

# WEBINAR

## 10 Ways Ultrasound Helped My Equine Veterinary Practice

December 6, 2020



# Your Host



**Genese Castonguay**

Vice President

Clarius Mobile Health

# Christopher Elliott BVSc (hons) DipACVSMR



- Equine Veterinary sports medicine and rehabilitation specialist
- Racing & Sport horse



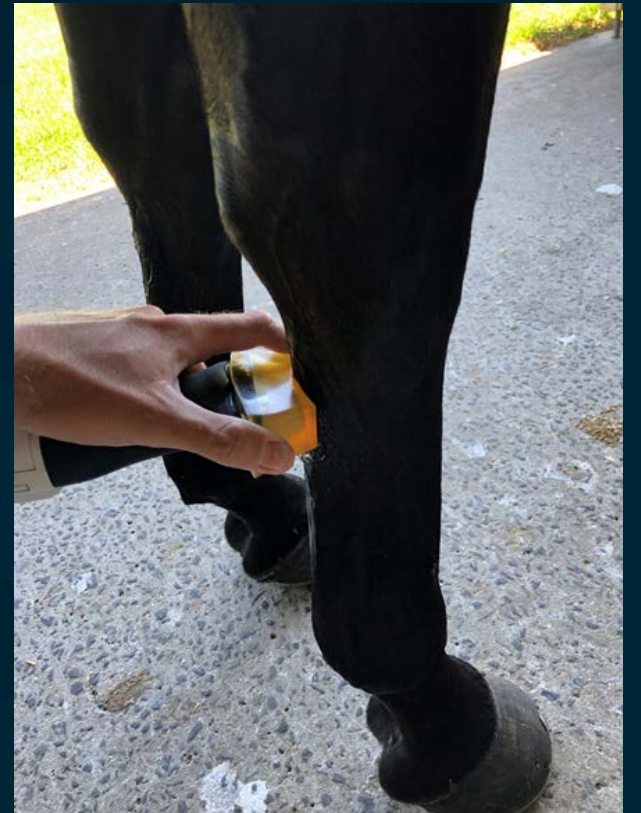
# Making the Most of Scanning the Superficial Digital Flexor Tendon

# Making the Most of Scanning the Superficial Digital Flexor Tendon

Best practice

Set yourself apart from the crowd

- High quality equipment
- High quality images
- High quality reports



# Ultrasound of the Superficial Digital Flexor Tendon (SDFT)

- Palpation
- Preparation
- Scanning Techniques
- Measurements & Recording Images
- Tips for Quality Reports

# Palpation

Always palpate  
weight bearing and  
non-weight bearing



# Palpation

Improve your palpation technique by comparing ultrasound findings to palpation findings





# Preparation

- Sedation
- Clippers
- Gel
- Cloth




# Preparation



# Preparation



# Preparation



15" - 20"

## SCANDroid





The ideal, height-adjustable scan stool for the mobile veterinarian to transport to the job site or for clinic use. The SCANDroid has great stability with a total of 5 castor wheels, 2 of which with a locking device.

The gas spring allows for stageless height-adjustment.


SCANDroid options

**\$565.00**

1

Pay safe with:    

# Preparation



Q

## SCANster

The optimal ultrasound solution for creating the ideal working height at all times. Especially designed for the portable ultrasound. An optional Proberack can be ordered to store a total of 2 ultrasound probes, gel bottle and Standoff PAD.

SCANster options

SCANster

CLEAR

**\$895.00**

1

ADD TO CART


Pay safe with:

VISA Mastercard American Express

- ✓ Global leader of accessories for every X-ray system
- ✓ Worldwide delivery
- ✓ Excellent customer service

Category: Ultrasound Solutions | Item number: VS-1045221010

# Preparation







**NewCart**

Durable, in height adjustable cart for all small and big machines or equipment. Accomodated with gas spring for variable, stageless height-adjustment and storage space in bottom reservoirs. Easy transport position with the pull-out handle, easy storage in vertical position. The optional Proberack can also be ordered separately.

NewCart options  CLEAR

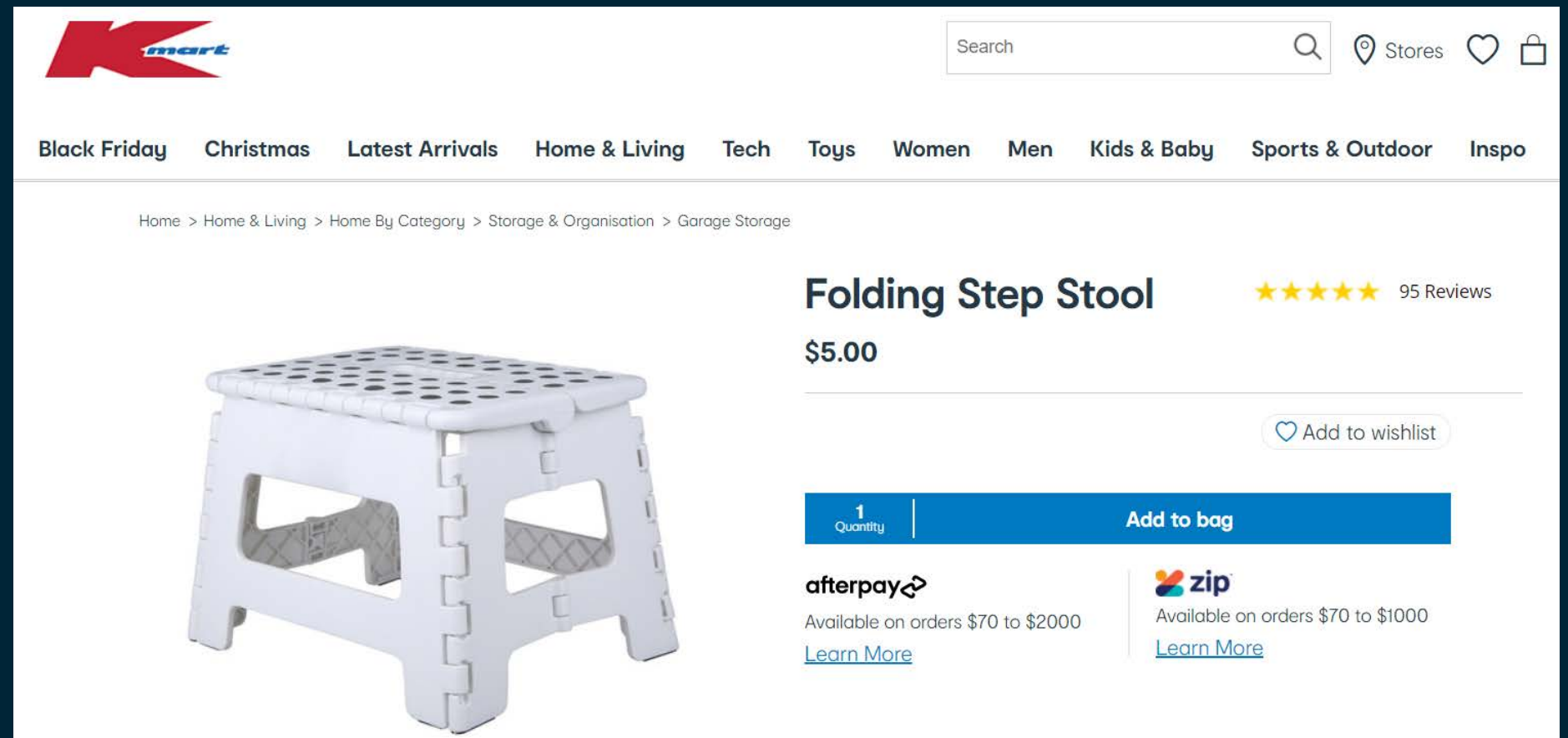
**\$1,865.00**

1

Pay safe with:    

- ✓ Global leader of accessories for every X-ray system
- ✓ Worldwide delivery
- ✓ Excellent customer service

# Preparation



The screenshot shows a Kmart product page for a white folding step stool. The page includes a search bar, navigation links for various categories, and a breadcrumb trail. The product is priced at \$5.00 and has a 5-star rating from 95 reviews. There are buttons for 'Add to wishlist' and 'Add to bag'. Financing options for 'afterpay' and 'zip' are also displayed.

**Kmart** Search Stores Heart Shopping Bag

[Black Friday](#) [Christmas](#) [Latest Arrivals](#) [Home & Living](#) [Tech](#) [Toys](#) [Women](#) [Men](#) [Kids & Baby](#) [Sports & Outdoor](#) [Inspo](#)

[Home](#) > [Home & Living](#) > [Home By Category](#) > [Storage & Organisation](#) > [Garage Storage](#)

## Folding Step Stool

★★★★★ 95 Reviews

**\$5.00**

[Add to wishlist](#)

