Rural POCUS Rounds:
Podiatry Ultrasound

Scan, Diagnose & Inject:
Plantar Fascia, Achilles & ATFL

Dr. Frank Johnson, MD, CCFP (SEM), Dip.Sport Med

Sep 19, 2025

Faculty/Presenter Disclosure

• Faculty: Dr. Frank Johnson

• Relationships with financial sponsors:
– Speakers Honoraria: Pendopharm (Monovisc, Cingal SportVis)
– Consulting Fees: Clarius and Pendopharm to make educational videos

• Disclosure of financial support:
– Received financial support from the AAOM, a large American Prolotherapy and PRP training organization
– Sport Medicine Ultrasound (run by me) benefits from the sale of tickets to its live training events, a product that will not be discussed in this program

Scan, Diagnose & Inject

Plantar Fascia

LEVEL 1

STEP 1 EXAMINE	STEP 2 DIAGNOSE	STEP 3 MANAGE
History & Physical Exam	Interpret Image 1	Manage Patient 1
Ultrasound Scan	Interpret Image 2	Manage Patient 2
Interpret Normal Image	Interpret Image 3	Manage Patient 3
Quiz: Examine	Quiz: Diagnose	Quiz: Manage

Scan, Diagnose & Inject

Plantar Fascia

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Scan, Diagnose & Inject

Plantar Fascia

HISTORY & PHYSICAL EXAM

50 year old male presents to the clinic with 6 months of plantar heel pain.

No prior memorable injuries to the affected left heel.

He previously had this on the right and it took 2 years for the pain to stop.

Foot and ankle ROM is normal and he is tender over the bottom of the heel.

Orthopedic special tests were not performed.

Scan, Diagnose & Inject

Plantar Fascia

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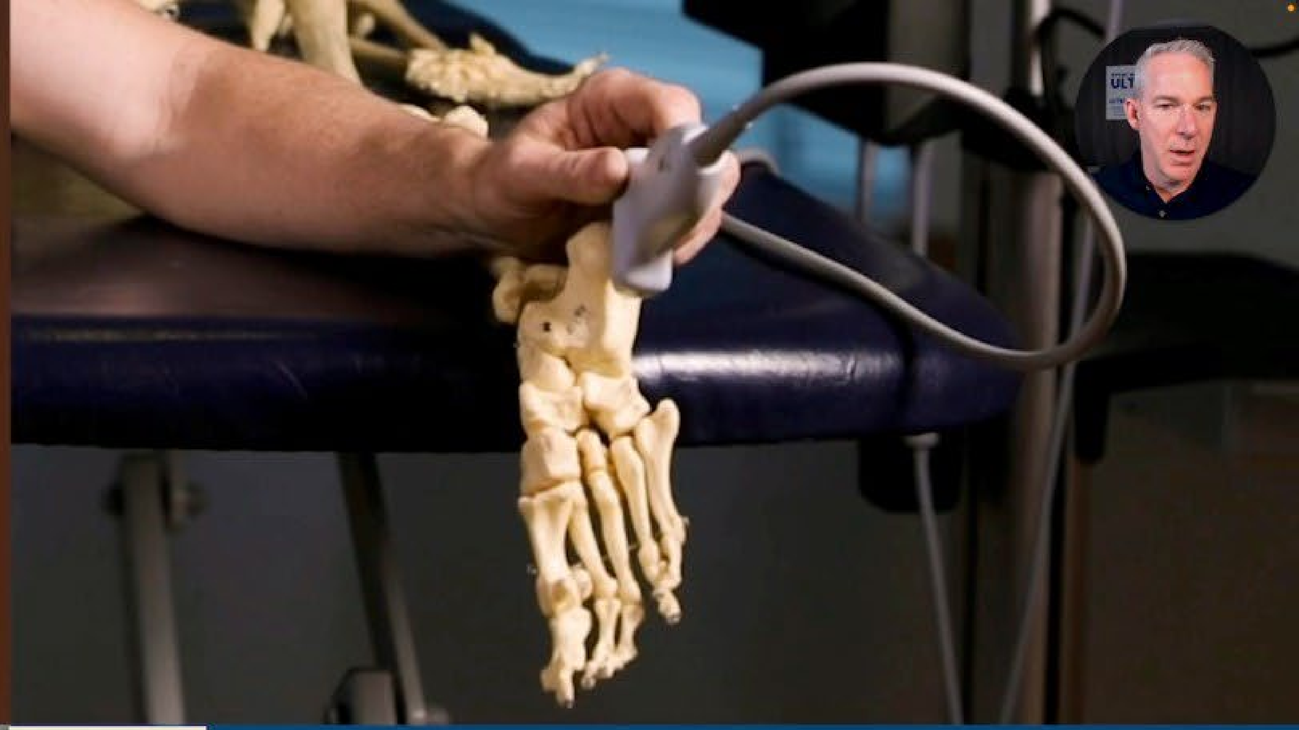

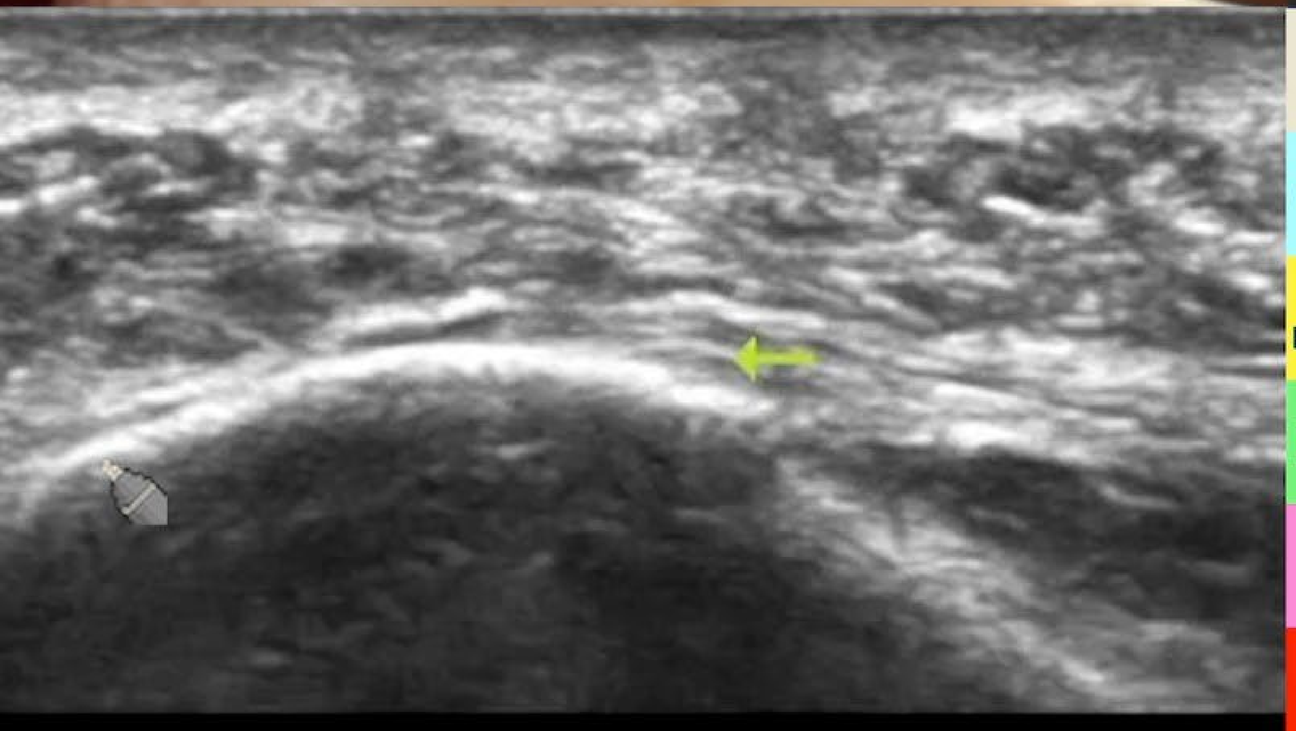

Bone

Cartilage

Fluid
Bursa / Joint

Ligament

Tendon

Muscle

PLANTAR FASCIA

Scan, Diagnose & Inject

Plantar Fascia

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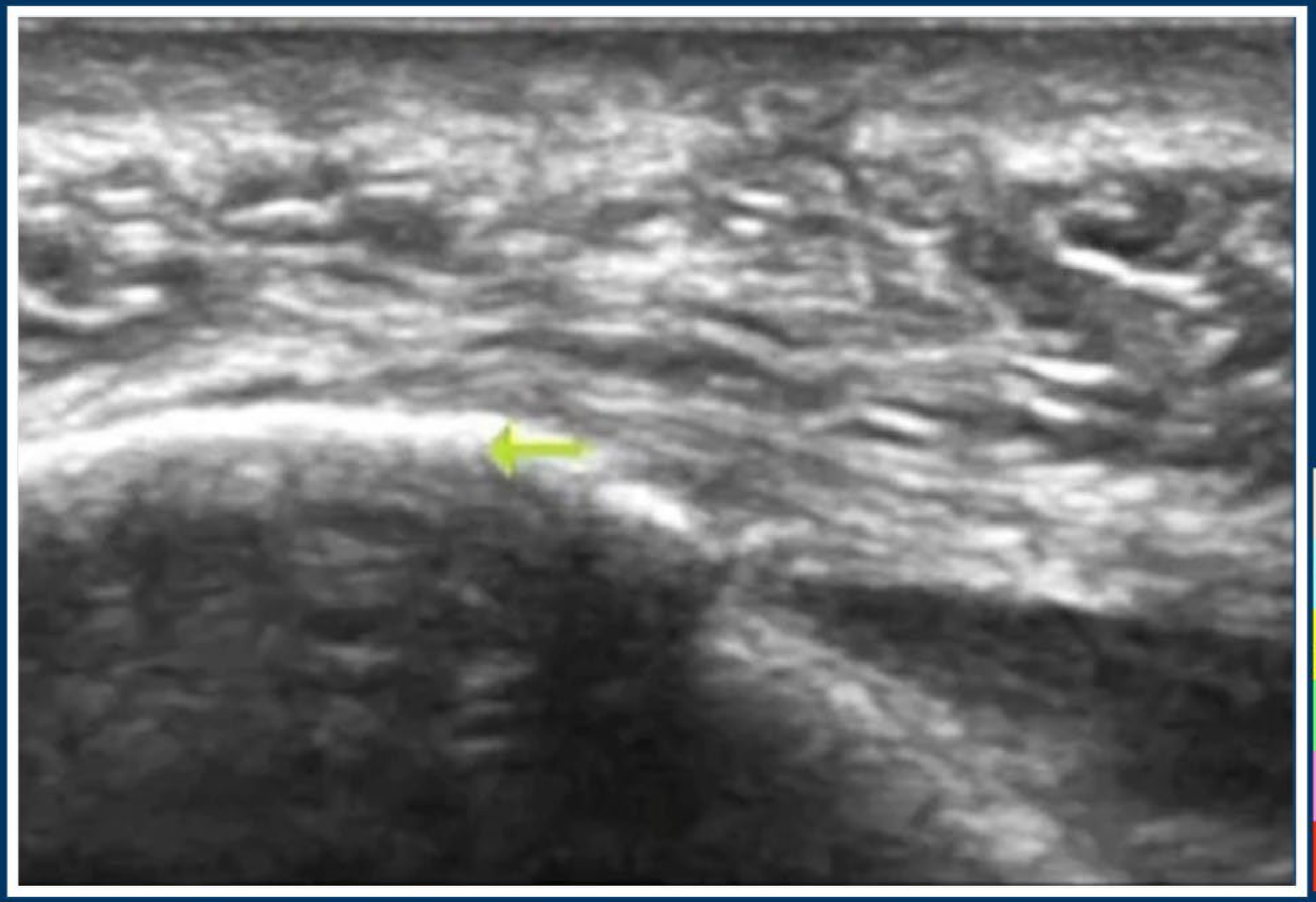
Scan, Diagnose & Inject

INTERPRET NORMAL IMAGE

Plantar Fascia

ACQUIRE THE IMAGE
LANDMARK: Calcaneus
NEAR: Heel Fat Pad
FAR: Calcaneus
AOI: Plantar Fascia



Bone
Cartilage
Fluid
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INTERPRET NORMAL IMAGE

Scan, Diagnose & Inject

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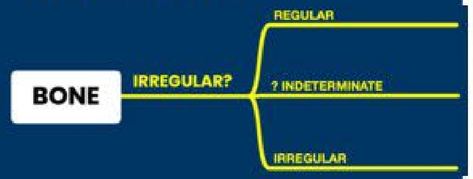

