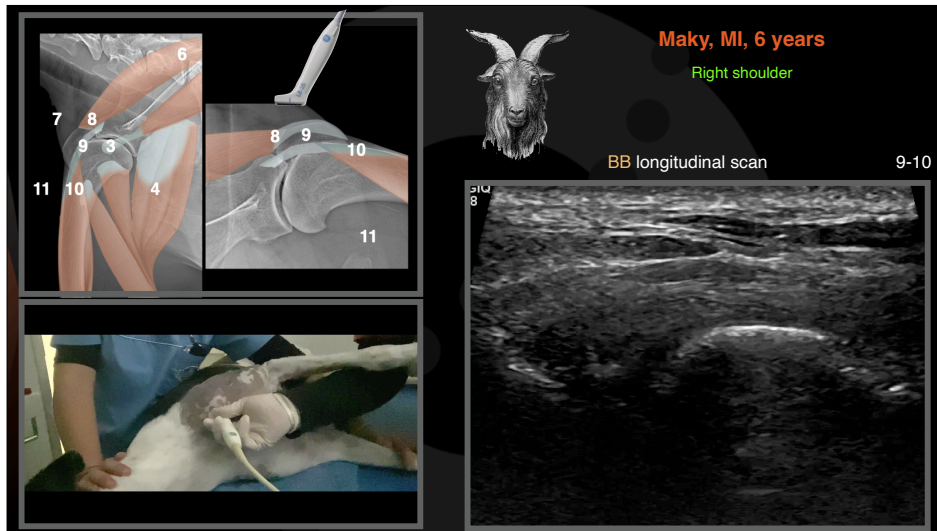
Manual treatment

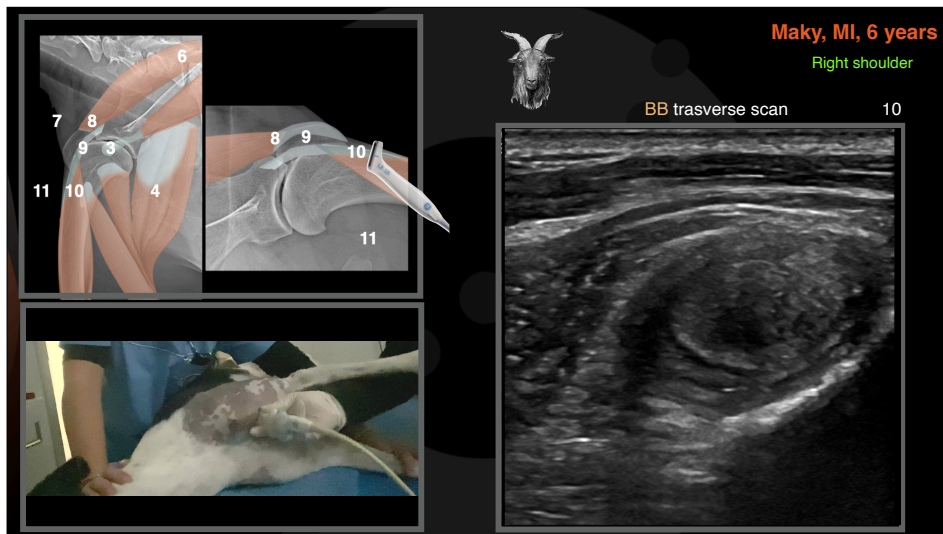
Maky, Drahthaar, MI, 6 years

- Started to limp at the end of last hunter season
- Recovered
- After work, recurrent lameness when resting

Maky, Drahthaar, MI, 6 years

- On physical examination pain on the extension of the right shoulder
- Increased right shoulder ROM