1 Quantity [Add to bag](#)

**afterpay**  
Available on orders \$70 to \$2000  
[Learn More](#)

**zip**  
Available on orders \$70 to \$1000  
[Learn More](#)

# Preparation

- Be ergonomic
- Be comfy





# Preparation

- Clip leg
- Wipe clean
- Gel

PROPER  
PREPARATION  
PREVENTS  
PISS POOR  
PERFORMANCE



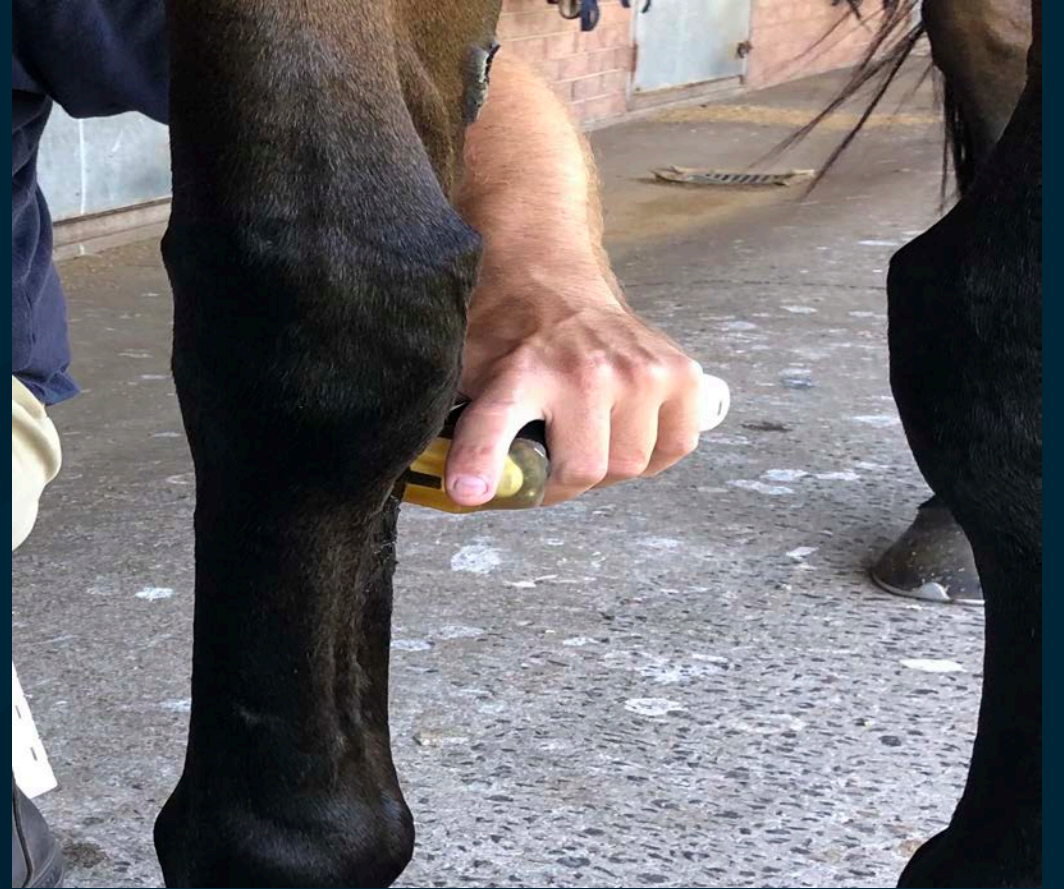
# Preparation

- Set up machine



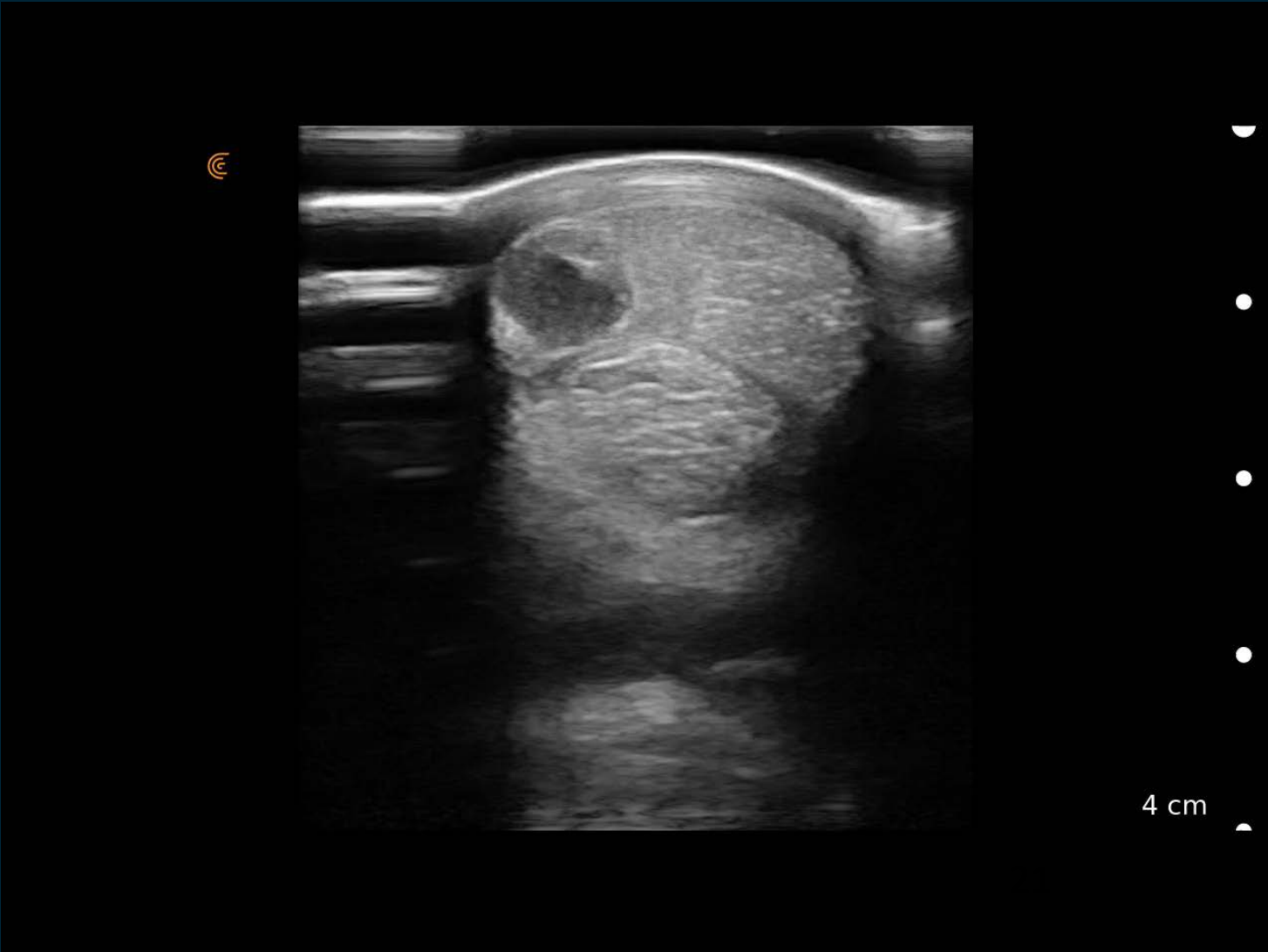
# Scanning Technique

- Top to bottom
- Systematic
  
- Start with a preliminary survey scan
- Representative images at regular intervals
- Lesion orientated images
- Cross Section and Longitudinal