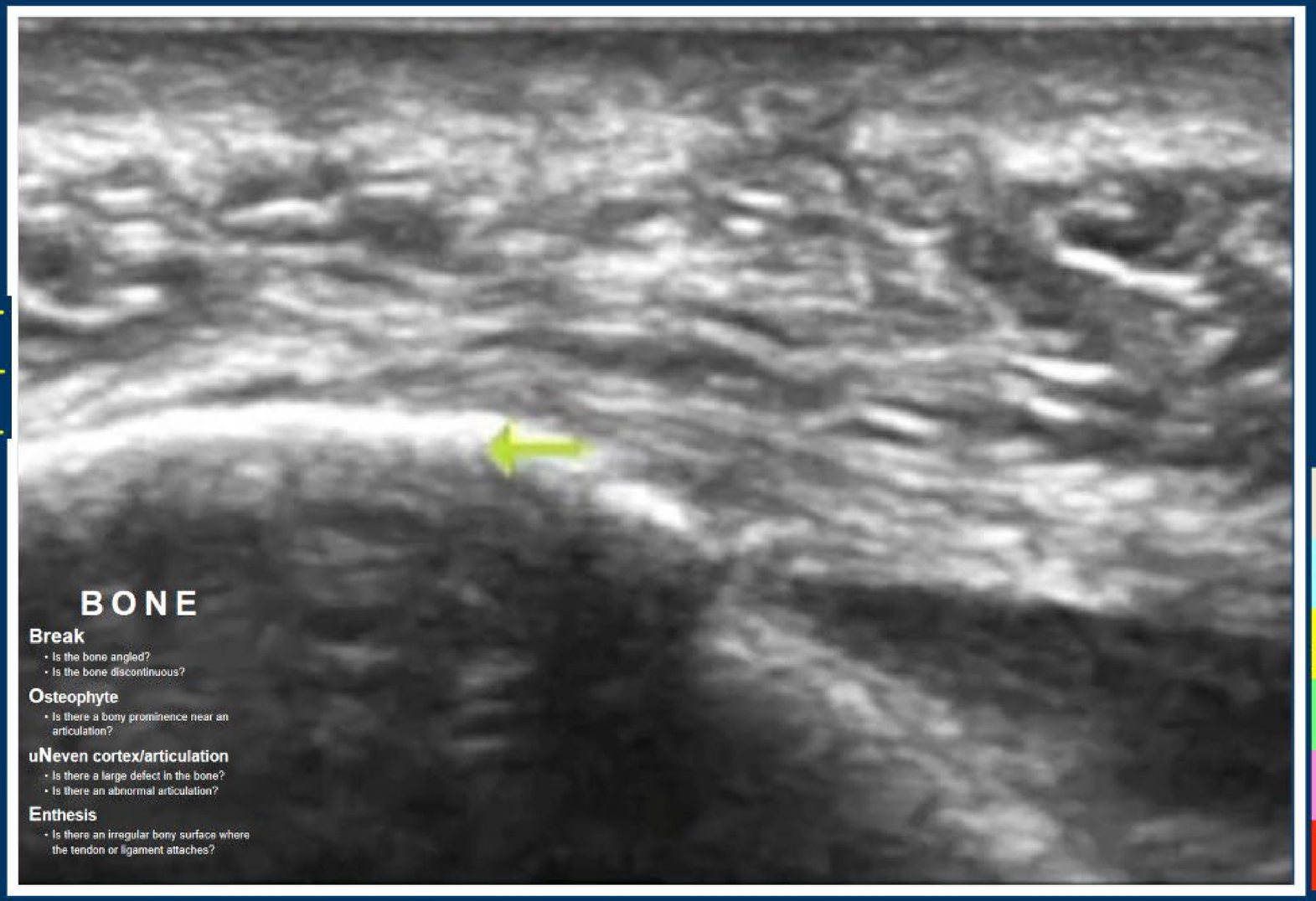

LSD

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm

Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle

INTERPRET NORMAL IMAGE

Scan, Diagnose & Inject

Plantar Fascia

ACQUIRE THE IMAGE
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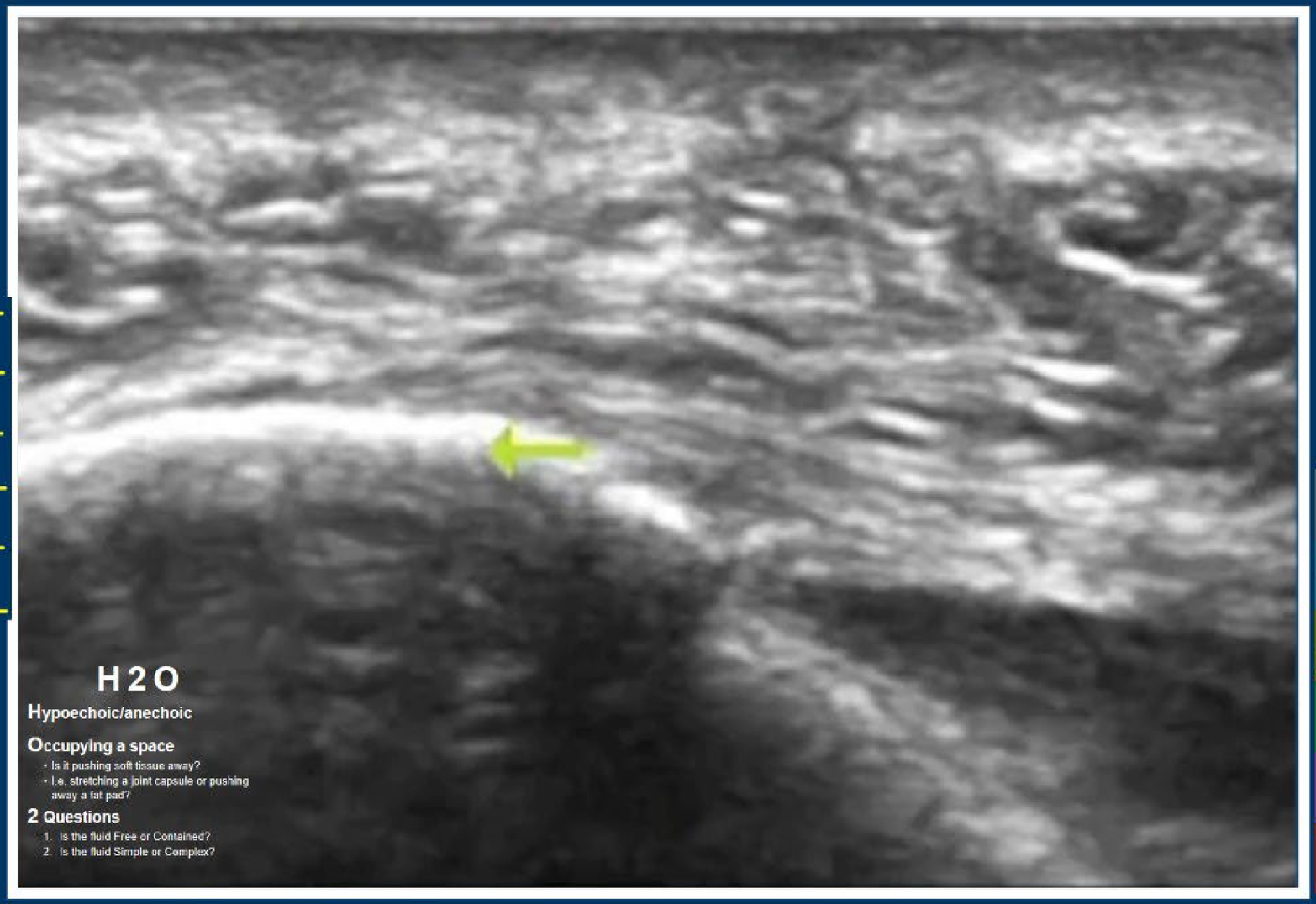
BONE → IRREGULAR? → REGULAR / ? INDETERMINATE / IRREGULAR

FLUID → PRESENT? → NO FLUID / ? INDETERMINATE / FLUID



Bone
Cartilage
Fluid
Bursa / Joint
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Muscle

L S D

Location
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BONE — IRREGULAR?
- REGULAR
- ? INDETERMINATE
- IRREGULAR

FLUID — PRESENT?
- NO FLUID
- ? INDETERMINATE
- FLUID

TISSUE (MUSCLE TENDON LIGAMENT NERVE) — ABNORMAL?
- NORMAL
- ? INDETERMINATE
- ABNORMAL

CBD

Calcium
- Linear or pinpoint
- Oval or round
- Dimensions in mm

Bony irregularity
- Small area
- Large area
- Dimensions in mm

Doppler
- Low, medium, or high

THC

Thickness
- Compared to contralateral side
- Dimensions in mm

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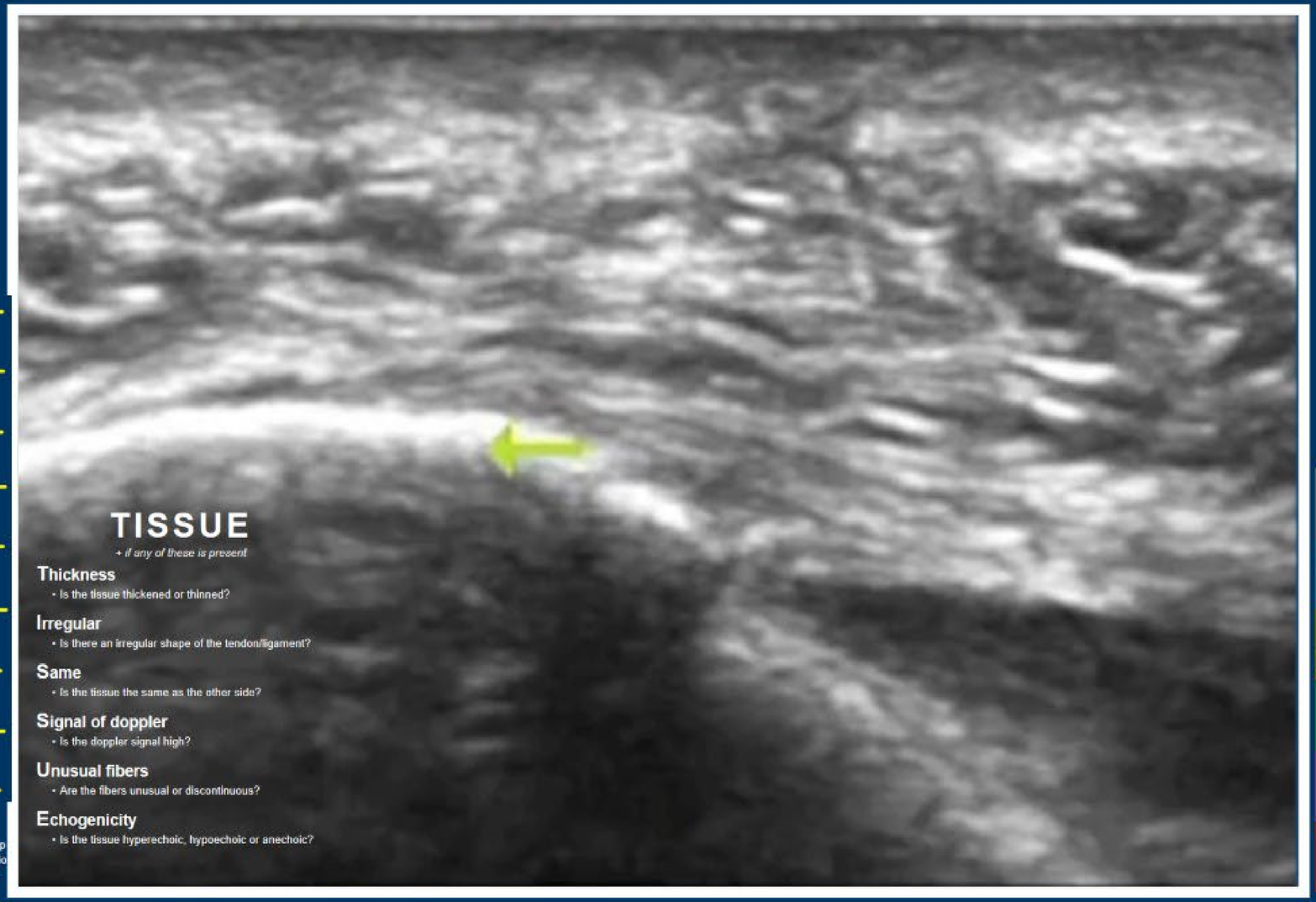

- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle

Scan, Diagnose & Inject

Plantar Fascia

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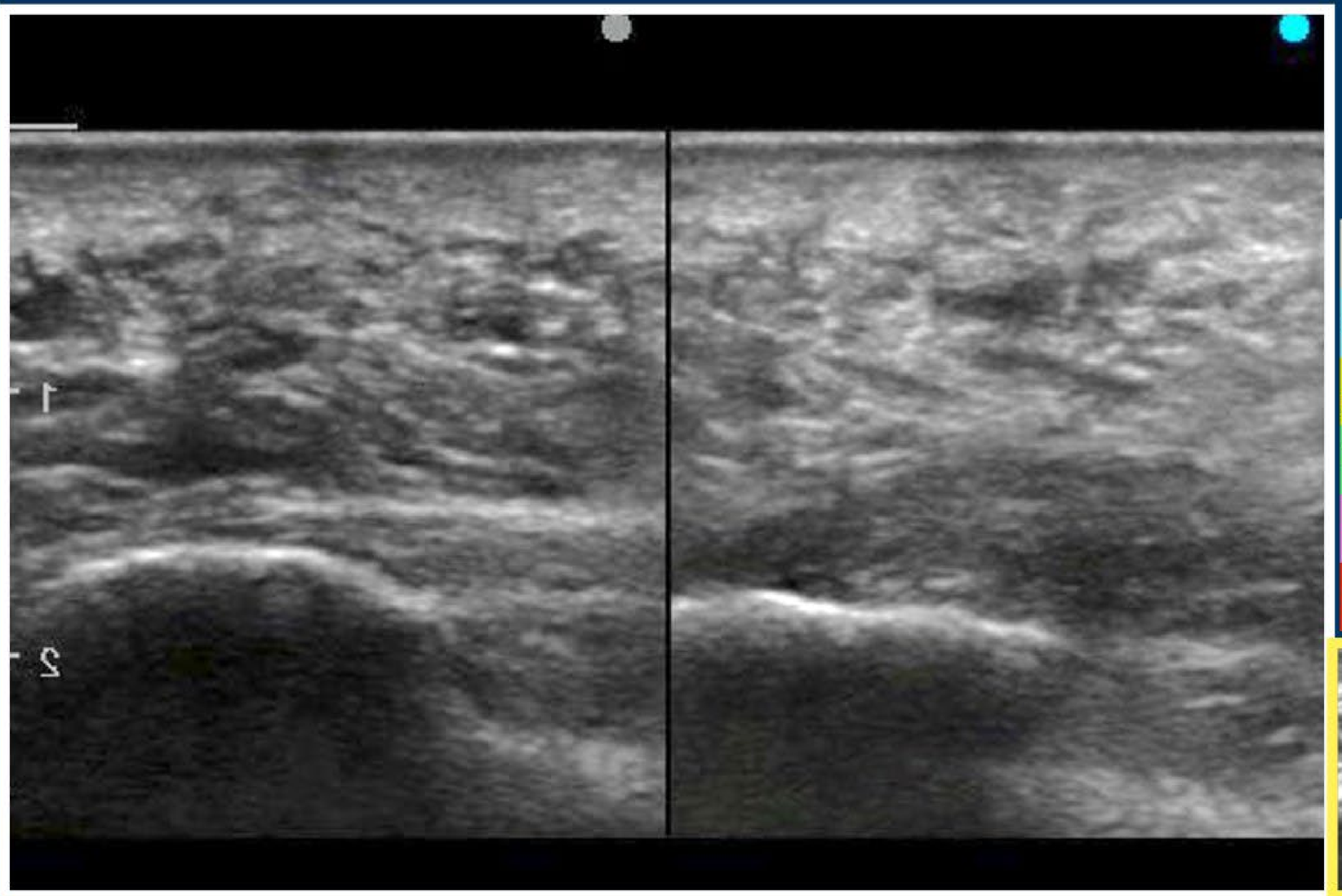
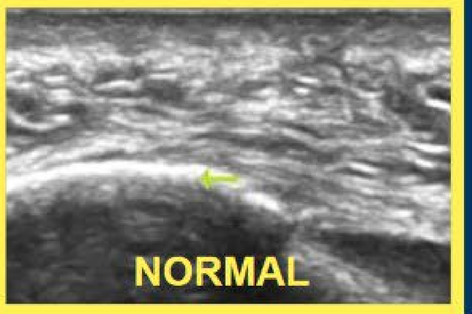


- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle



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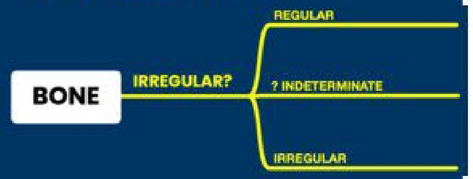