Maky, Drahthaar, MI, 6 years

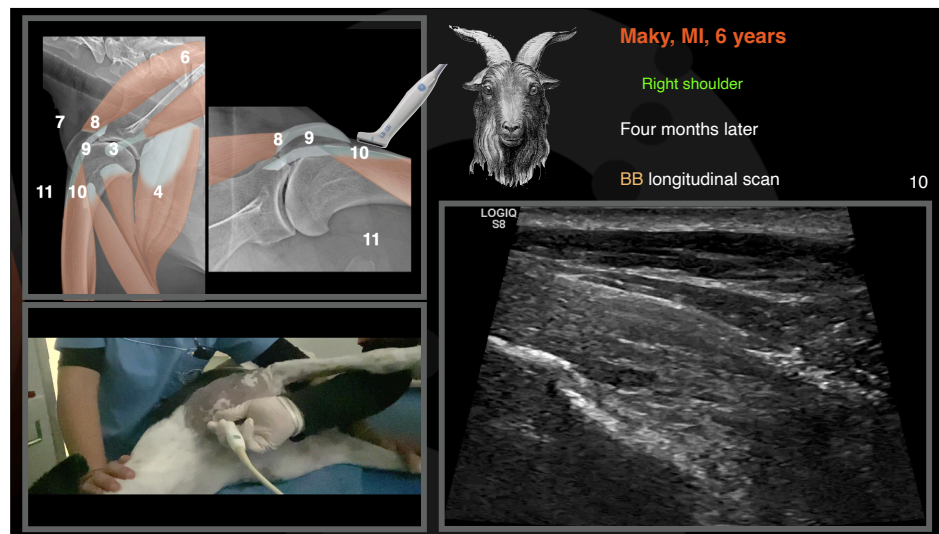
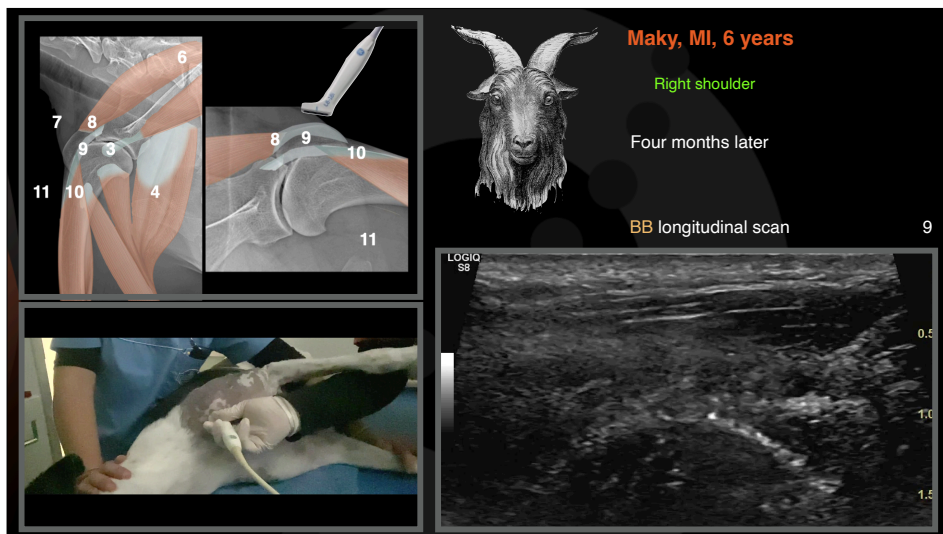
Ultrasonographic diagnoses:

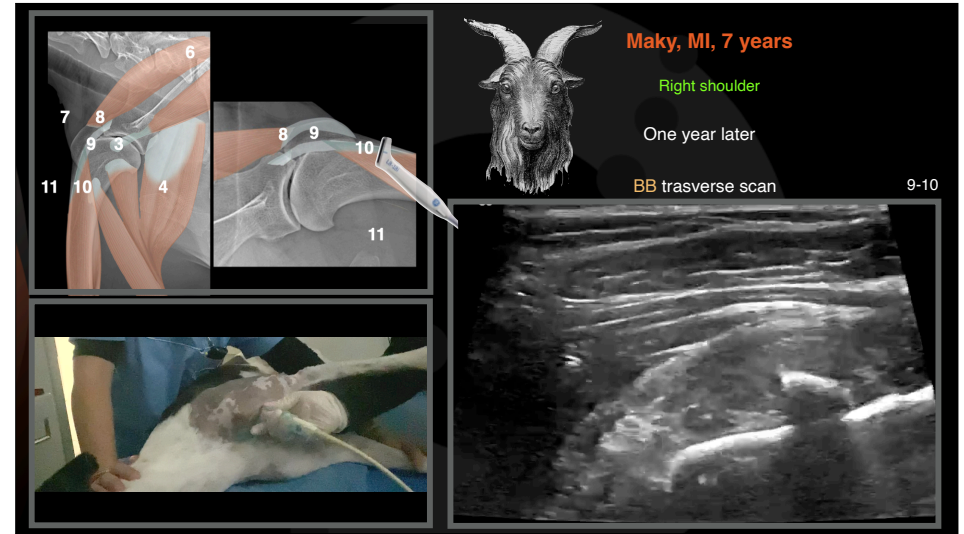
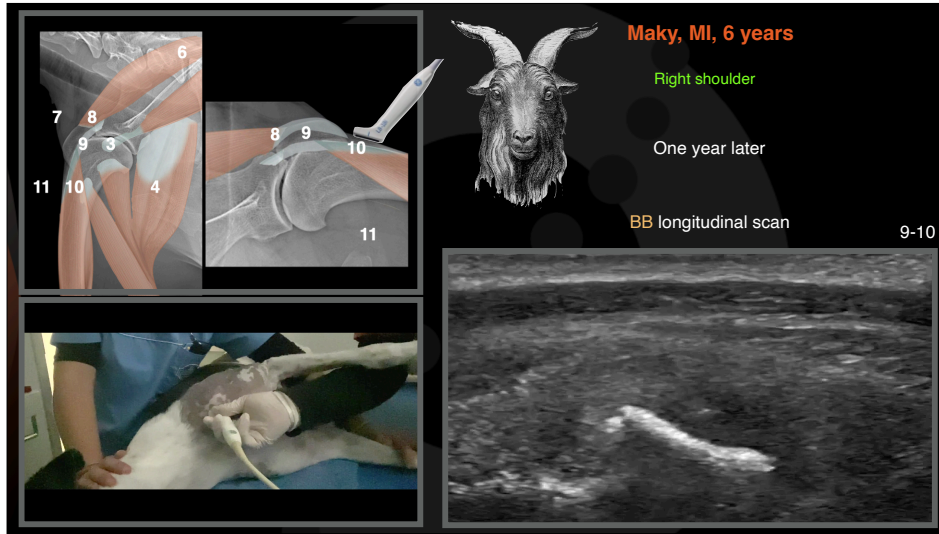
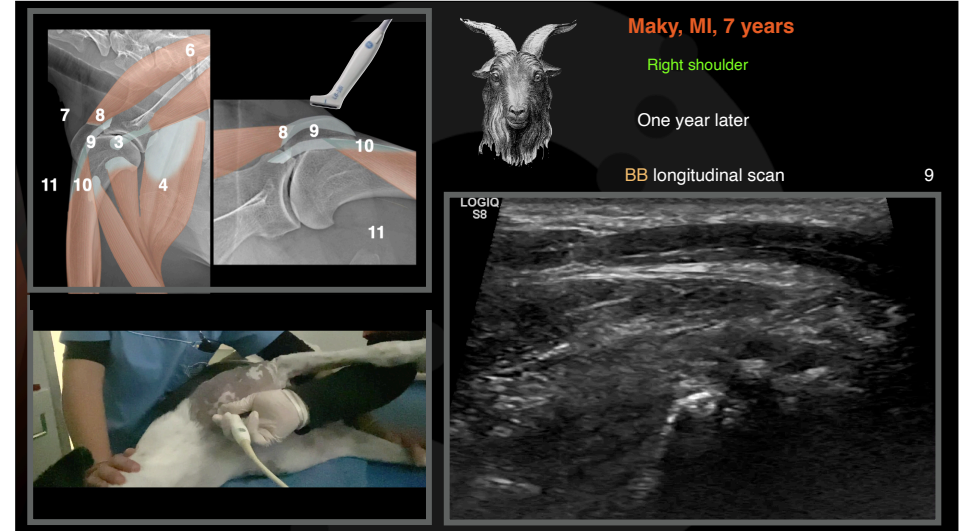
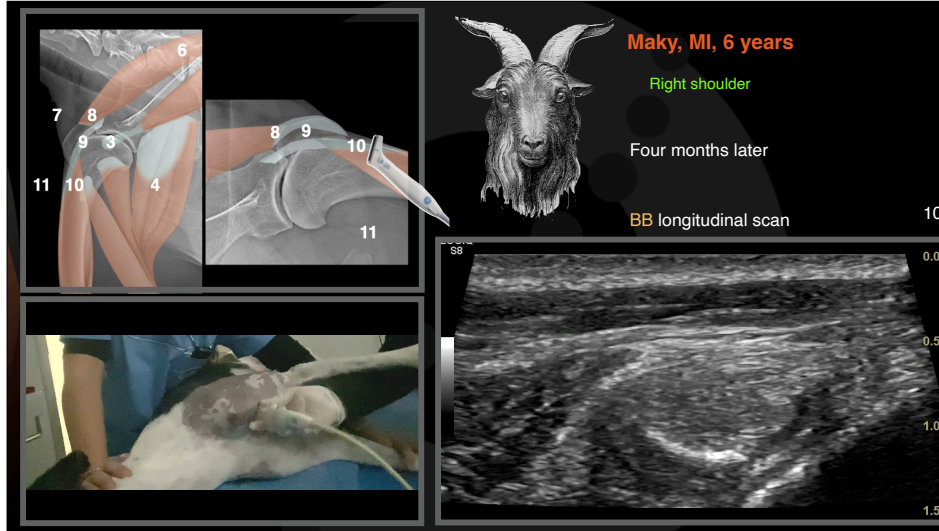
- Chronic and acute avulsion fracture of the right supraglenoid tubercle
- Partial right BB tendon avulsion
- Third degree tendinopathy right BB tendon

Conclusions

Consider right BB tendon resection

Consider consultation with a sport medicine specialist



Maky, Drahthaar, MI, 6 years

Ultrasonographic diagnoses:

- Chronic third-degree tendinopathy BB tendon
- Tendinous mineralisation
- Moderate shoulder joint OA



Conclusions

He is doing fine

Follow up

Thank you



Diagnostic Mindset

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