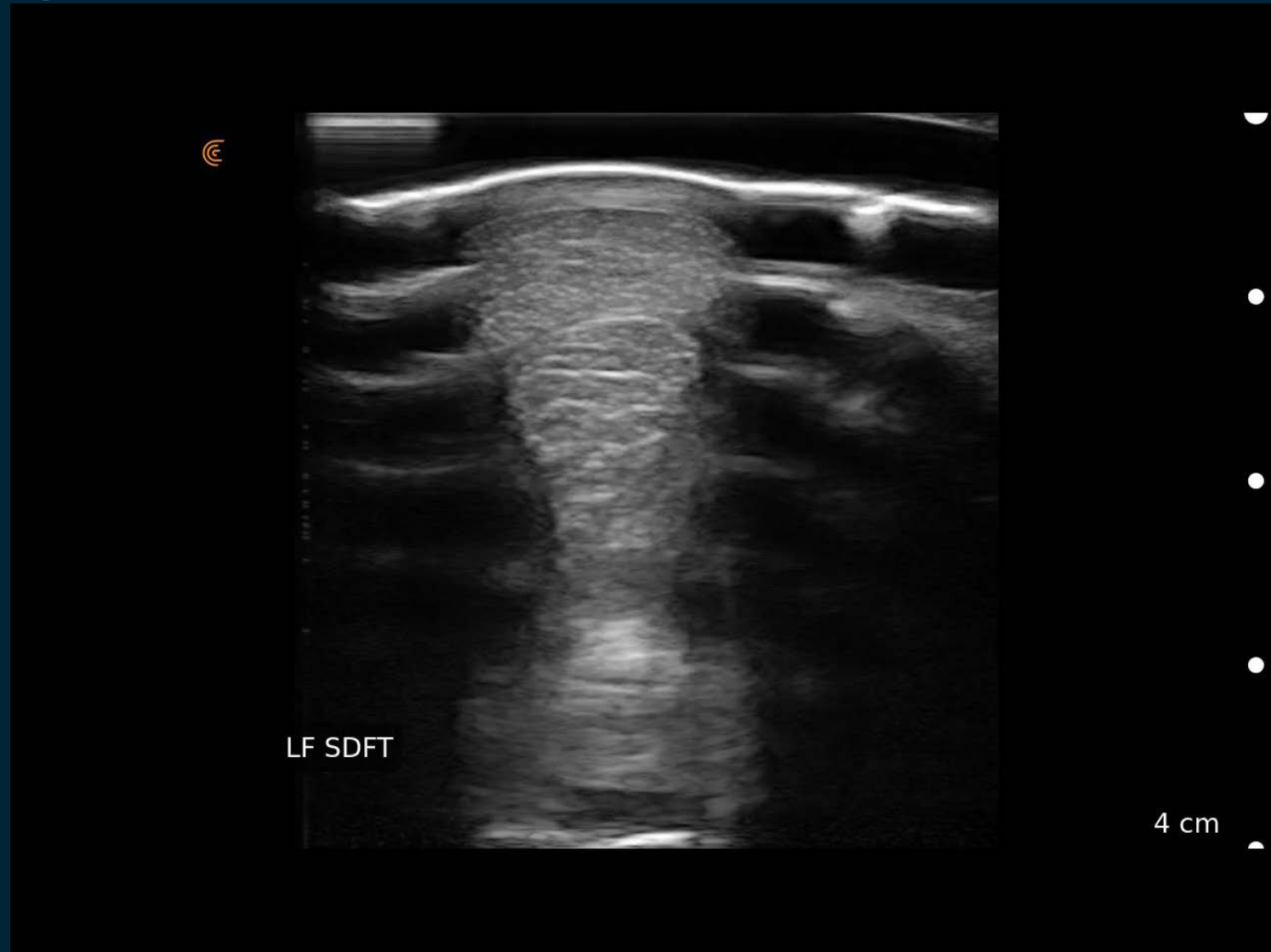
# Scanning Technique

4yo TB  
Racehorse



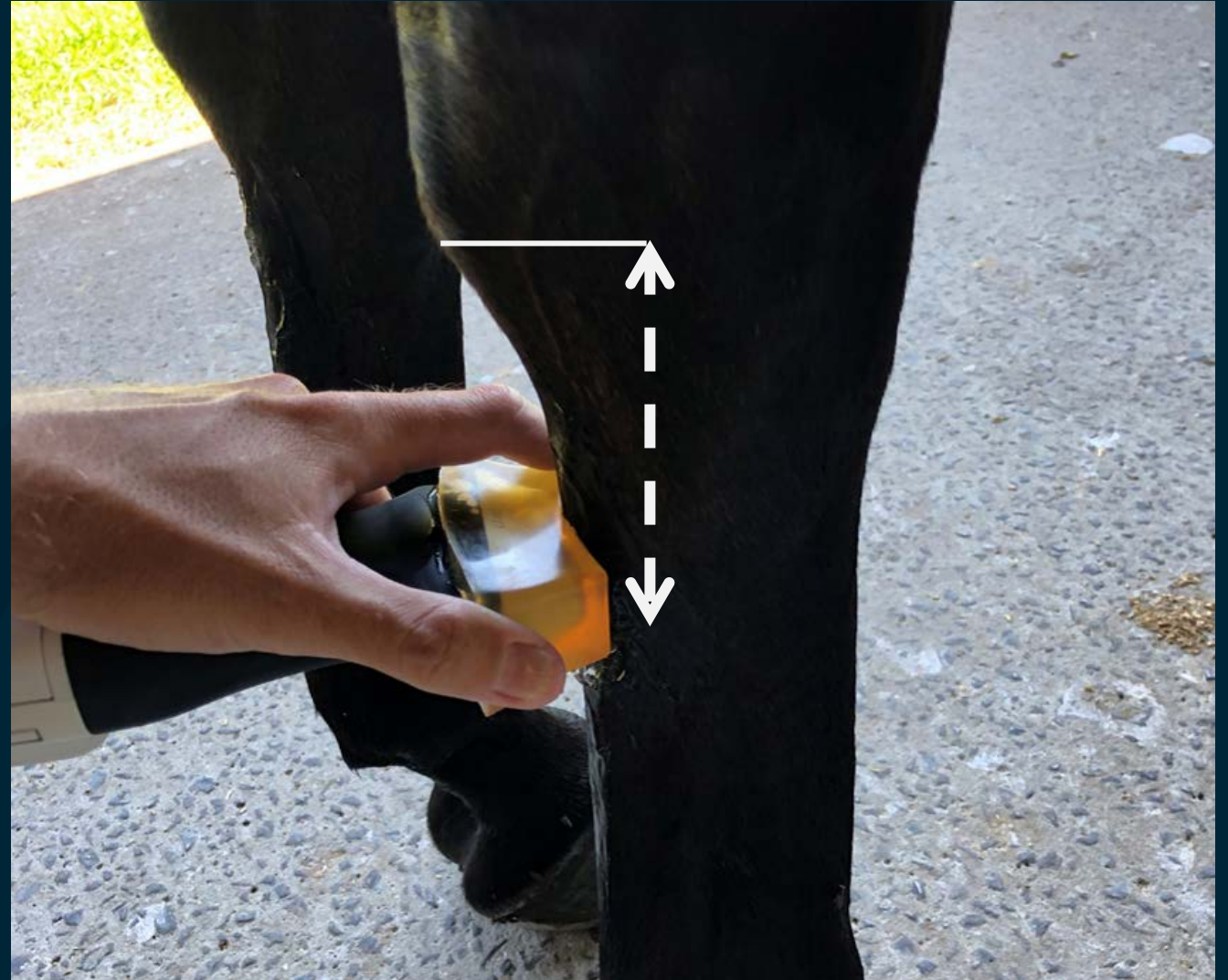
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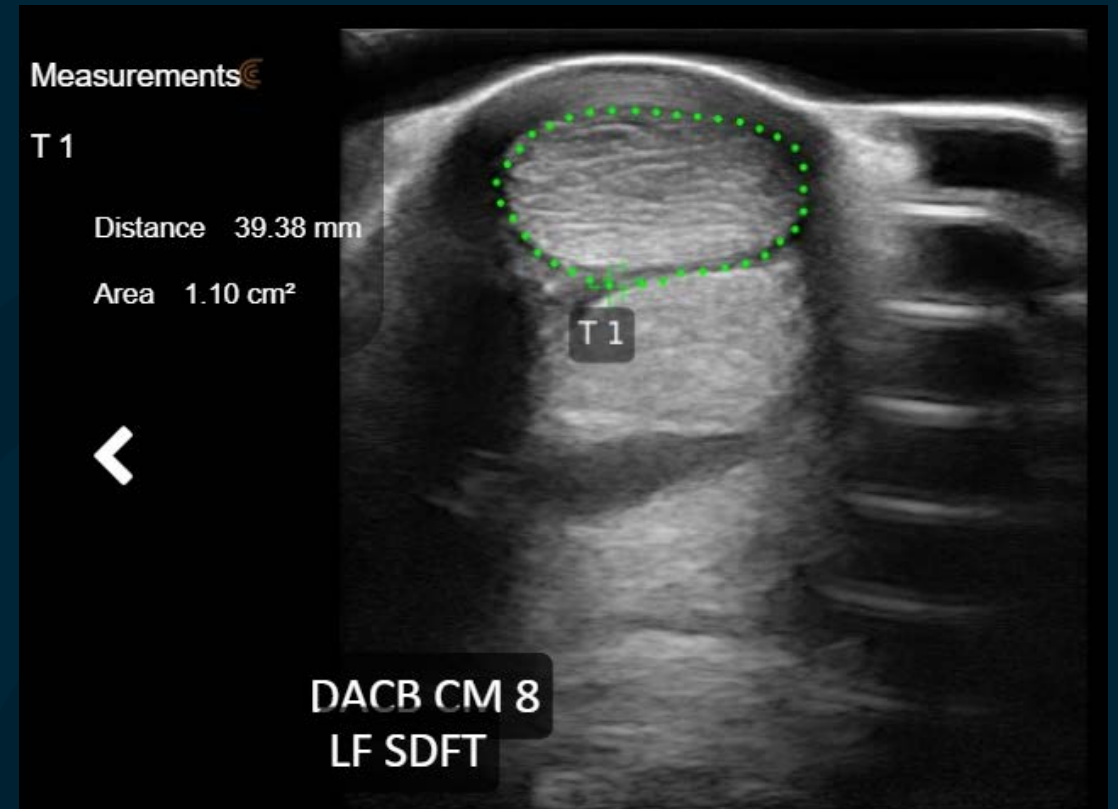


# Measure and Record

- Measure and record every 2-4cms distal to the accessory carpal bone

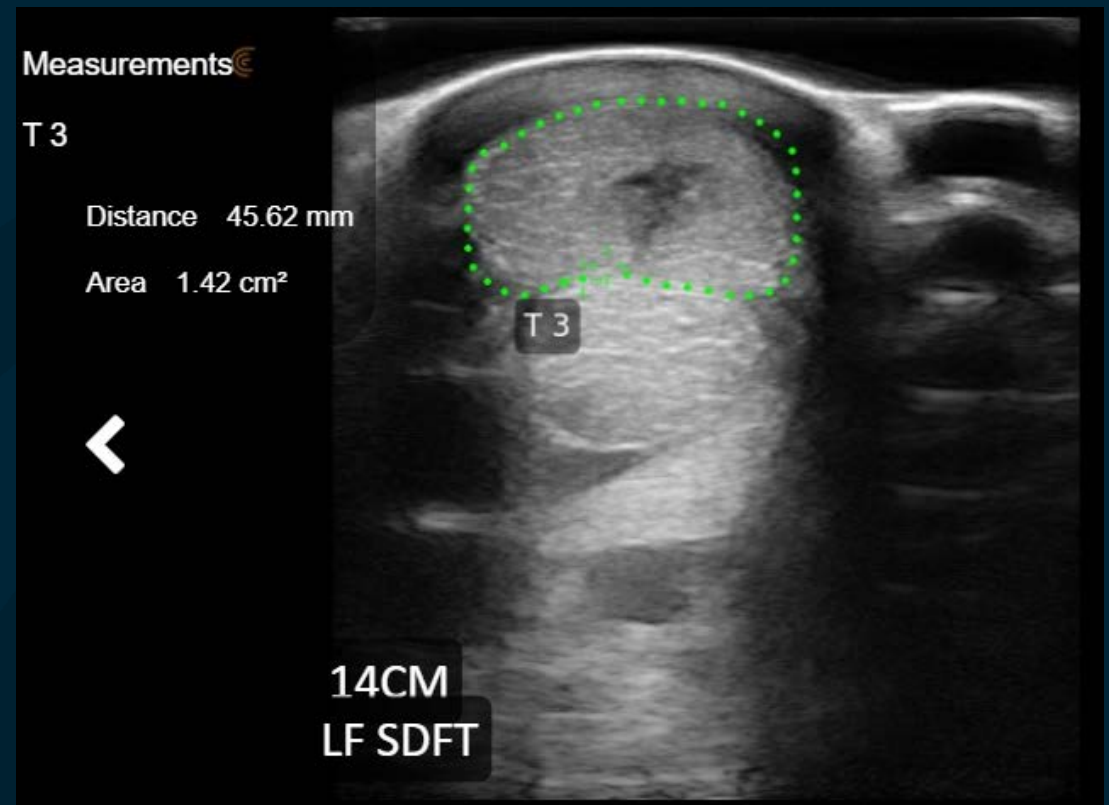
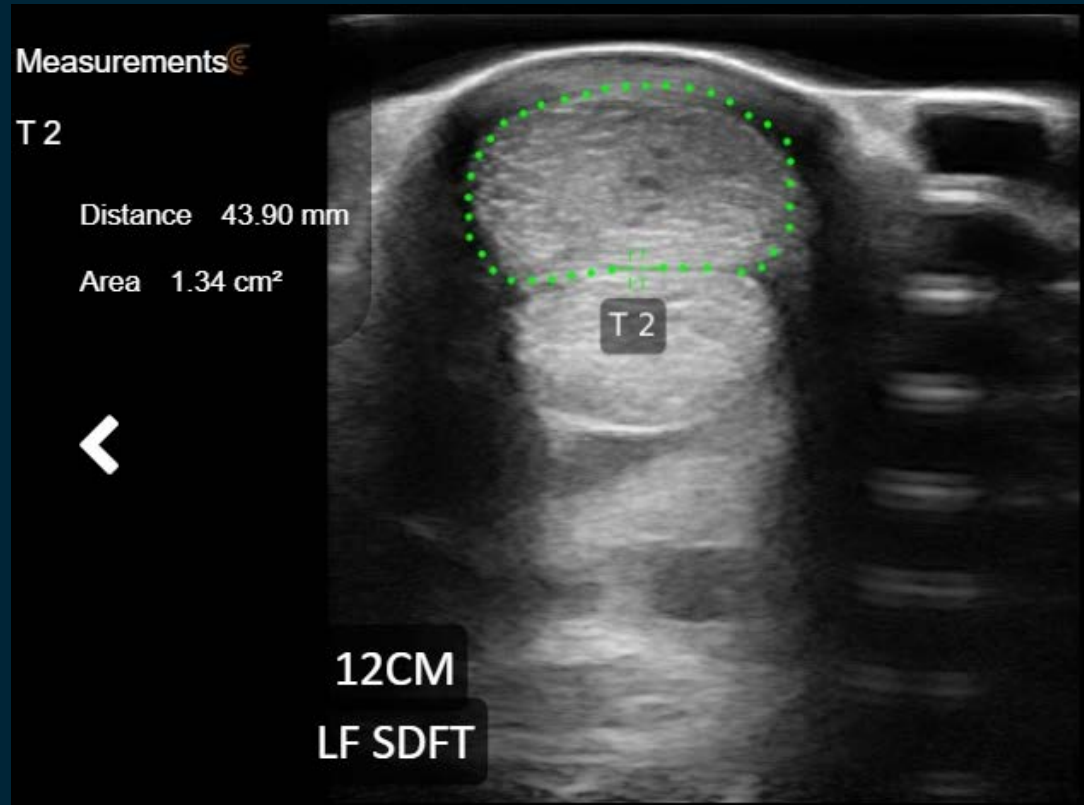