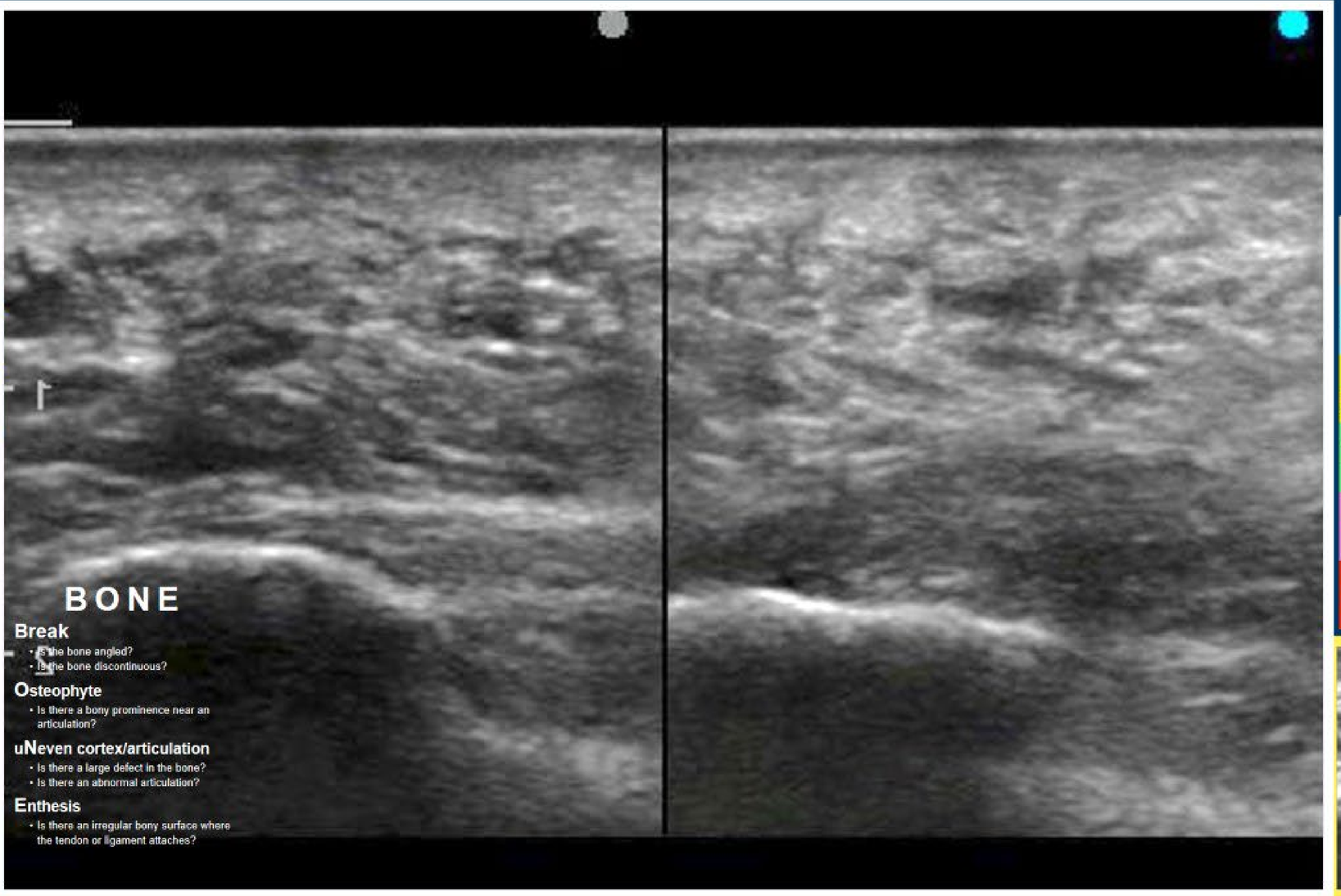

- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
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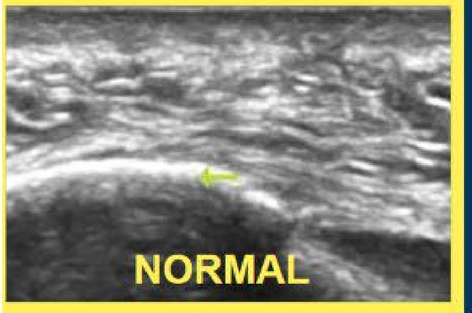
- Muscle



L S D

Location
- Superficial or Deep
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Shape
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- Irregular

Dimensions
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PODIATRY ULTRASOUND

Scan, Diagnose & Inject

INTERPRET IMAGE 1

Plantar Fascia

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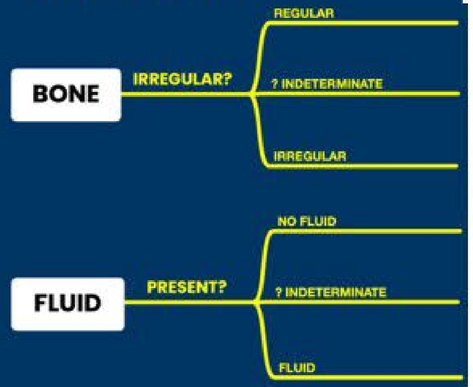
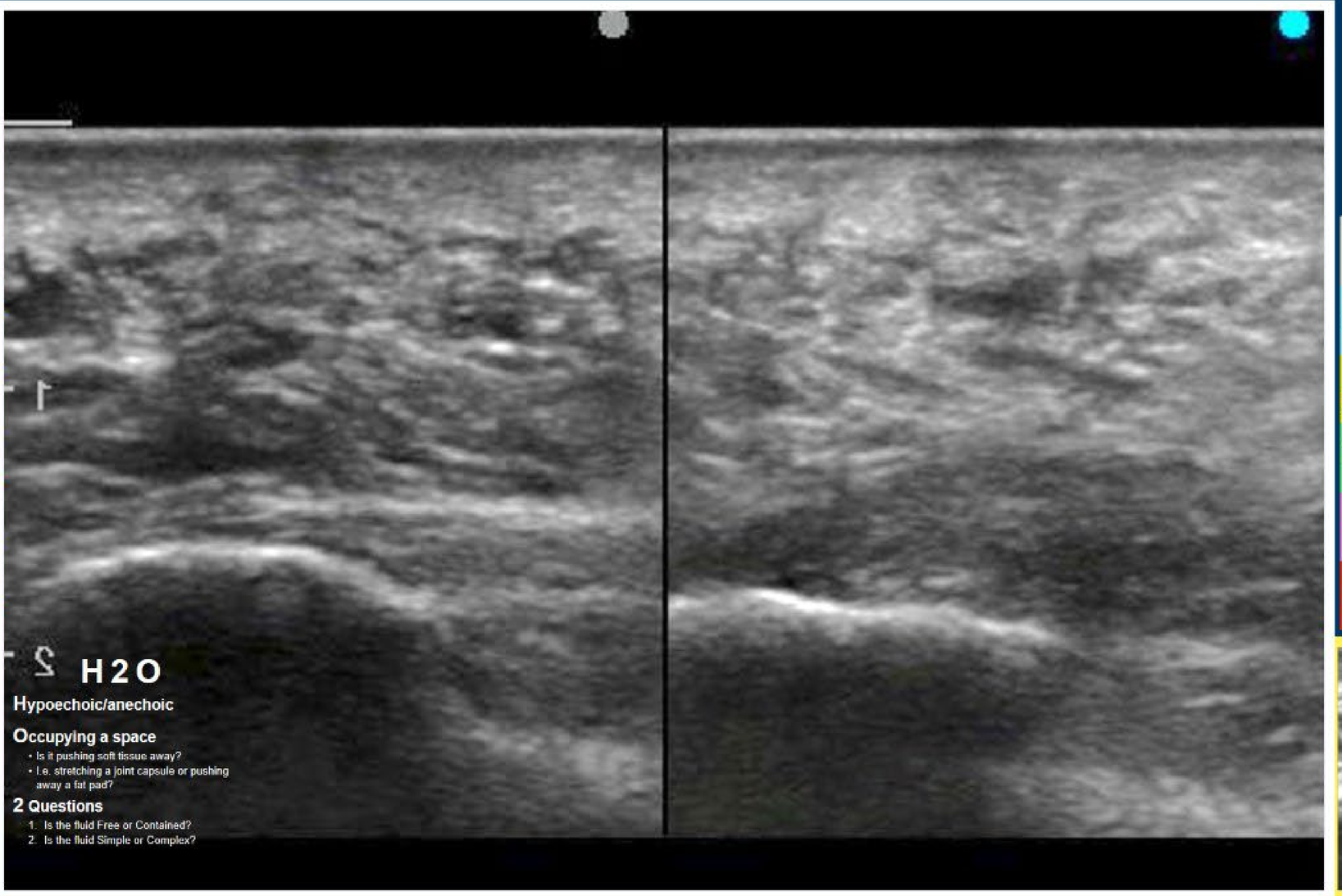
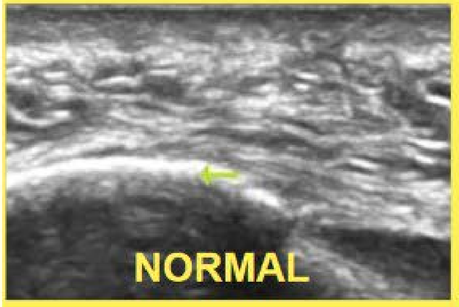




Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle



L S D

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INTERPRET IMAGE 1

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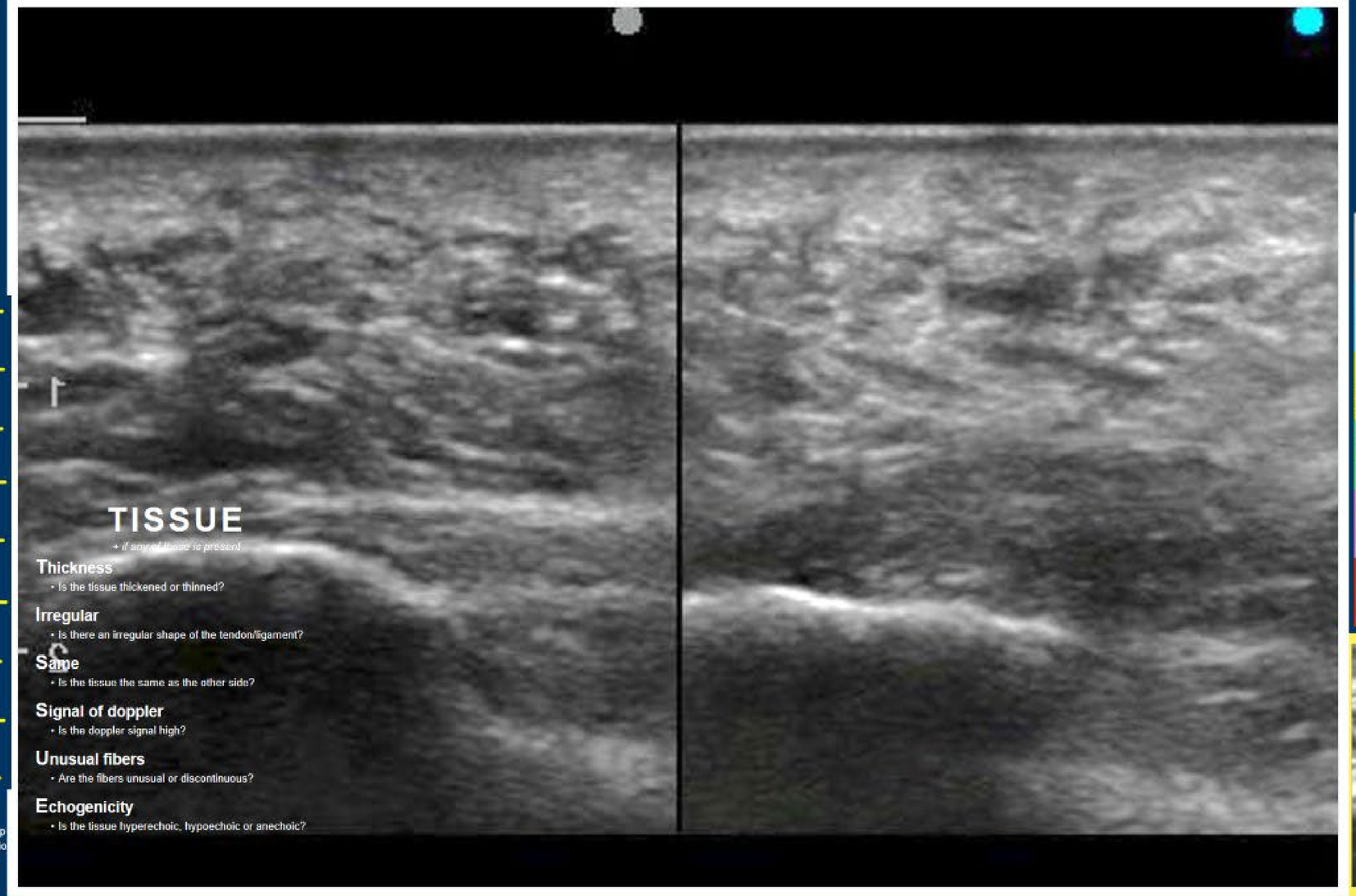
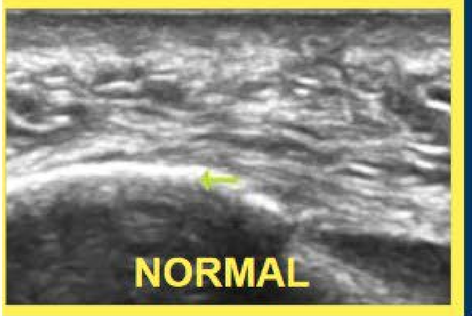


CBD	THC	LSD
Calcium • Linear or pinpoint • Oval or round • Dimensions in mm	**Thickness** • Compared to contralateral side • Dimensions in mm	**Location** • Superficial or Deep • Anterior or Posterio • Medial or Lateral
Bony irregularity • Small area • Large area • Dimensions in mm	**Heterogeneity** • Homogenous • Heterogenous	**Shape** • Linear • Curved • Irregular
Doppler • Low, medium, or high	**Colour** • Hypo vs Hyperechoic • Is there anisotropy?	**Dimensions** • in mm

- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle



Plantar Fascia

+Full Screen Mode

Scan, Diagnose & Inject

Achilles Tendon

LEVEL 1

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Scan, Diagnose & Inject

Achilles Tendon

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PODIATRY ULTRASOUND
Scan, Diagnose & Inject

Achilles Tendon

HISTORY & PHYSICAL EXAM

50 year old female presents to the clinic with 6 months of achilles area pain.

No prior memorable injuries to the affected left heel.

She previously had this on the right and it took 2 years for the pain to stop.

Foot and ankle ROM is normal and she is tender over a lumpy area of the achilles tendon.

Orthopedic special tests were not performed.