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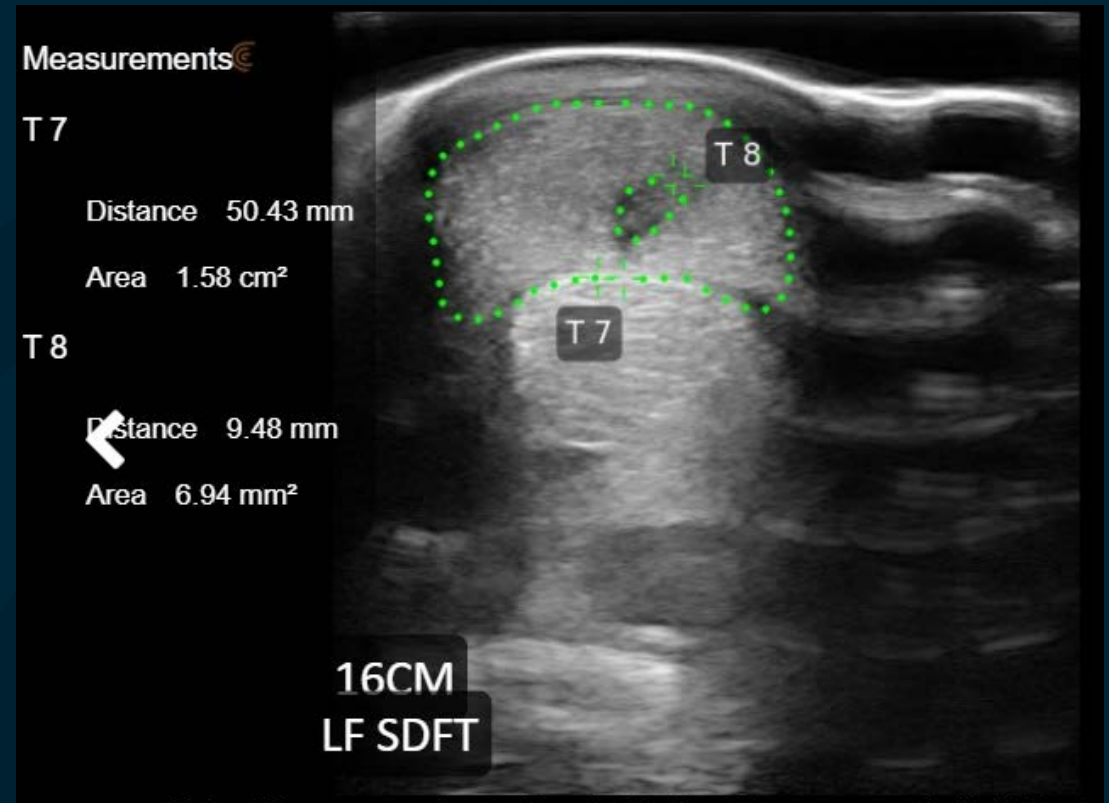
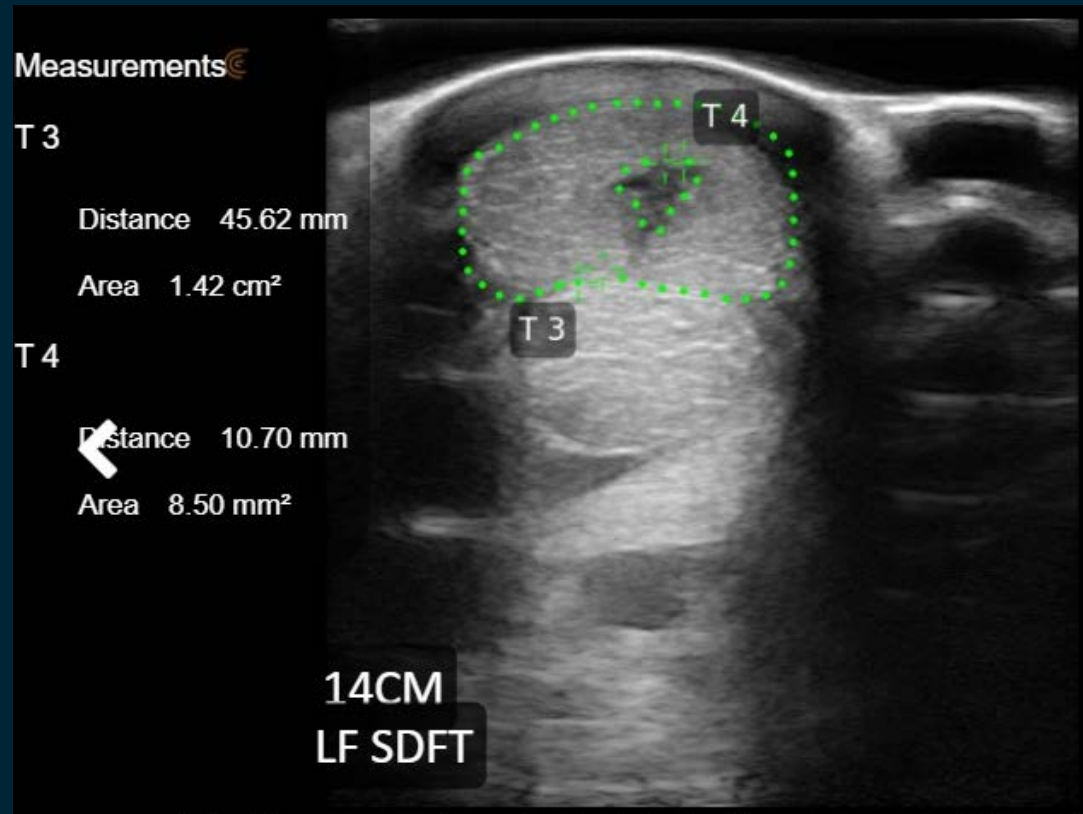




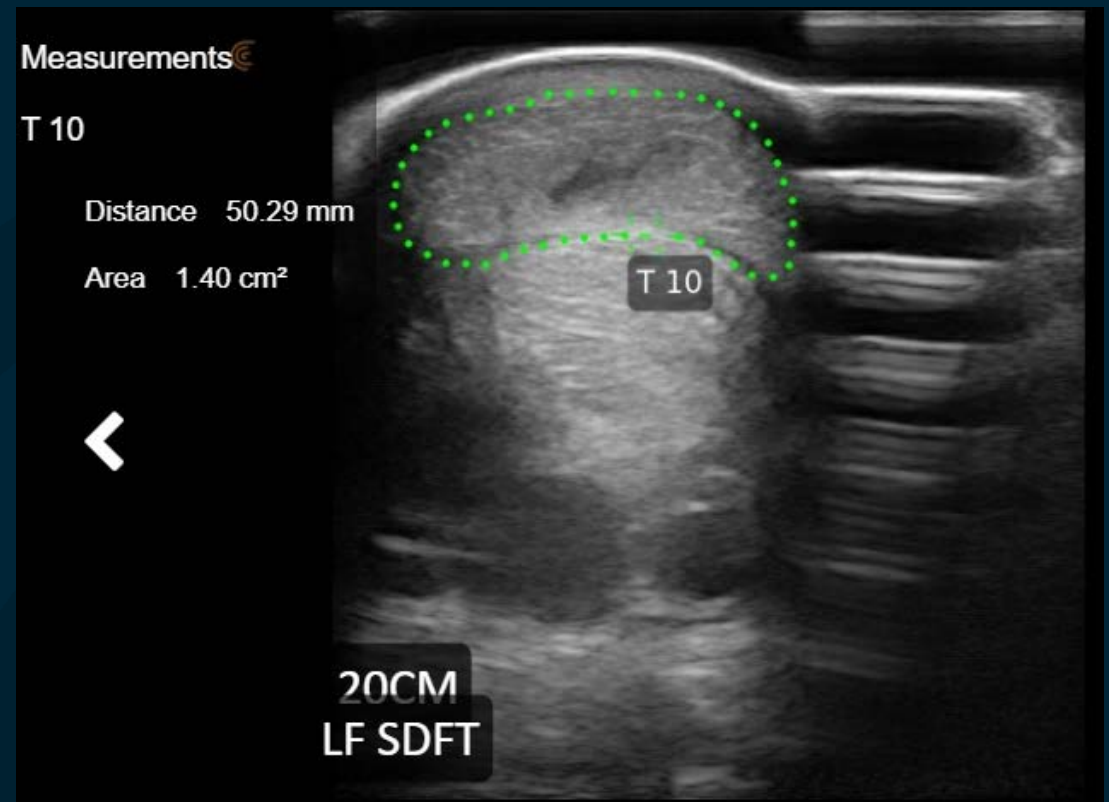
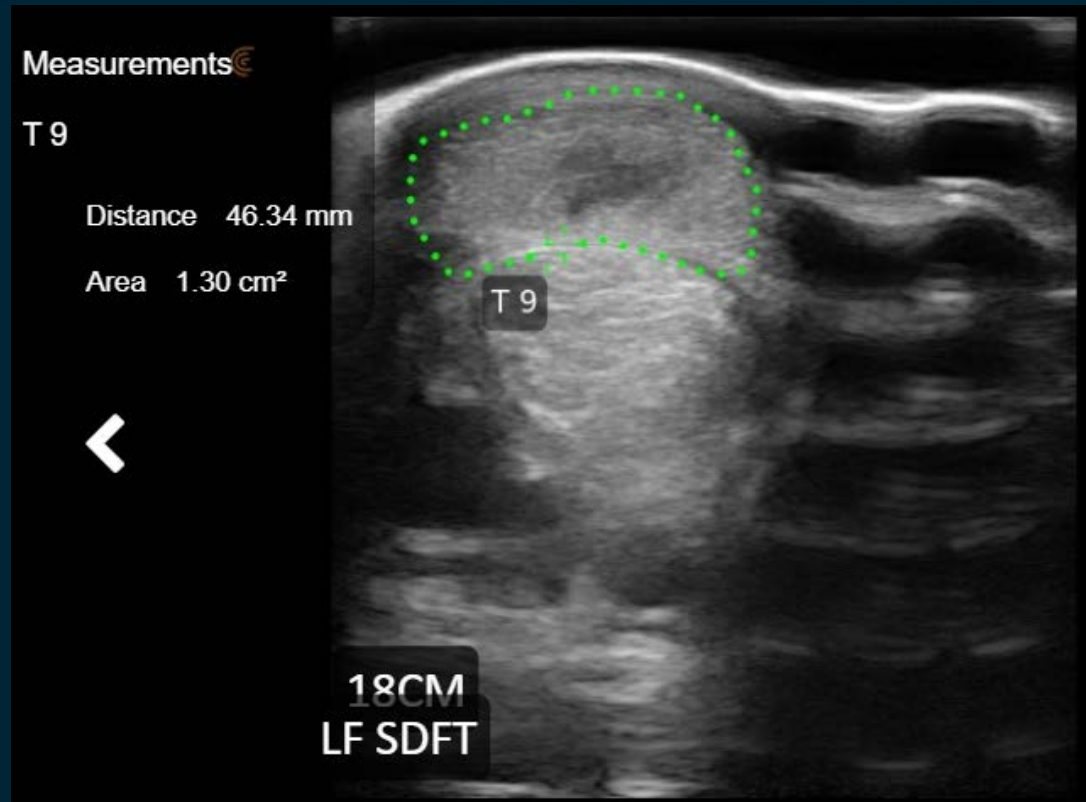
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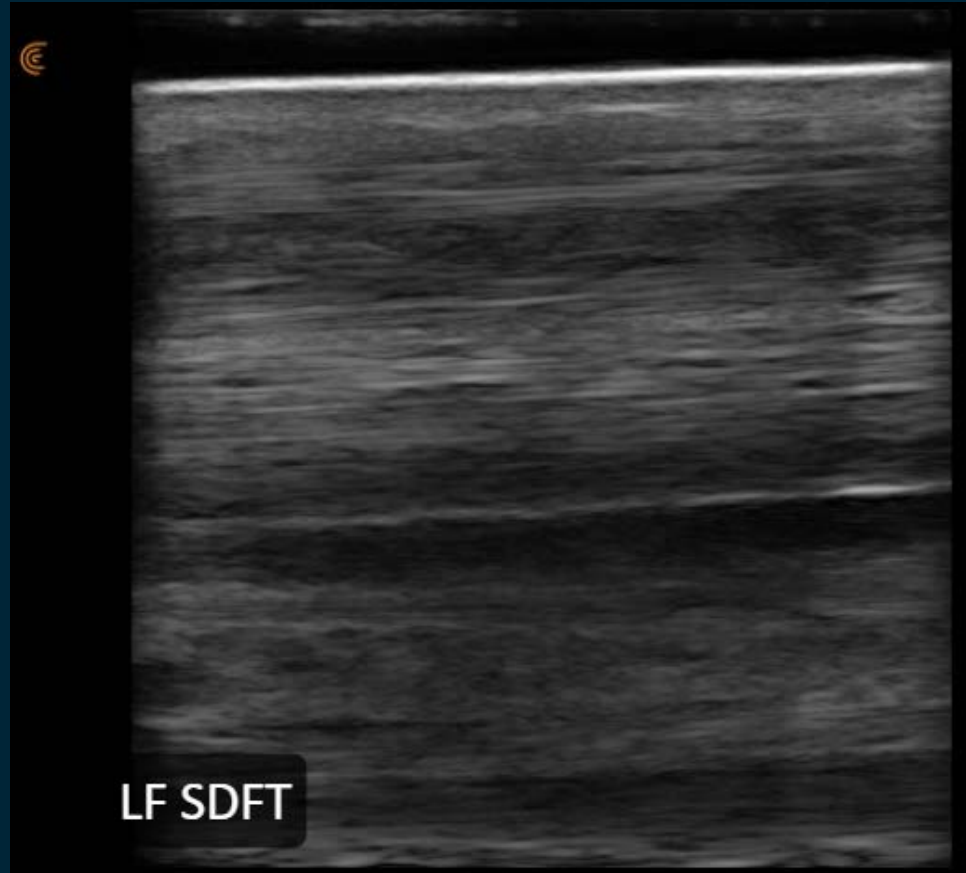
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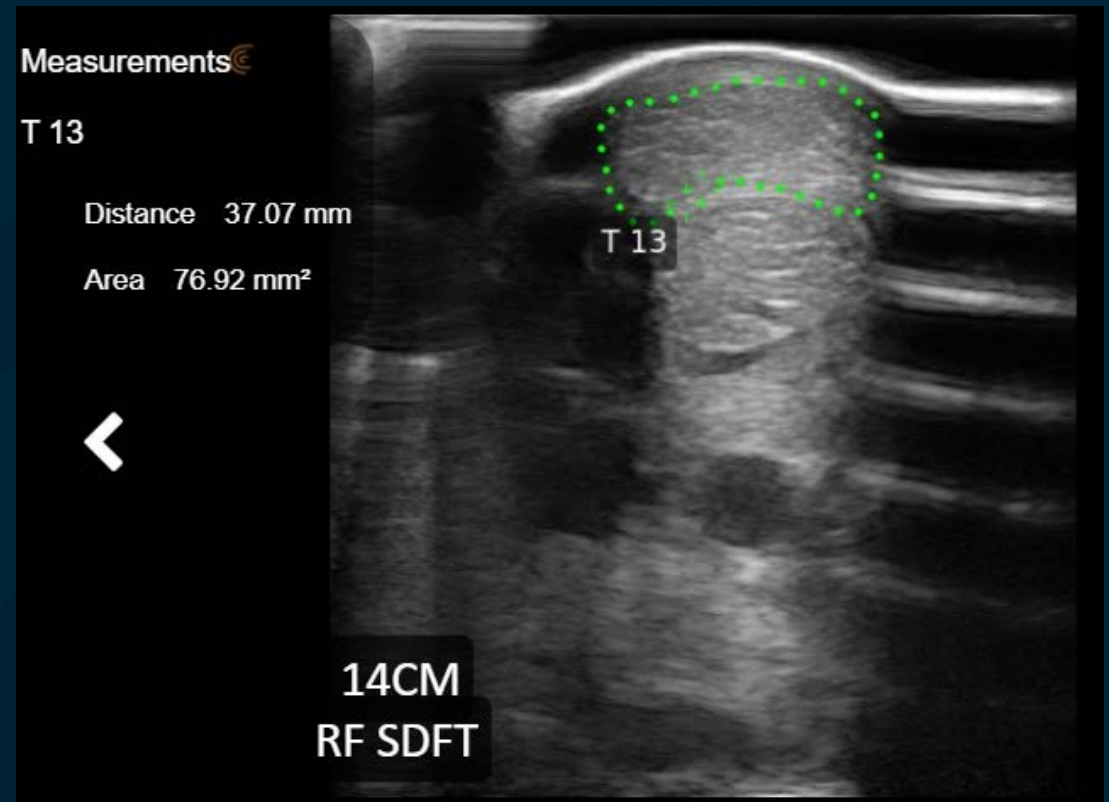
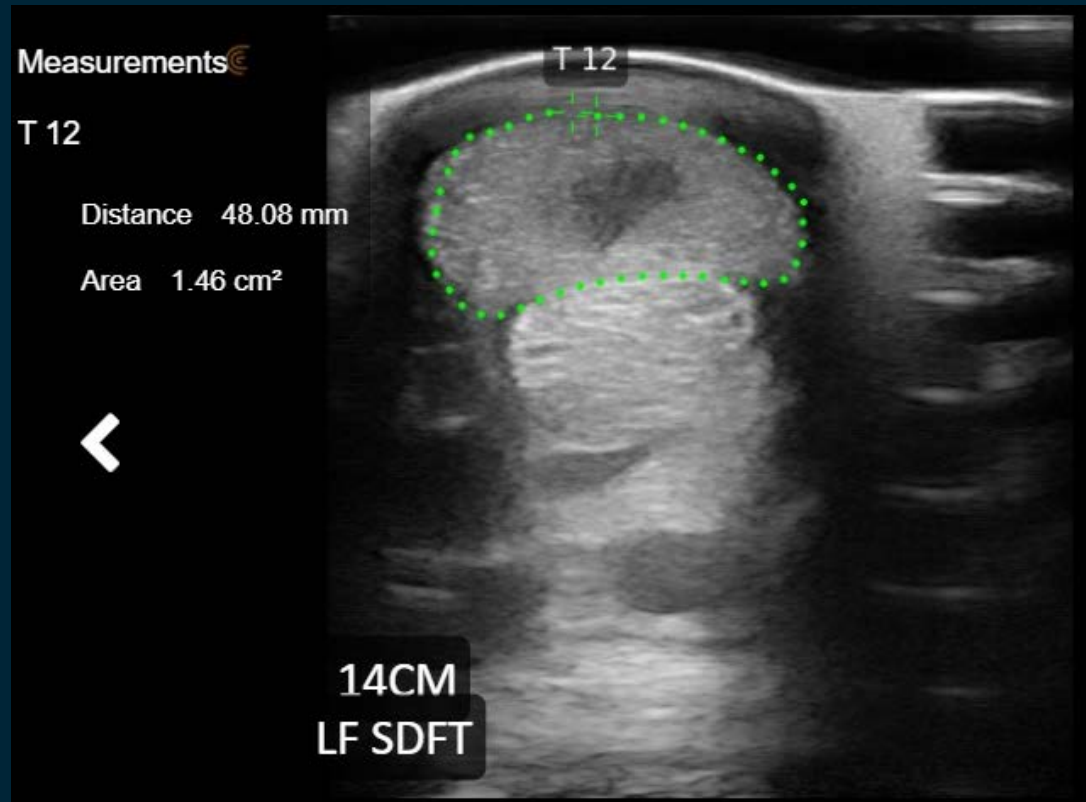
# Measure and Record



# Measure and Record



# Measure and Record



# Measure and Record

- Reason: allows for monitoring during rehab
- Take your time to record quality images
- Take pride in your images so that you would be happy for other veterinarian to view them

# Measurements and Recording

- Distal to Accessory Carpal Bone (DACB)
  - Every 2-4cm
- Cross Sectional Area (CSA)
  - Total CSA vs Lesion CSA
- Cross Sectional and Longitudinal
- Images and Videos

# Reports

Elliott Equine



Veterinary Sports Medicine

26/8/2020

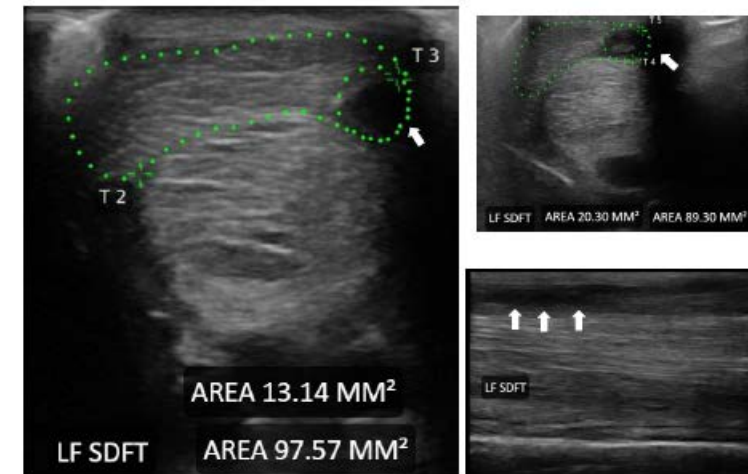
## Veterinary Report

Stephen Lee Racing

Hallow Crown Filly

On the 26<sup>th</sup> August 2020 the "Hallow Crown Filly" was examined at the stables of Mr Stephen Lee in Ballina for assessment of thickening to the lateral edge of the Left Fore superficial flexor tendon (SDFT). Palpation revealed moderate thickening and loss of definition of the lateral edge of the tendon with a mild pain response when squeezed.