Scan, Diagnose & Inject

Achilles Tendon

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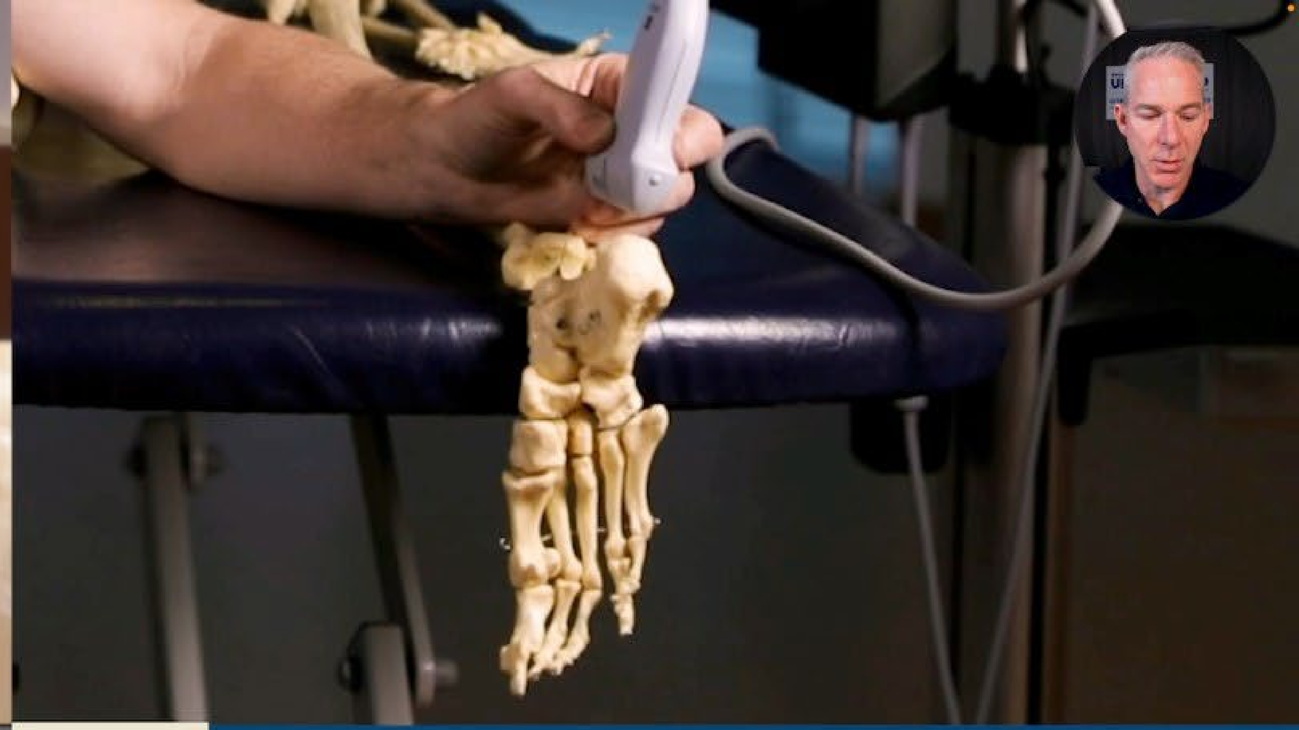

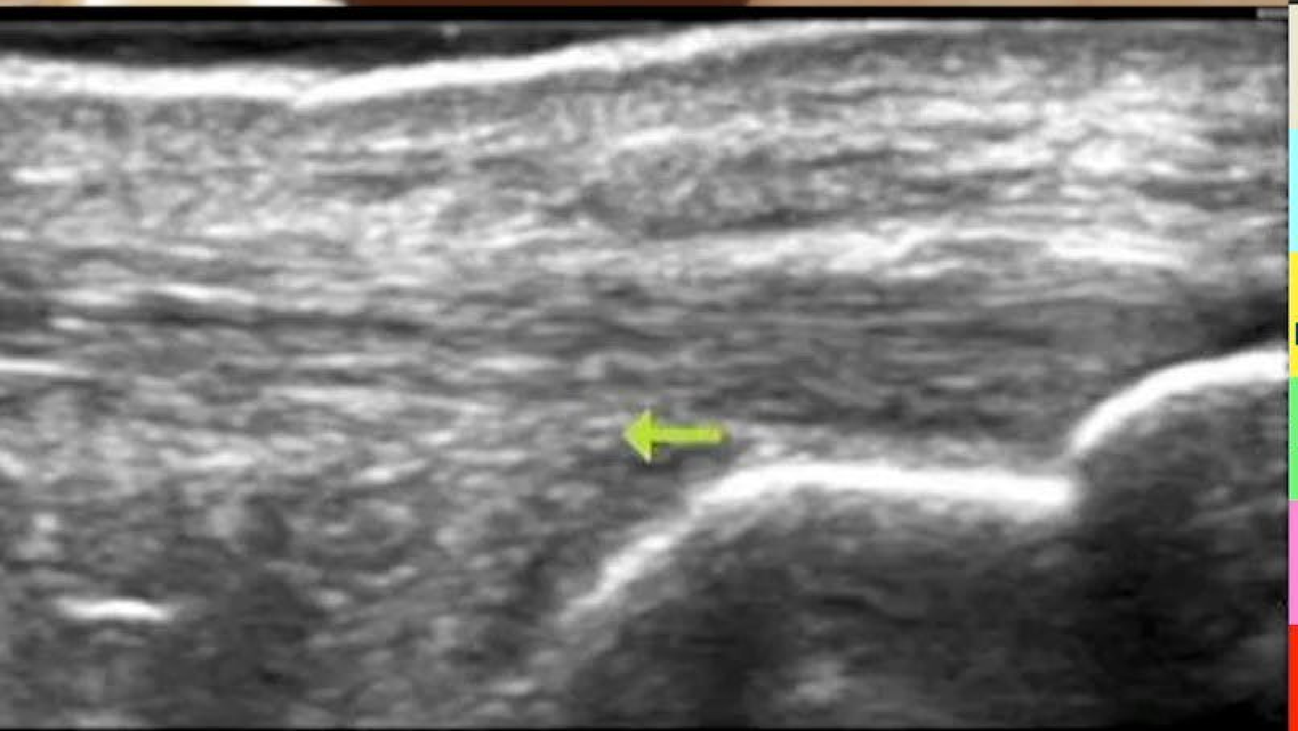

Bone

Cartilage

Fluid
Bursa / Joint

Ligament

Tendon

Muscle

ACHILLES TENDON

Scan, Diagnose & Inject

Achilles Tendon

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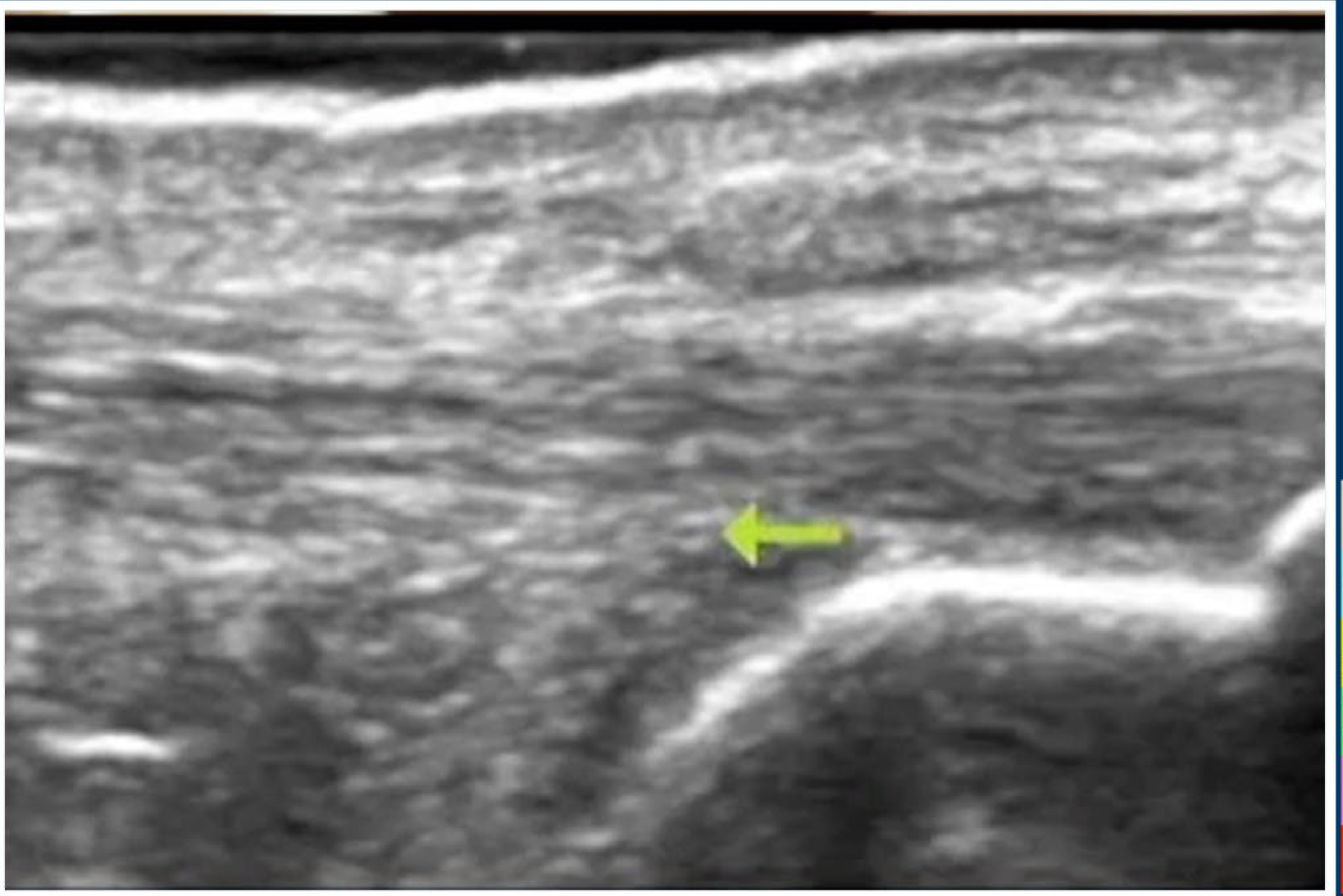
Scan, Diagnose & Inject

INTERPRET NORMAL IMAGE

Achilles Tendon

ACQUIRE THE IMAGE
LANDMARK: Calcaneus
NEAR: Skin and Subcut Tissue
FAR: Calcaneus & Käger's
AOI: Achilles Tendon



- Bone
- Cartilage
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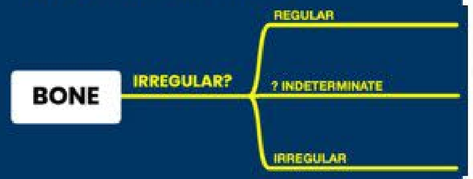