Ultrasonography revealed a grade III/IV edge lesion of the Left Fore SDFT measuring approximately 4cm in length located in the middle 1/3<sup>rd</sup> of the tendon. The lesion involves damage to approximately 22% of the cross-sectional area of the tendon at the most severe point. The overall size of the affected tendon is within normal measurement limits and similar the opposite unaffected leg.



Ultrasound images of the Left Fore SDFT in cross section (left and top right) and in longitudinal section (lower right) showing the edge lesion injury (arrows).

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# Reports

Picture says a thousand words

Elliott Equine



Veterinary Sports Medicine

26/8/2020

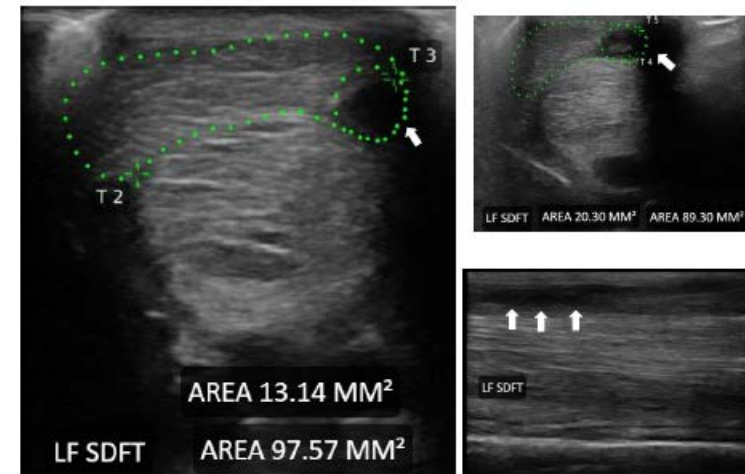
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# Reports

On the 14<sup>th</sup> September 2020 the chestnut “Jimmy Creed Filly” was examined at the stables of Daniel Bowen in Lismore for assessment of enlargement to the Left Fore Superficial Digital Flexor Tendons (SDFT).

Palpation of the Left Fore SDFT revealed mild heat, moderate enlargement and mild pain on manipulation.

Ultrasonography revealed a grade 2/4 core lesion present in the Left Fore SDFT that extends from 8cm to 20cm distal to the accessory carpal bone (below the back of the knee).

At its most severe point (16cm distal to the accessory carpal bone) the damaged Left SDFT is exactly twice the size of the unaffected Right SDFT. The core lesion at this location involves damage to 8% of the tendon.

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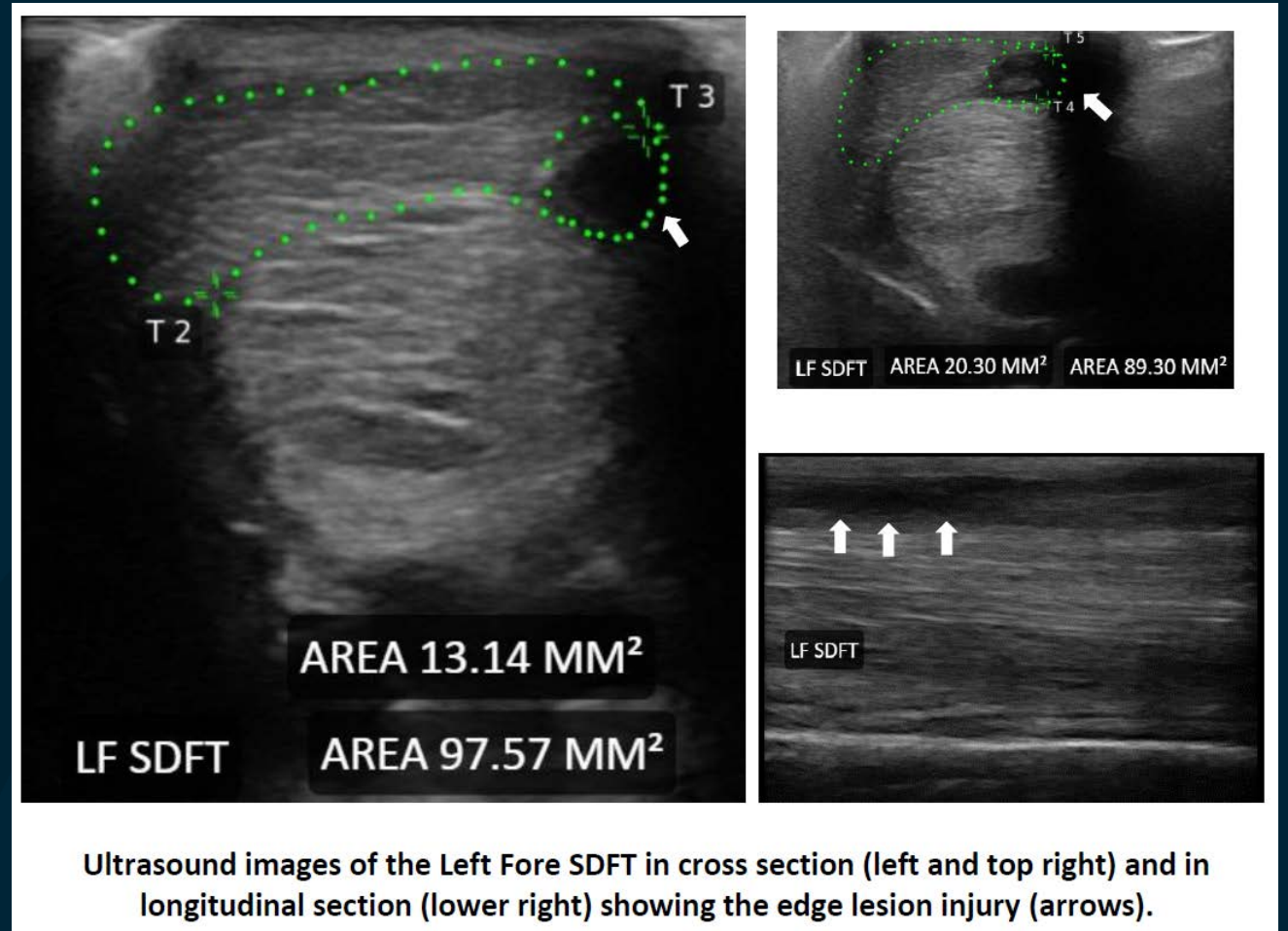
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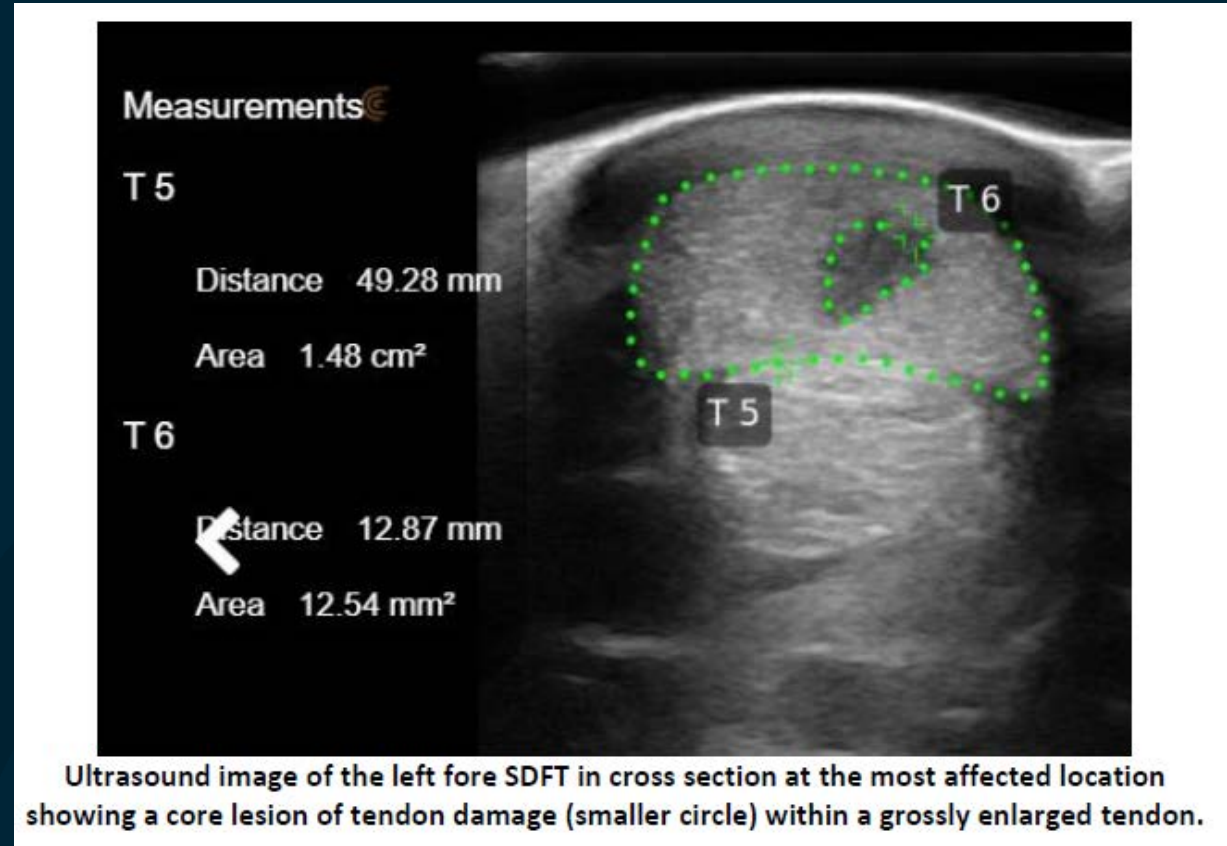
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# Reports