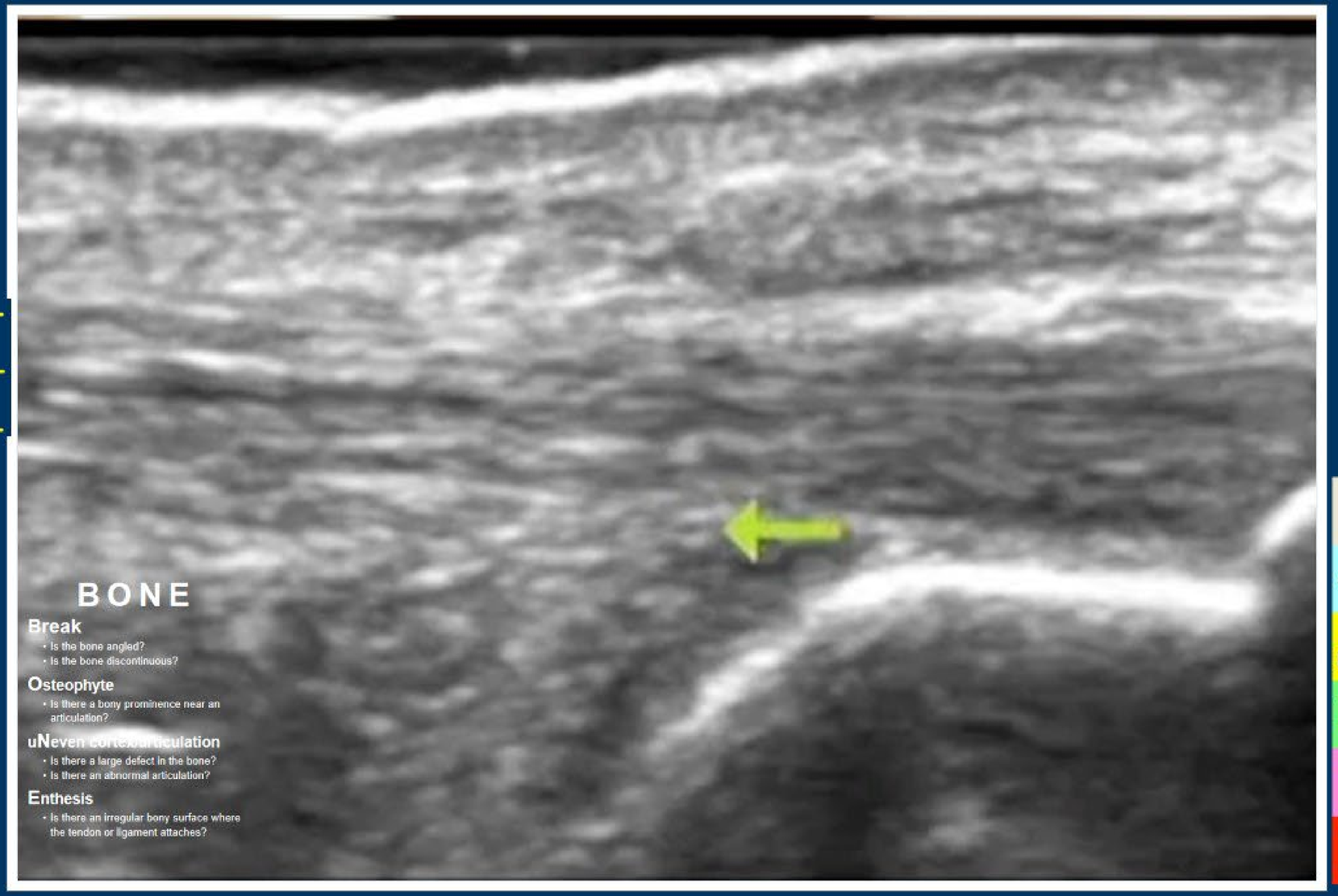

L S D

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm

Bone
Cartilage
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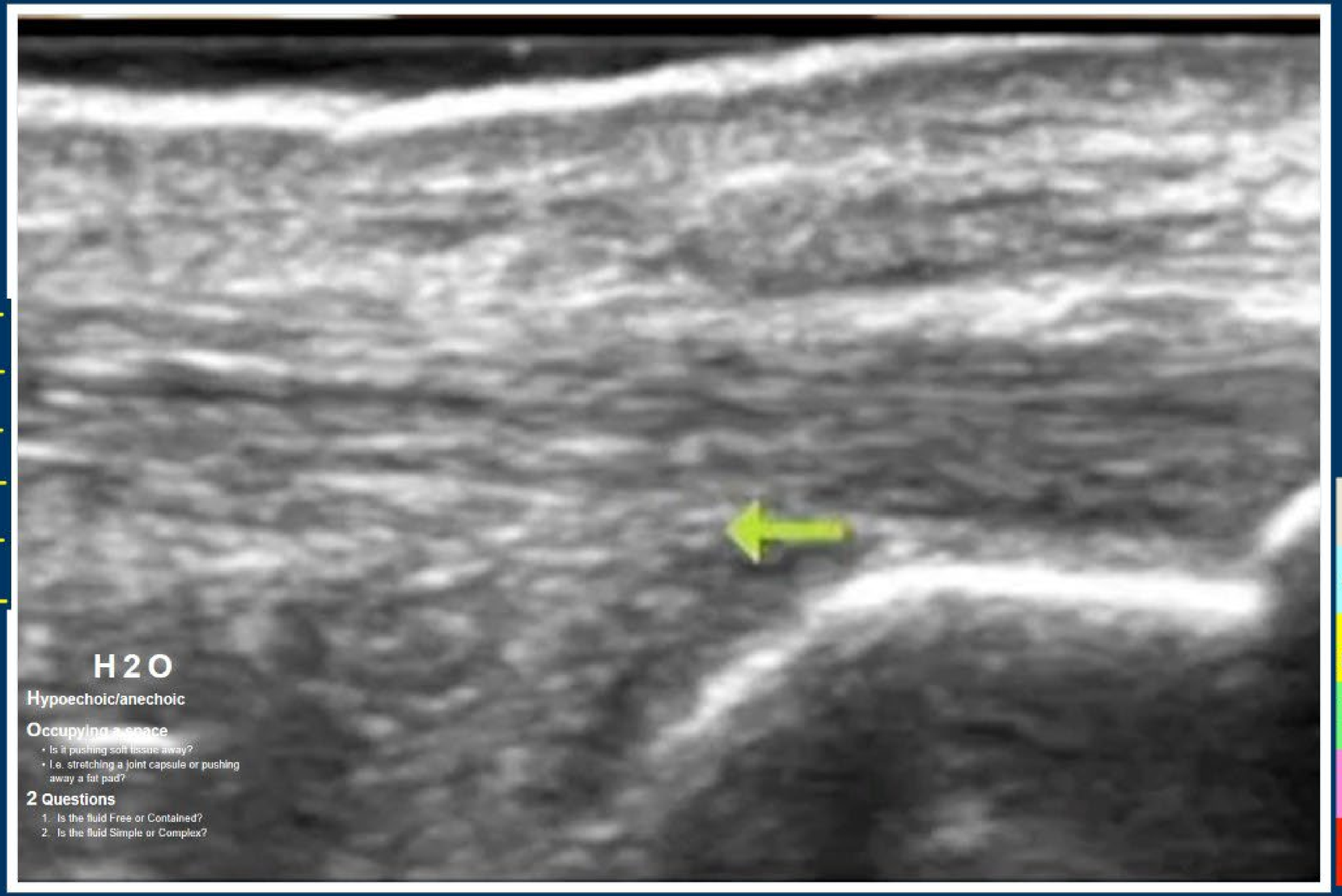

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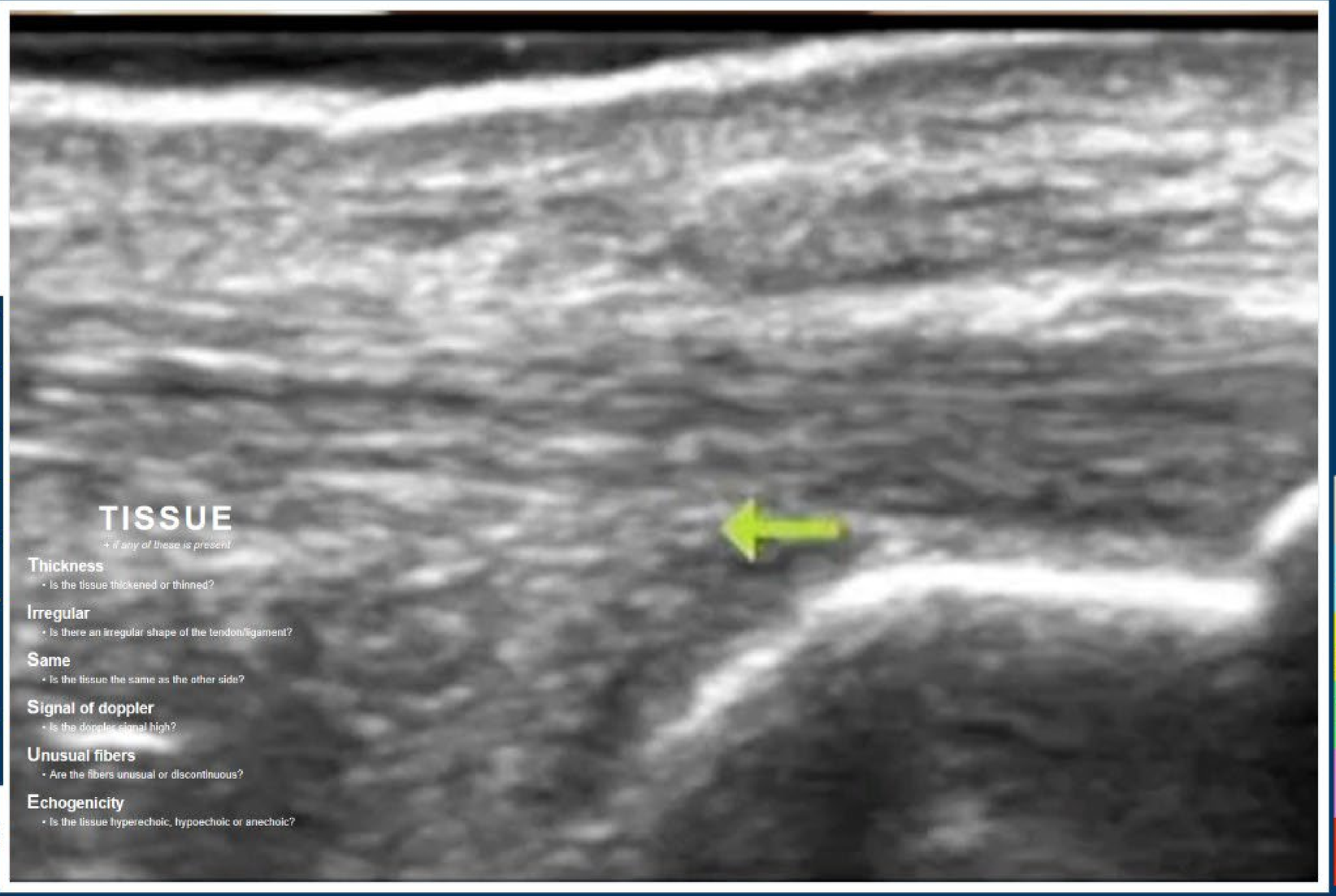

- Bone
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Scan, Diagnose & Inject

Achilles Tendon

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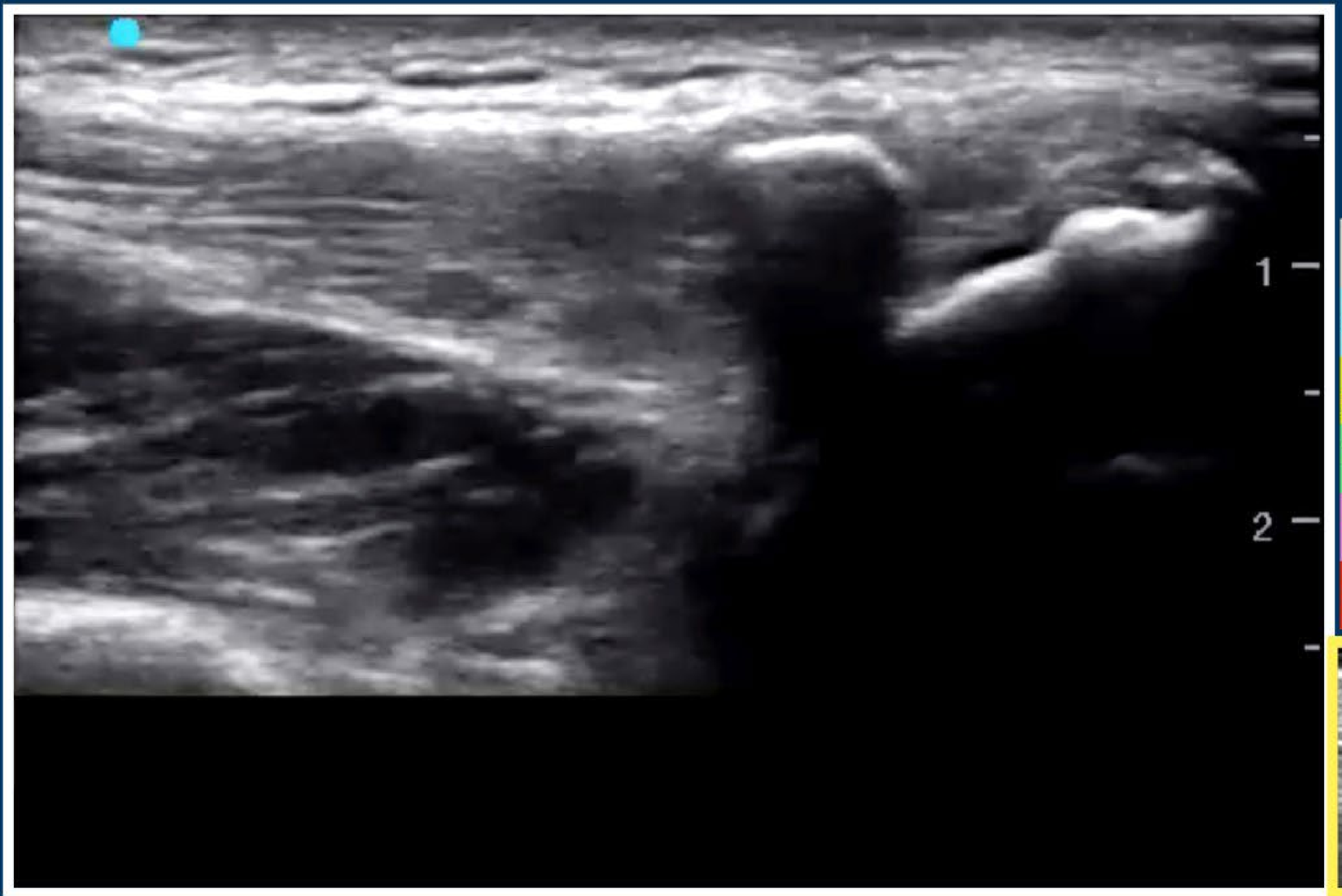

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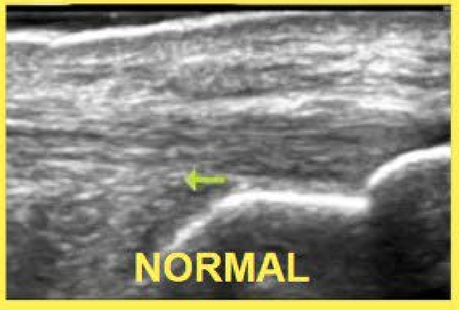

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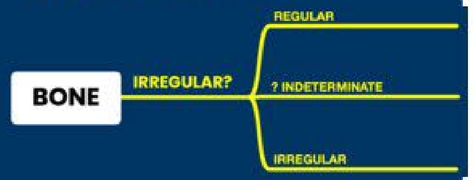

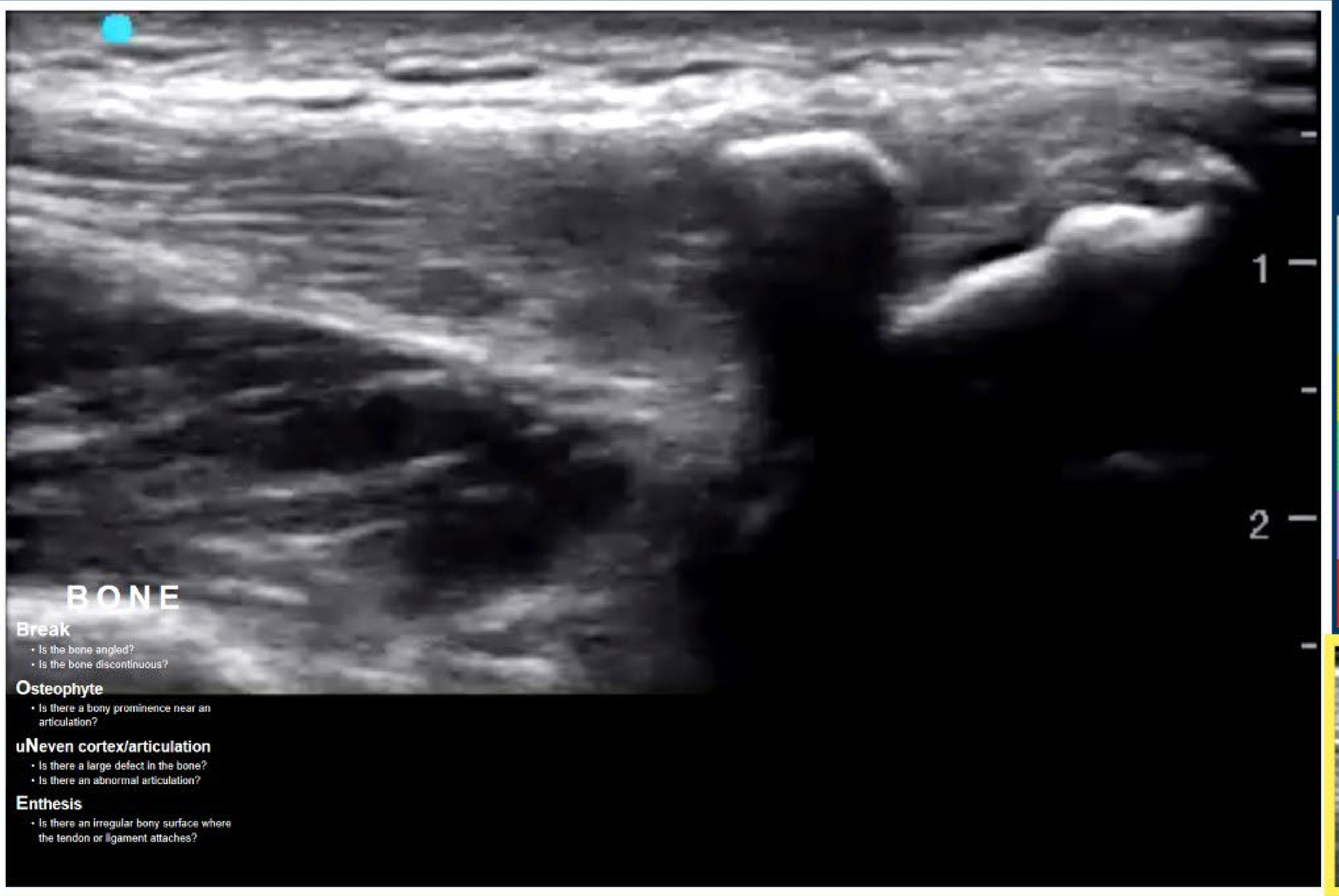

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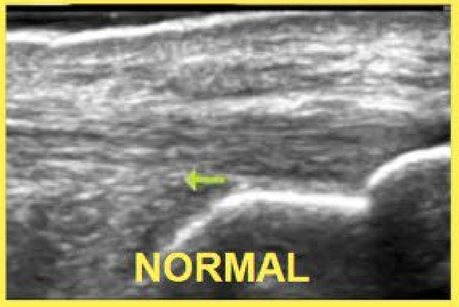
Tendon
Muscle



L S D

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

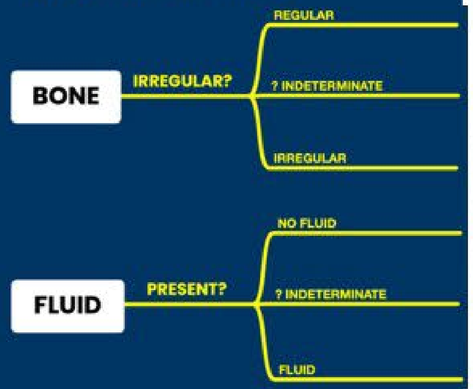
Dimensions
- in mm

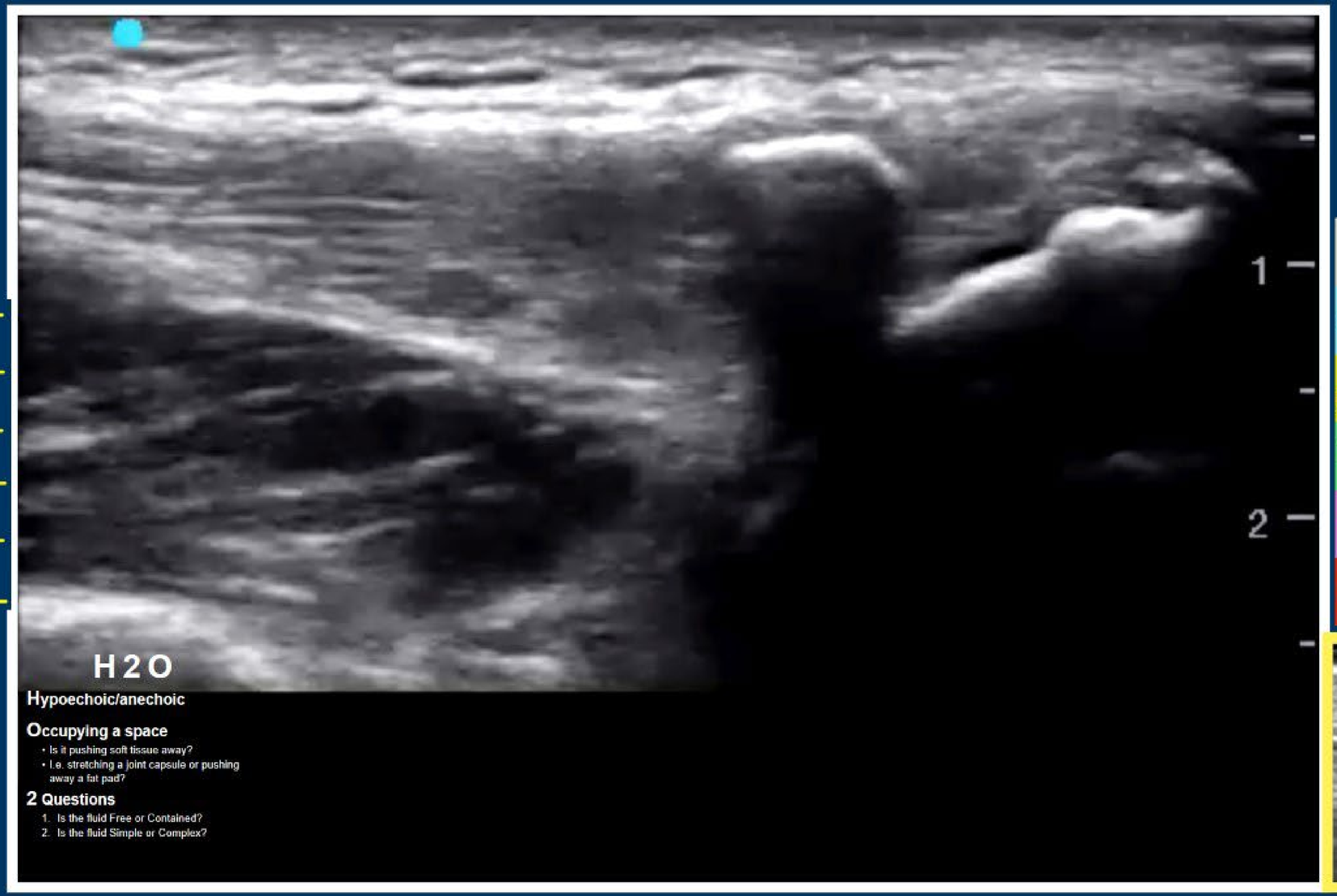
INTERPRET IMAGE 1

Scan, Diagnose & Inject

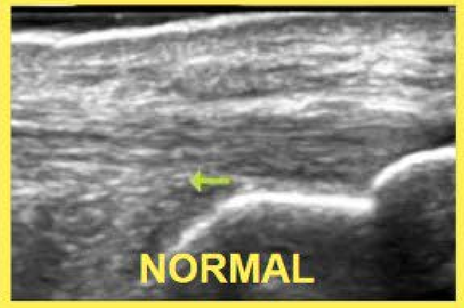
Achilles Tendon

ACQUIRE THE IMAGE
LANDMARK: Calcaneus
NEAR: Skin and Subcut Tissue
FAR: Calcaneus & Käger's
AOI: Achilles Tendon





- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle



L S D

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm

INTERPRET IMAGE 1

Scan, Diagnose & Inject

Achilles Tendon

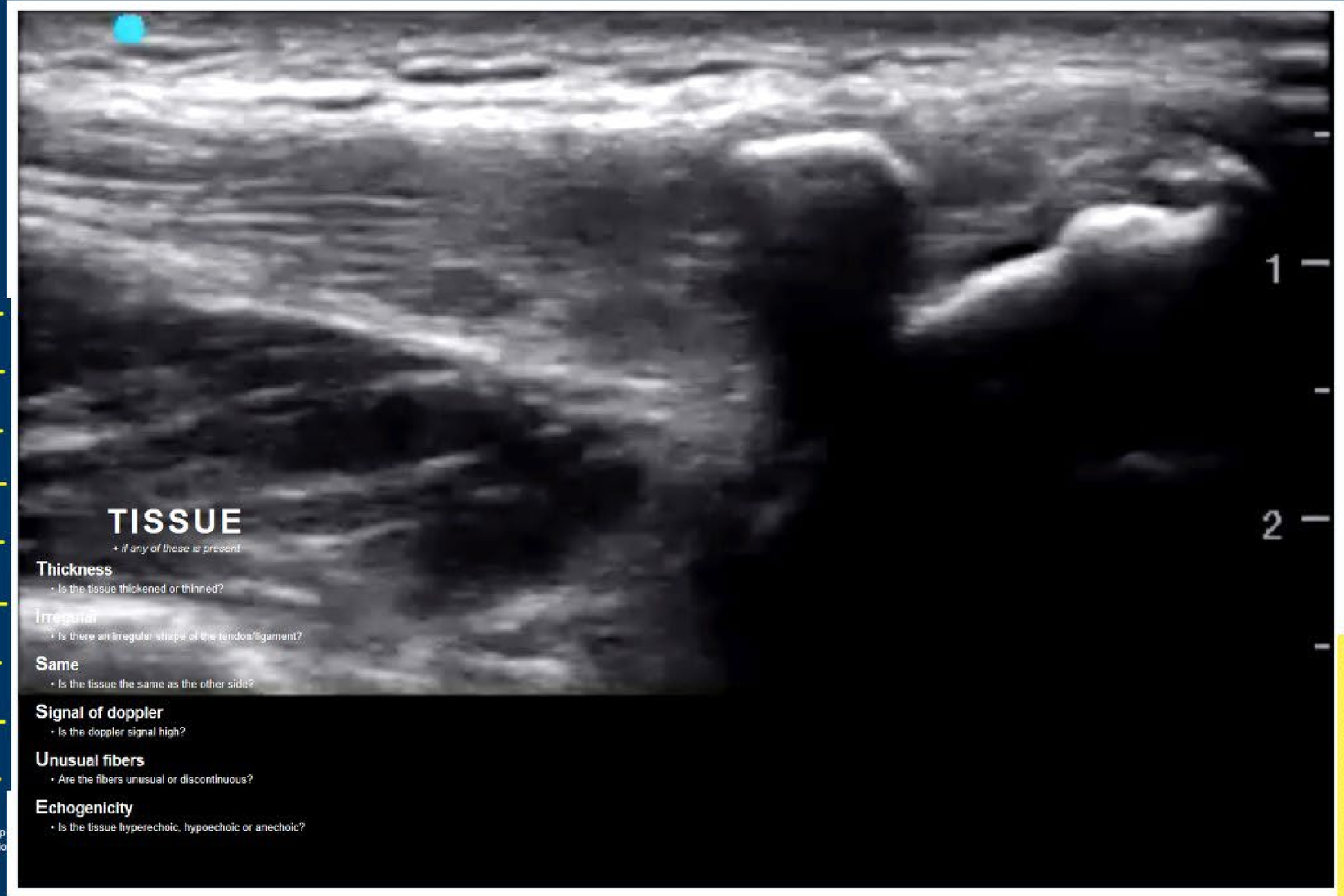
ACQUIRE THE IMAGE
LANDMARK: Calcaneus
NEAR: Skin and Subcut Tissue
FAR: Calcaneus & Käger's
AOI: Achilles Tendon

BONE — IRREGULAR? → REGULAR / ? INDETERMINATE / IRREGULAR

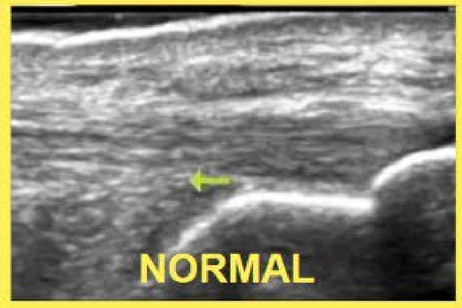
FLUID — PRESENT? → NO FLUID / ? INDETERMINATE / FLUID

TISSUE (MUSCLE TENDON LIGAMENT NERVE) — ABNORMAL? → NORMAL / ? INDETERMINATE / ABNORMAL

CBD	THC	LSD
Calcium • Linear or pinpoint • Oval or round • Dimensions in mm	**Thickness** • Compared to contralateral side • Dimensions in mm	**Location** • Superficial or Deep • Anterior or Posterio • Medial or Lateral
Bony irregularity • Small area • Large area • Dimensions in mm	**Heterogeneity** • Homogenous • Heterogenous	**Shape** • Linear • Curved • Irregular
Doppler • Low, medium, or high	**Colour** • Hypo vs Hyperechoic • Is there anisotropy?	**Dimensions** • in mm



- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle



Achilles Tendon PRP Injection

Scan, Diagnose & Inject

ATFL

HISTORY & PHYSICAL EXAM

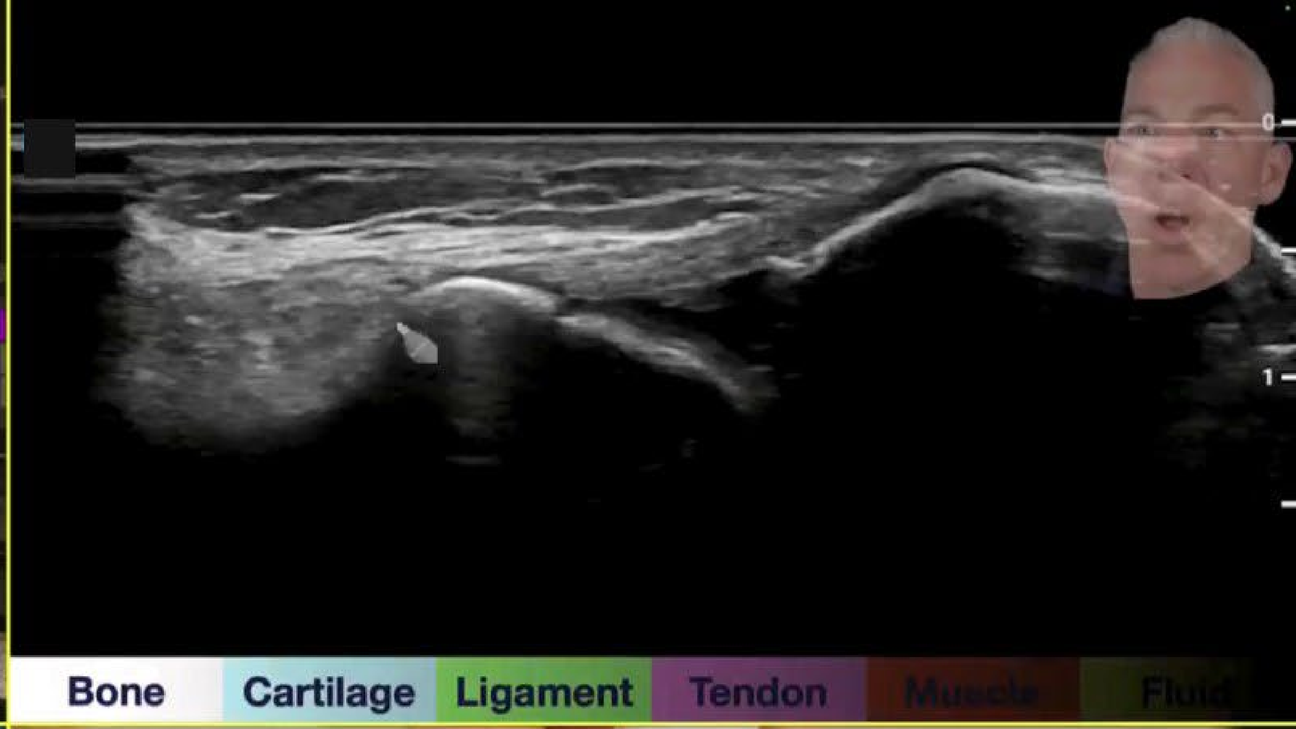
40 year old male presents to the clinic with 2 months of ATFL area pain.

He recently sprained the ankle playing soccer.

He has sprained this same ankle 5 x before.