Arrows

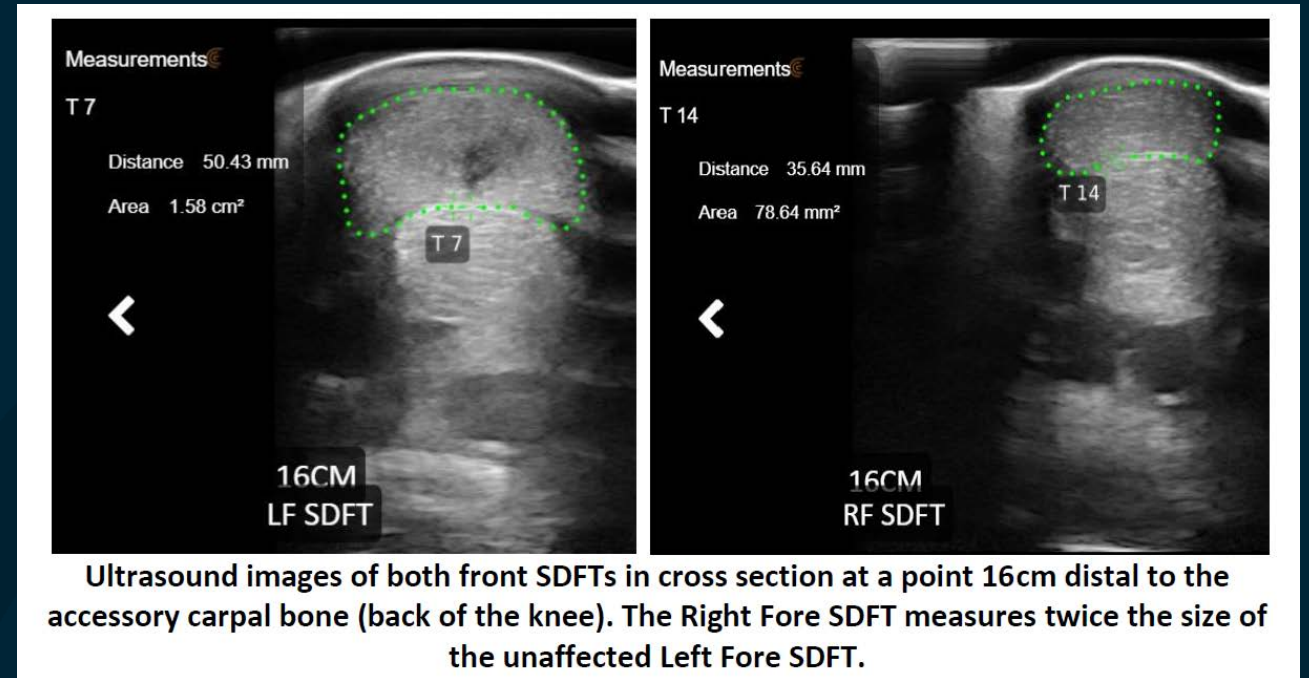


# Reports

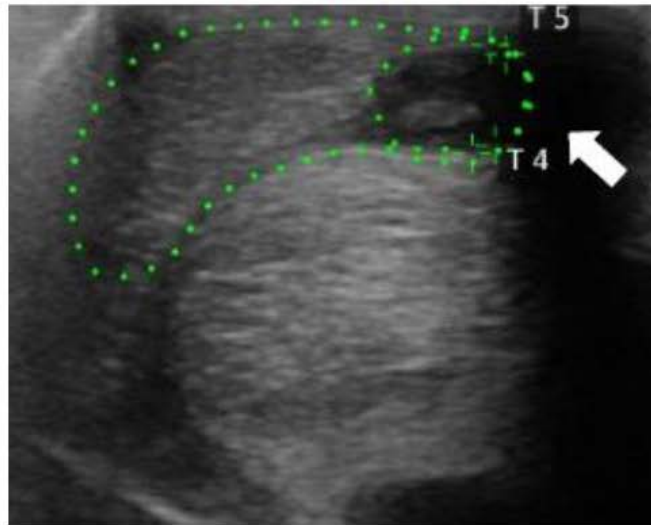


Ultrasound image of the left fore SDFT in cross section at the most affected location showing a core lesion of tendon damage (smaller circle) within a grossly enlarged tendon.

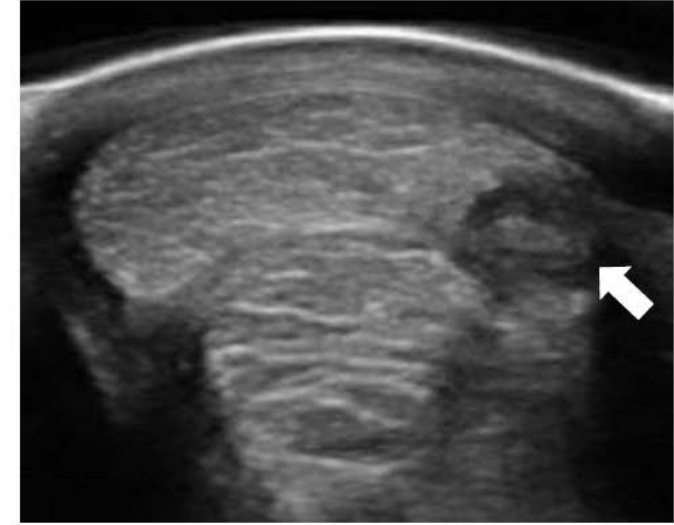
# Reports



# Reports



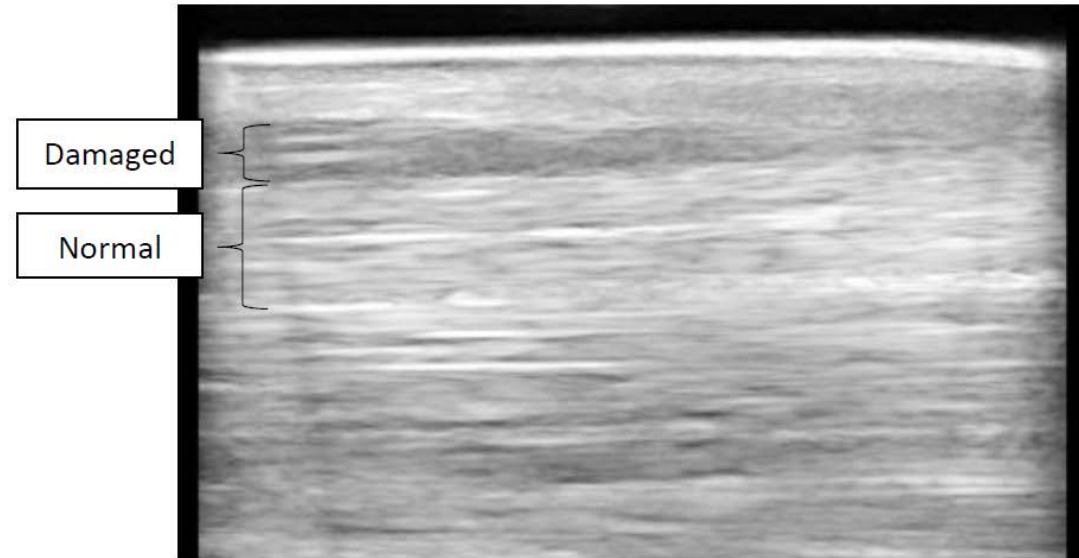
26/8/2020



14/11/2020

Ultrasound images of the left fore SDFT (at the same location) showing an edge lesion (arrows). The left images is the original lesion and the right images is from today. Unfortunately the lesion is not showing enough healing at this stage to allow for a return to race training.

# Reports



Ultrasound image of the Right Fore SDFT in longitudinal section highlighting the damaged tendon fibres and loss of normal structure.



# Reports

## Recommended rehabilitation programme for 'NAME':

### Month 1

- Box rest.
- Administer 10ml phenylbutazone orally once daily for 7 days followed by 5ml orally once daily for 7 days.
- Leg to remain bandaged (changed daily to prevent rubbing) for the first 2 weeks.
- Ice the left fore limb for 20 minutes once daily for the first 2 weeks (at time of bandage change).
- Hand walk for 15 minutes twice daily.

### Month 2

- Box rest.
- Hand walk for 30 minutes daily.

### Month 3

- Box rest.
- Hand walk for 40 minutes daily.
- **Repeat clinical and ultrasound examination at the end of month 3.**

### Month 4

- Box rest with access to small yard (up to the size of a stable only (4mx4m)).
- Hand walk for 60 minutes daily.
- Addition of walking on a water walker for up to 5 minutes daily.

### Month 5

- Box rest with access to small yard (up to the size of a stable only (4mx4m)).
- Walking under saddle for 20-30 minutes daily.
- Walking on a water walker for up to 10 minutes daily.

### Month 6

- Box rest with access to small yard (up to the size of a stable only (4mx4m)).
- Walking under saddle for 30 minutes daily.
- Walking on a water walker for up to 15 minutes daily.
- **Repeat clinical and ultrasound examination at the end of month 6.**

### Month 7

- Small yard rest (up to 5mx5m).
- Walking under saddle for 45-60 minutes daily.
- Walking on a water walker for up to 20 minutes daily.

### Month 8

- Small yard rest (up to 5mx5m).
- Walking under saddle for 45-60 minutes daily.
- Walking on a water walker for up to 20 minutes daily. Decrease this to three times weekly as trotting increases.
- Addition of 5 minutes trotting under saddle daily, increasing by 5 minutes every 2 weeks (so 10 minutes daily by the end of month 8).

### Month 9

- Small yard rest (up to 5mx5m).
- Walking under saddle for 45-60 minutes daily.
- Walking on a water walker for up to 20 minutes daily. Decrease this to three times weekly as trotting increases.
- Addition of 5 minutes trotting under saddle every 2 weeks (so 20 minutes daily by the end of month 9).
- **Repeat ultrasound examination at the end of month 9.**

### Month 10

- Small yard rest (up to 7mx7m).
- Walking under saddle for 45-60 minutes daily.
- Walking on a water walker for up to 20 minutes three times weekly.
- Trotting under saddle for up to 20 minutes daily.
- Addition of 5 minutes catering under saddle daily, increasing by 5 minutes every 2 weeks (so 10 minutes daily by the end of month 10).

### Month 11

- Small yard rest (up to 7mx7m).
- Walking under saddle for 45-60 minutes daily.
- Walking on a water walker for up to 20 minutes three times weekly.
- Trotting under saddle for up to 20 minutes daily.
- Addition of 5 minutes catering under saddle daily, increasing by 5 minutes every 2 weeks (so 20 minutes daily by the end of month 11).

### Month 12

- Paddock turn out.
- Walking under saddle for 45-60 minutes daily.
- Walking on a water walker for up to 20 minutes three times weekly.
- Trotting under saddle for up to 20 minutes daily.
- Canter under saddle for up to 20 minutes daily.
- Addition of fast work on the flat (half pace approximately 3 times a week).
- **Repeat ultrasound examination at the end of month 12. Fast gallop work and jumping should not be done before the repeat ultrasound and clinical examination after 12 months.**

- Please note that this protocol is a guide and must be varied according to the tendons' clinical and ultrasonographic appearance. If any repeat clinical or ultrasound examination shows poor healing then the horse may have to stay at the current exercise stage for a further 4-8 weeks before a repeat examination to see if increasing exercise is appropriate.
- Ensuring good foot balance and regular trimming/shoeing is essential to reduce the risk of repeat injury. Shoes with a wide toe and bevelled narrow branches are recommended to reduce stress on the SDFT. The wide front support aims to limit sinking of the toe into the ground, while the narrow-bevelled branches promote sinking of the heels. A slightly bevelled outer rim on the toe will also promote rolling.
- All work should be done on a firm, even surface where possible. Deep, uneven and wet tracks should be avoided.
- The horse should be kept in relatively light body condition to avoid putting excessive strain on the tendons.

# Reports

## Month 4-6 (walk)

- Depending on the results of the ultrasound performed at the end of Month 3, the 4<sup>th</sup> to 6<sup>th</sup> month will involve gradual increasing amounts of controlled walking exercise.
- Exercise will begin at 30mins total walking per day, gradually increasing to 60mins walking exercise per day.
- The use of a water-walker and swimming can be started at this stage.
- **Repeat ultrasound examination at the end of month 6 will determine if the horse can progress to the next stage of rehabilitation.**

## Month 6-9 (trot)

- Months 6 thru 9 involve the gradual introduction of trot work, building up to a total of 20-30mins trot work on top of normal walking exercise.
- Exact details of the structured and gradual increase will be provided closer to the time.
- **Repeat ultrasound examination at the end of month 9 will determine if the horse can progress to the next stage of rehabilitation.**

## Month 9-12 (canter)

- Months 9 thru 12 are aimed at building strength and fitness towards achieving full fast work.
- Like trot, canter is gradually introduced in a structured manner. Exact details will be given closer to the time.
- **Repeat ultrasound examination at the end of month 12 will determine if/when the horse can return to full race training.**

# Reports

- Please note that this protocol is a guide and must be varied according to the tendons' clinical and ultrasonographic appearance. If any repeat clinical or ultrasound examination shows poor healing then the horse may have to stay at the current exercise stage for a further 4-8 weeks before a repeat examination to see if increasing exercise is appropriate.
- Good farriery is vital. Ensuring good foot balance and regular trimming/shoeing is essential to reduce the risk of repeat injury.
- All work should be done on a firm, even surface where possible. Deep, uneven and wet tracks should be avoided.
- The filly should be kept in relatively light body condition to avoid putting excessive strain on the tendons.

# Reporting Tips

- Great reports set you apart from the pack
- Helpful to trainers/managers
  - Especially when horse likely to move to different location for rehab
- Take pride in your report so that you would be happy for other veterinarians to read

# 10 Ways Ultrasound Helped My Equine Veterinary Practice

1. Wireless ultrasound provides really clear images.
2. Handheld ultrasound is so affordable.
3. Every veterinarian can have one in their car.
4. You get good quality images without clipping hair.
5. Wireless ultrasound is better than some traditional machines.

# 10 Ways Ultrasound Helped My Equine Veterinary Practice

6. Billing for ultrasound helps pay for it quickly.
7. You don't need an X-Ray machine.
8. It fits in my pocket and I can take it anywhere.
9. Wireless ultrasound makes us faster and efficient.
10. Having new technology helps build credibility.



# Clarius HD Vet

Wireless Freedom

High-Definition Imaging

Easy App for iOS & Android

Dedicated Equine Presets

Affordable Scanner

No Subscription Fees

Free Clarius Cloud

Unlimited Users



# Poll

What additional information would you like?



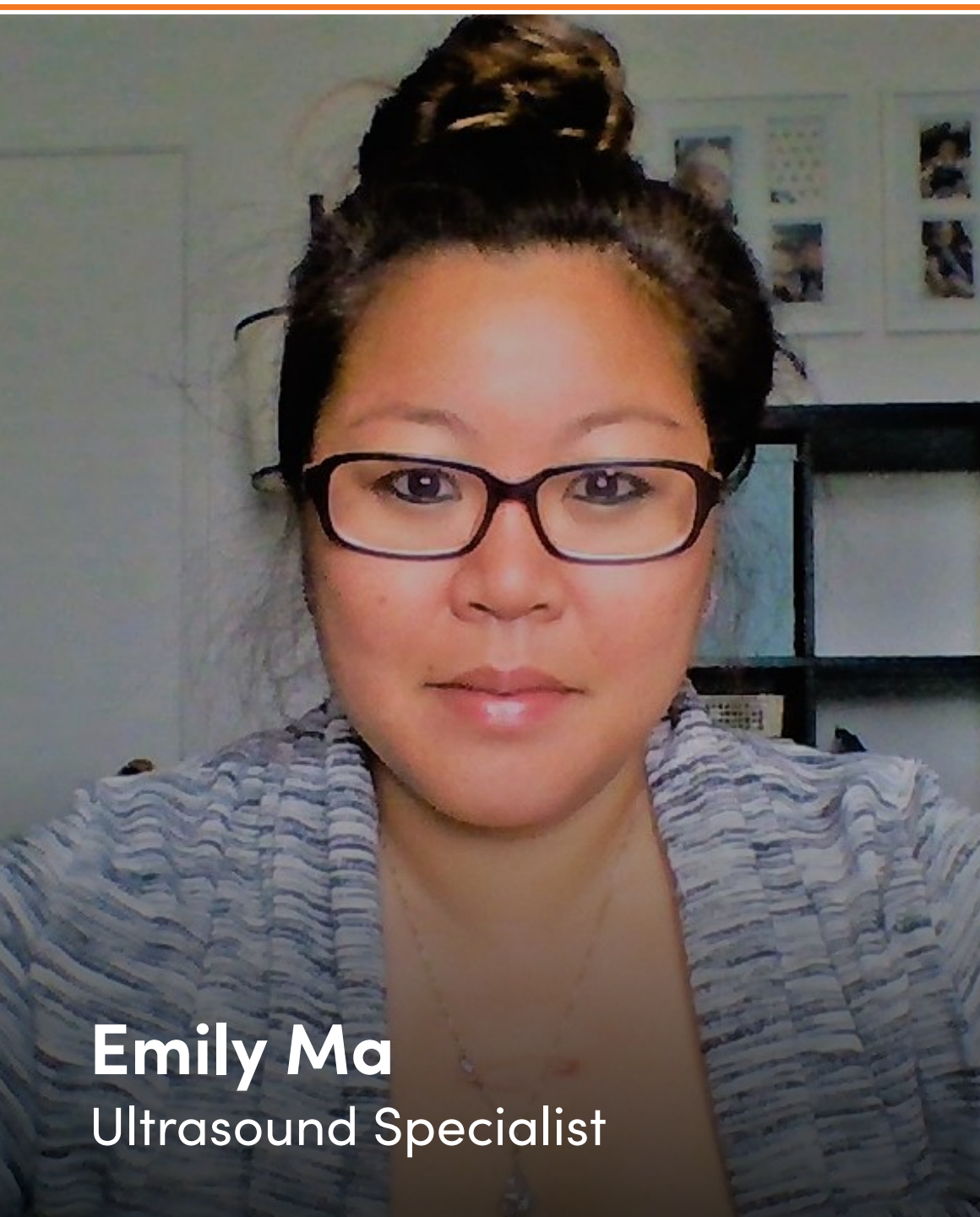
# Questions?



Dr. Chris Elliott



Genese Castonguay



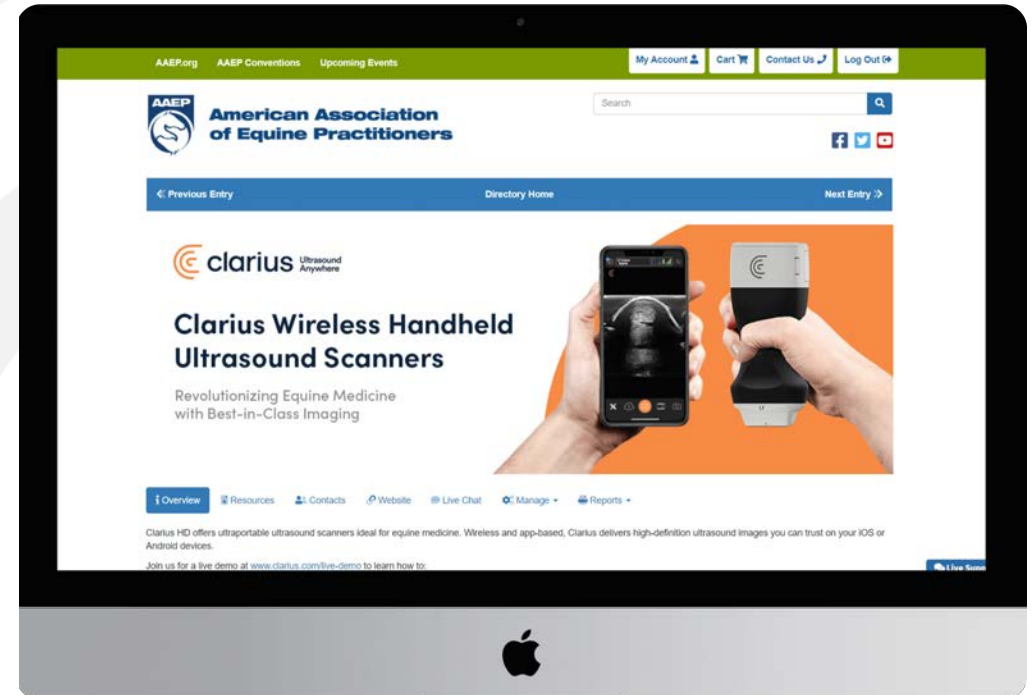
**Emily Ma**  
Ultrasound Specialist

# Join us at AAEP!

Visit our virtual booth or join us for a live ultrasound demo.

December 7-9<sup>th</sup>, 1-6 PM EST

[www.clarius.com/aaep](http://www.clarius.com/aaep)





**Thank you!**