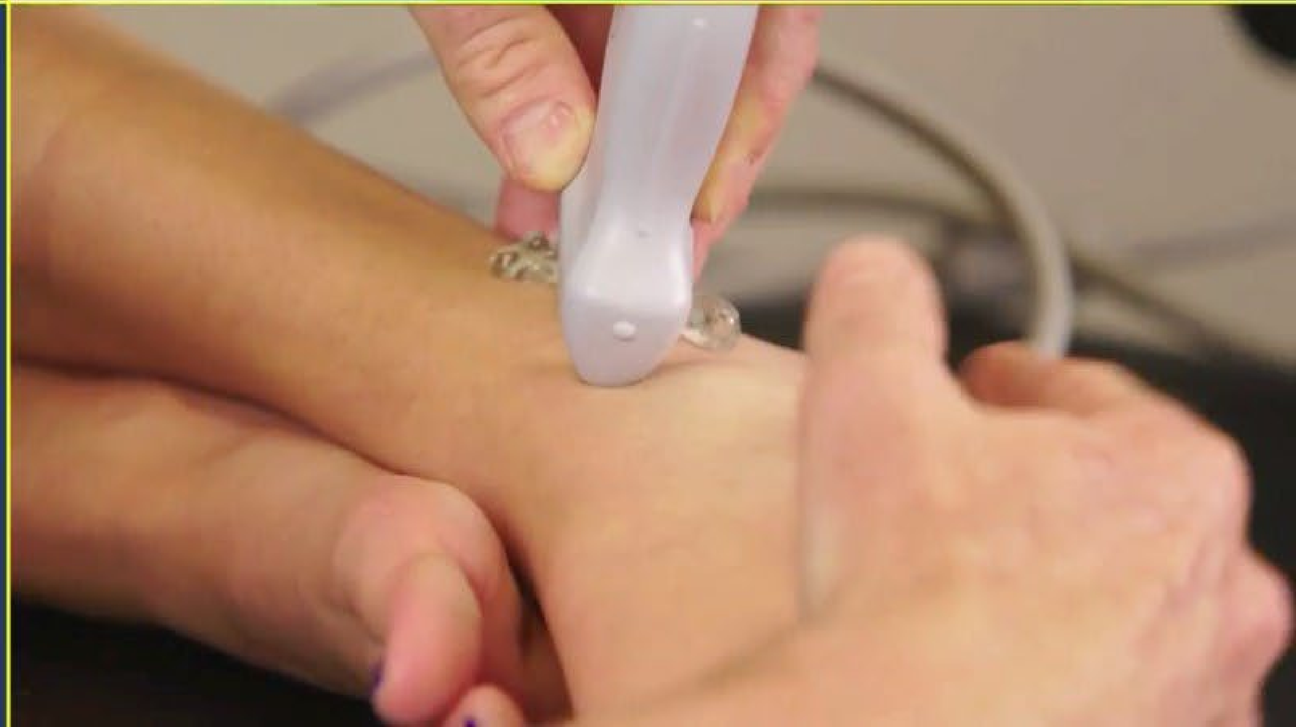
Foot and ankle ROM is normal and he is tender over the ATFL.

Orthopedic special tests were not performed.



ATFL

+ AITFL



Scan, Diagnose & Inject

ATFL

LEVEL 1

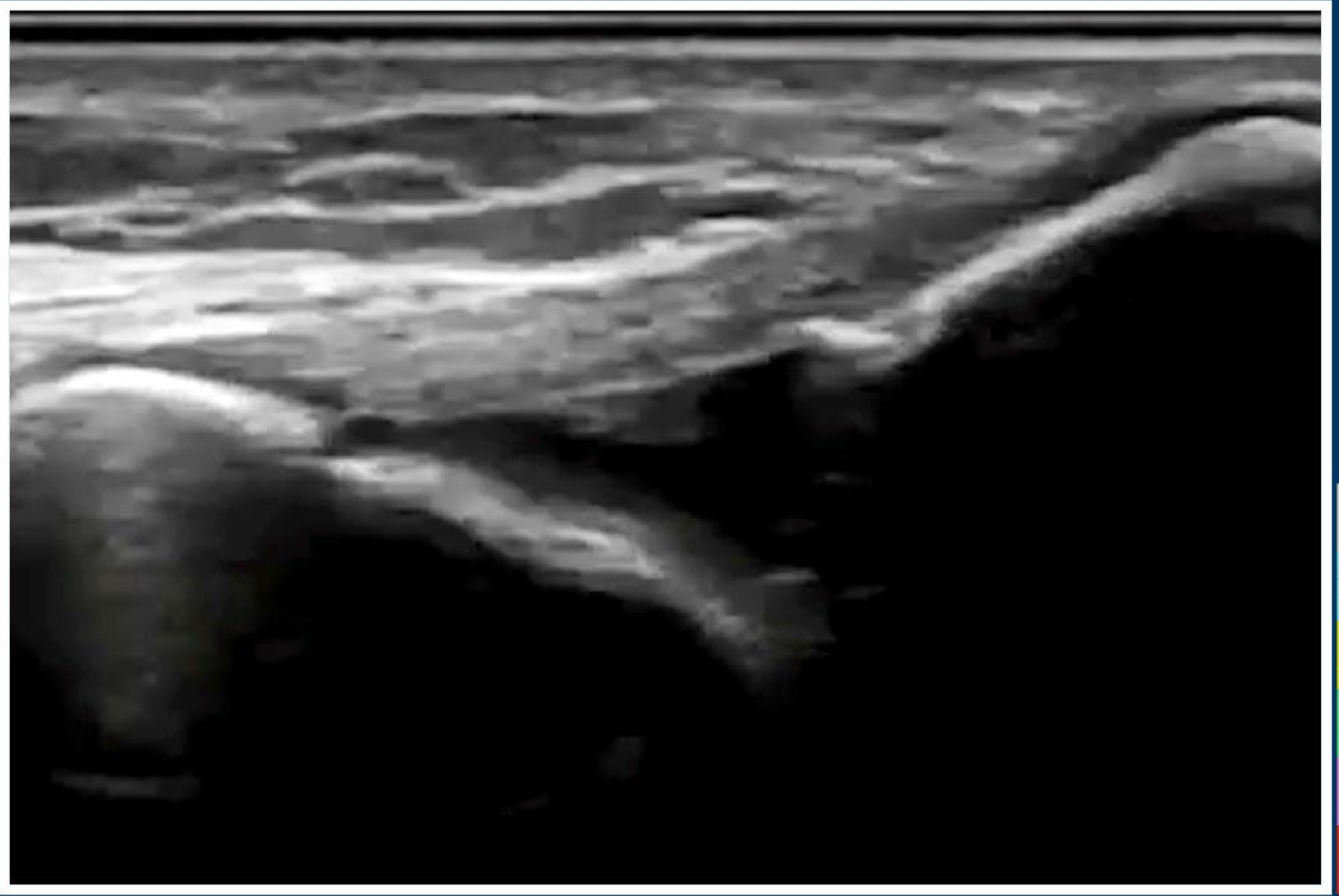
STEP 1 EXAMINE	STEP 2 DIAGNOSE	STEP 3 MANAGE
History & Physical Exam	Interpret Image 1	Manage Patient 1
Ultrasound Scan	Interpret Image 2	Manage Patient 2
Interpret Normal Image	Interpret Image 3	Manage Patient 3
Quiz: Examine	Quiz: Diagnose	Quiz: Manage

Scan, Diagnose & Inject

INTERPRET NORMAL IMAGE

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
NEAR: Skin & Subcut Fat
FAR: Bones
AOI: ATFL



Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle

INTERPRET NORMAL IMAGE

Scan, Diagnose & Inject

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
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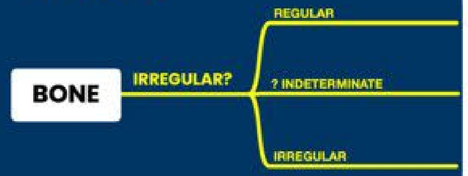

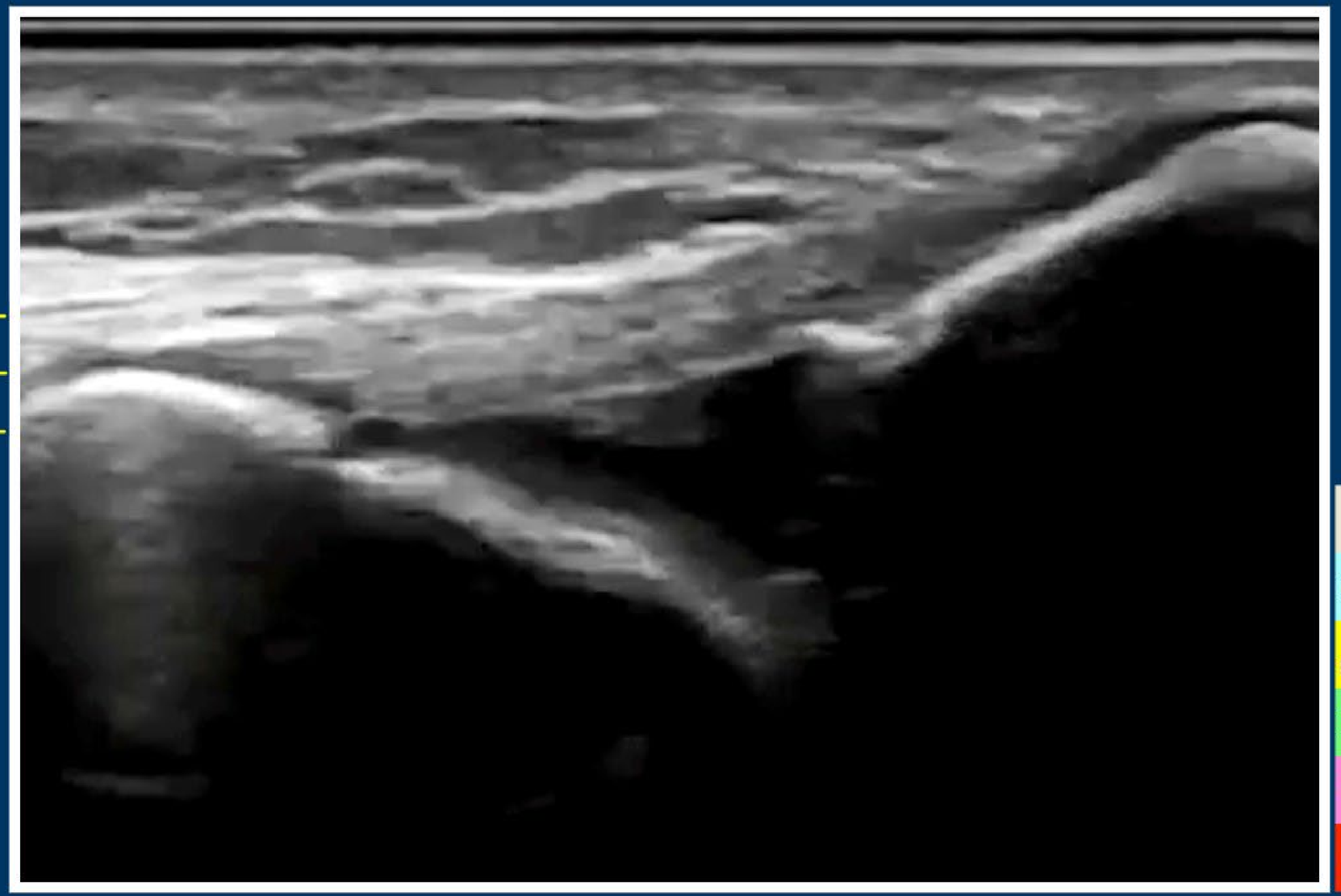

Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle

L S D

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm

INTERPRET NORMAL IMAGE

Scan, Diagnose & Inject

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
NEAR: Skin & Subcut Fat
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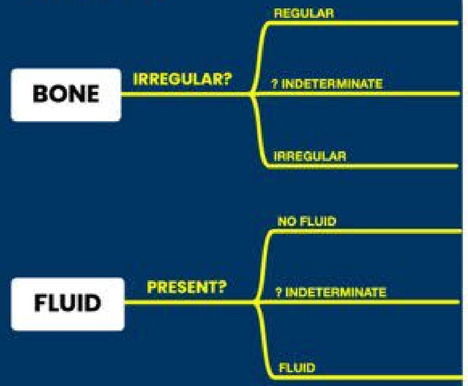

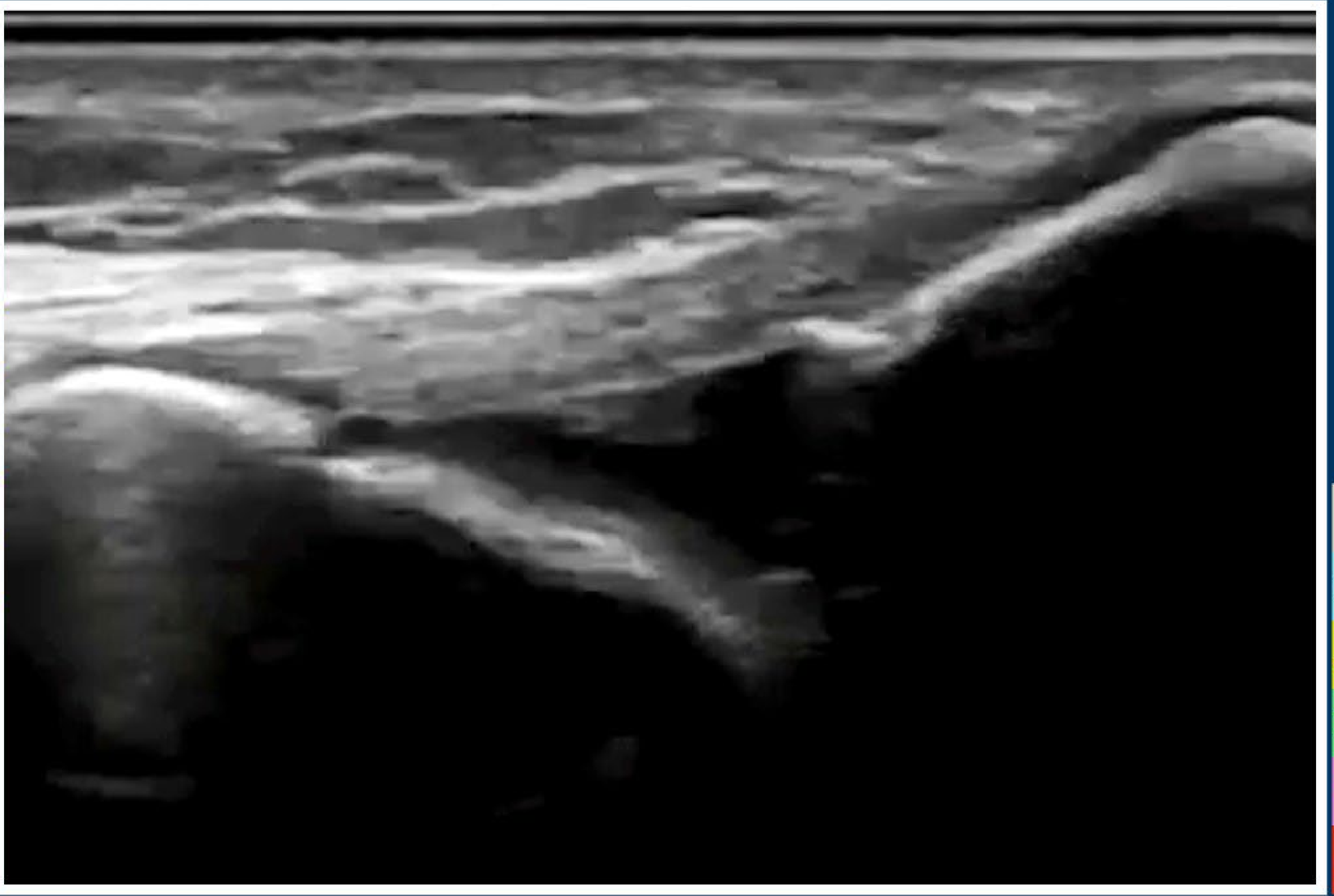

Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle

L S D

Location
- Superficial or Deep
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- Medial or Lateral

Shape
- Linear
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- Irregular

Dimensions
- in mm

INTERPRET NORMAL IMAGE

Scan, Diagnose & Inject

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
NEAR: Skin & Subcut Fat
FAR: Bones
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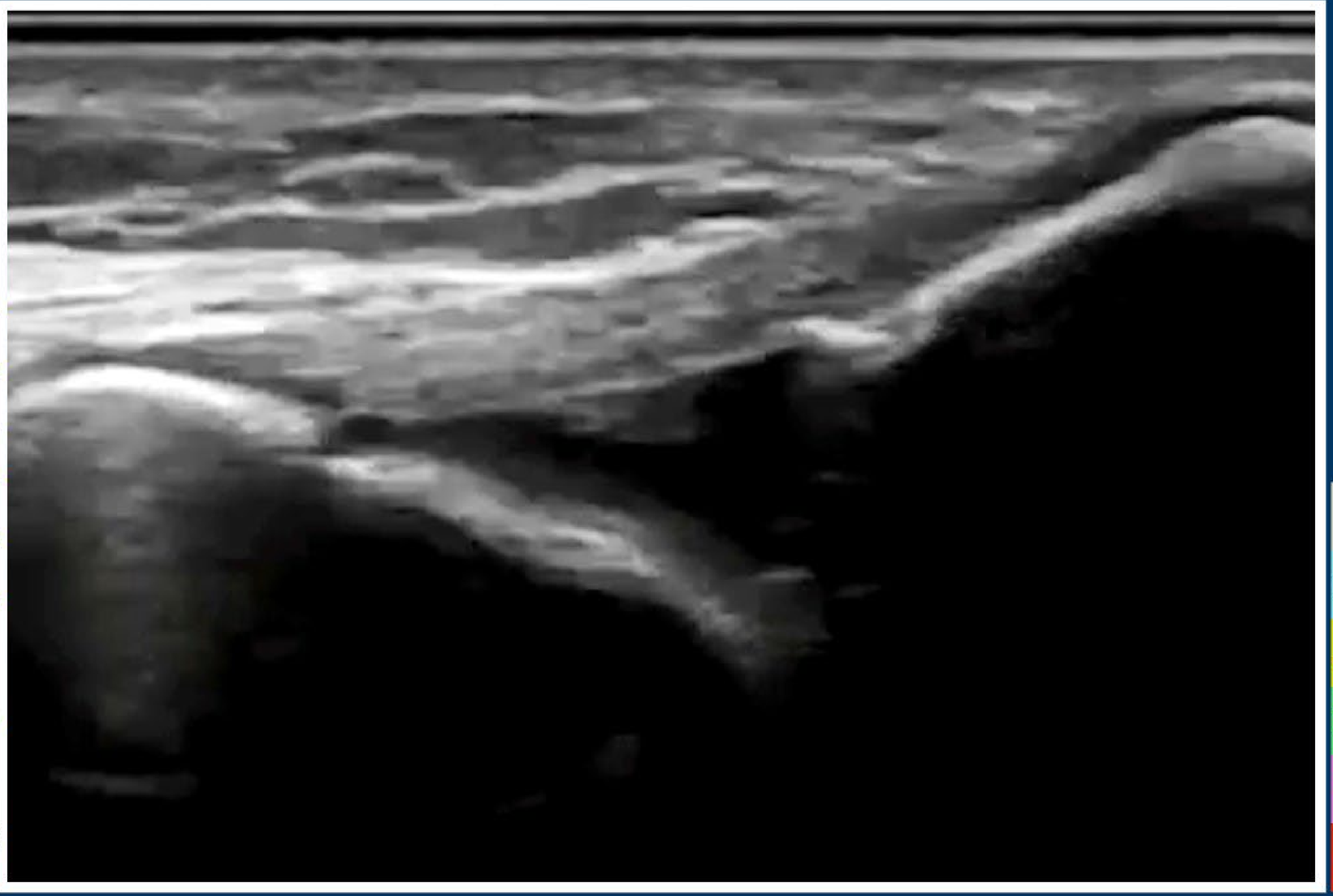
BONE — IRREGULAR? → REGULAR / ? INDETERMINATE / IRREGULAR

FLUID — PRESENT? → NO FLUID / ? INDETERMINATE / FLUID

TISSUE (MUSCLE TENDON LIGAMENT NERVE) — ABNORMAL? → NORMAL / ? INDETERMINATE / ABNORMAL



Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle

CBD	THC	LSD
Calcium • Linear or pinpoint • Oval or round • Dimensions in mm	**Thickness** • Compared to contralateral side • Dimensions in mm	**Location** • Superficial or Deep • Anterior or Posterio • Medial or Lateral
Bony irregularity • Small area • Large area • Dimensions in mm	**Heterogeneity** • Homogenous • Heterogenous	**Shape** • Linear • Curved • Irregular
Doppler • Low, medium, or high	**Colour** • Hypo vs Hyperechoic • Is there anisotropy?	**Dimensions** • in mm

Scan, Diagnose & Inject

ATFL

LEVEL 1

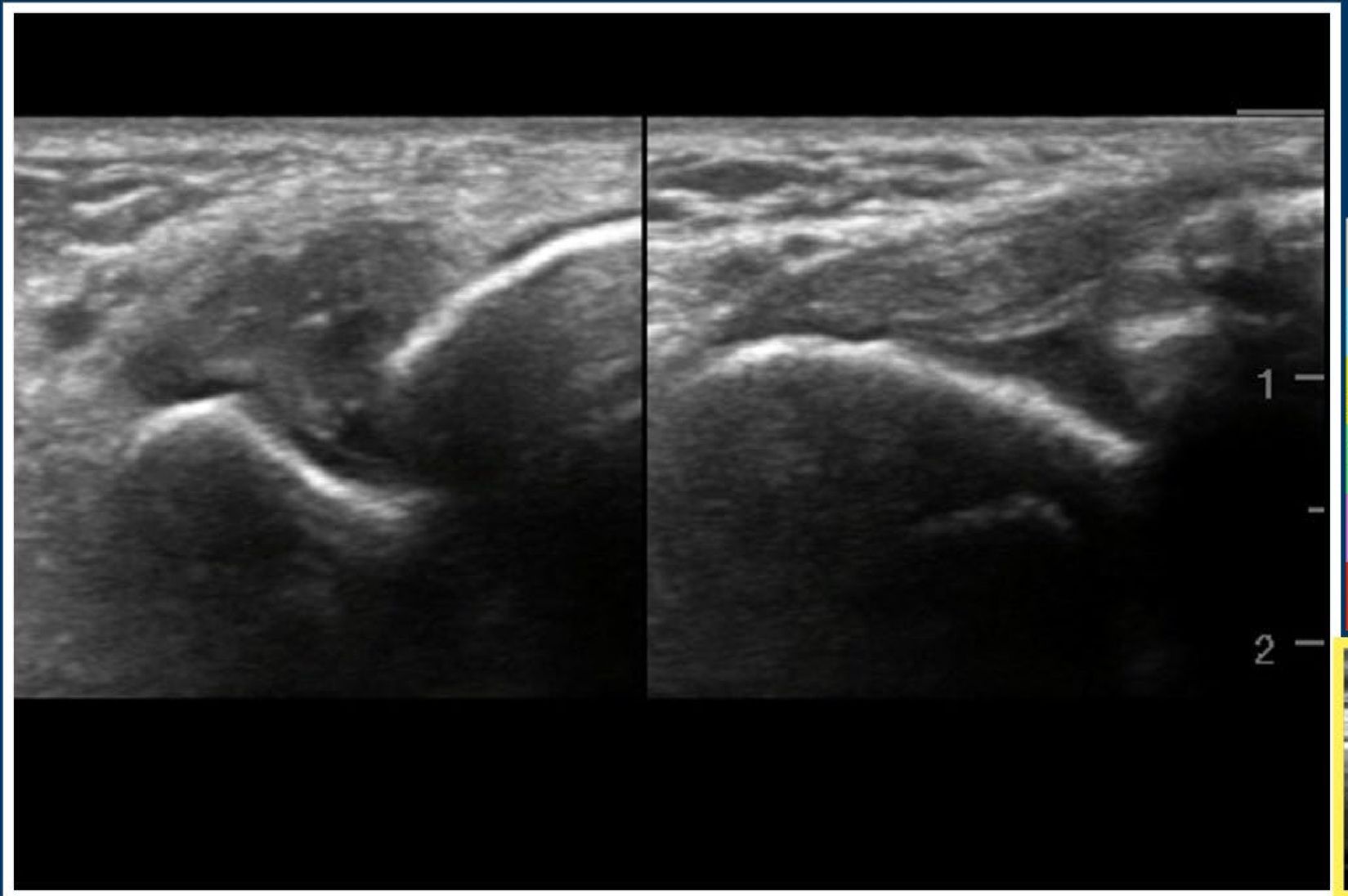
STEP 1 EXAMINE	STEP 2 DIAGNOSE	STEP 3 MANAGE
History & Physical Exam	Interpret Image 1	Manage Patient 1
Ultrasound Scan	Interpret Image 2	Manage Patient 2
Interpret Normal Image	Interpret Image 3	Manage Patient 3
Quiz: Examine	Quiz: Diagnose	Quiz: Manage

Scan, Diagnose & Inject

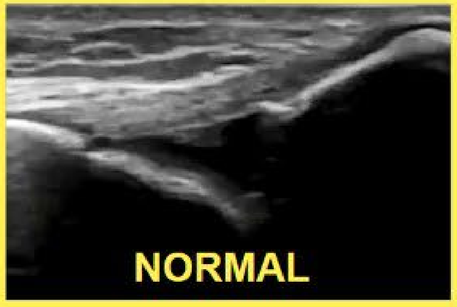
INTERPRET IMAGE 1

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
NEAR: Skin & Subcut Fat
FAR: Bones
AOI: ATFL



Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle



INTERPRET IMAGE 1

Scan, Diagnose & Inject

ATFL

ACQUIRE THE IMAGE
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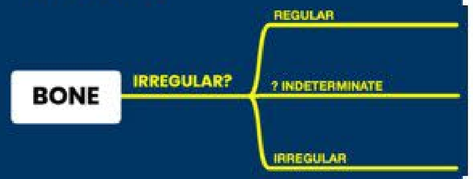
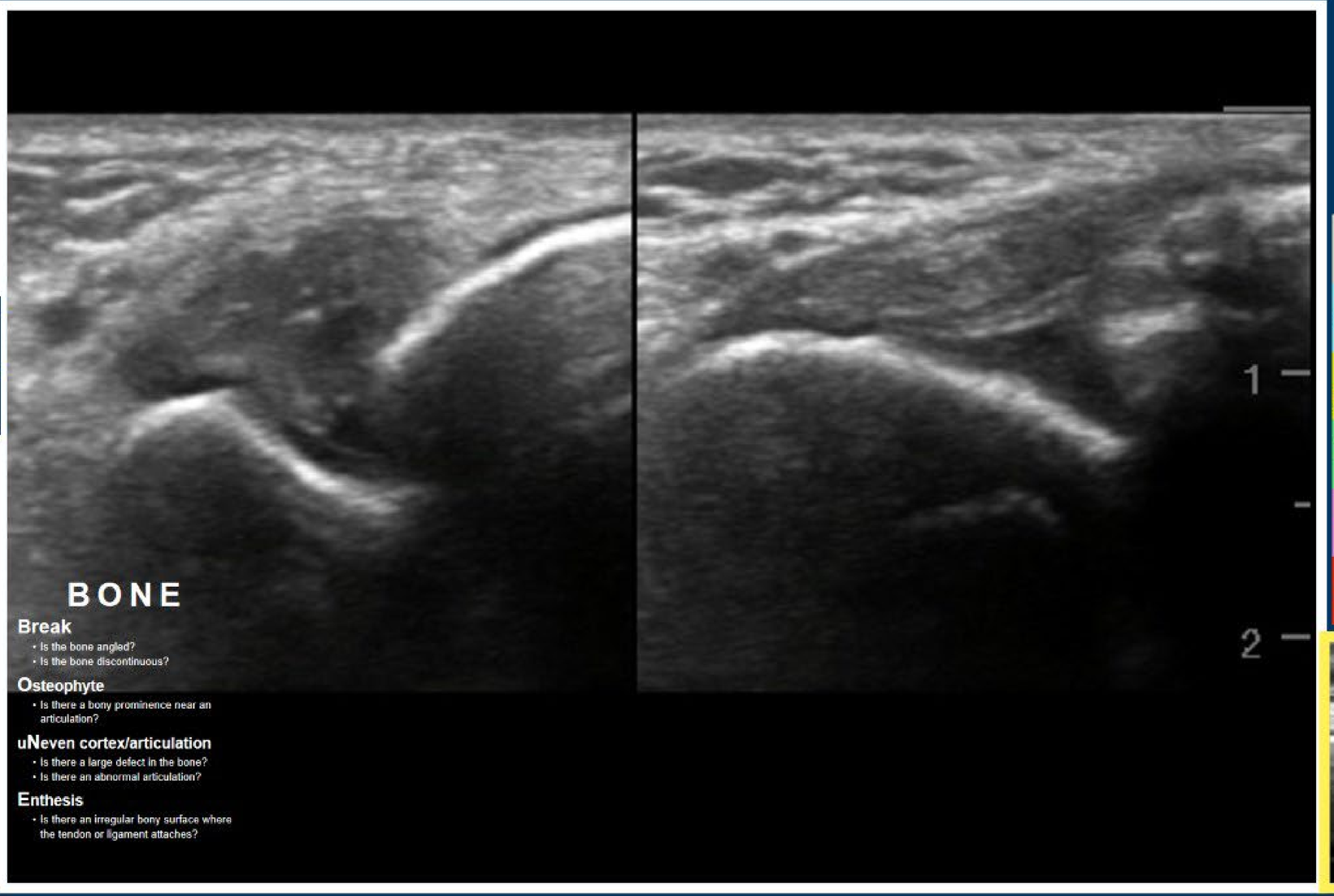
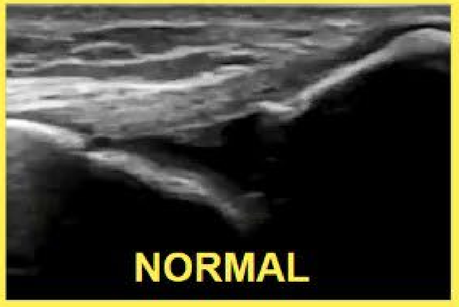




Bone
Cartilage
Fluid
Bursa / Joint
Ligament
Tendon
Muscle



LSD

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm

INTERPRET IMAGE 1

Scan, Diagnose & Inject

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
NEAR: Skin & Subcut Fat
FAR: Bones
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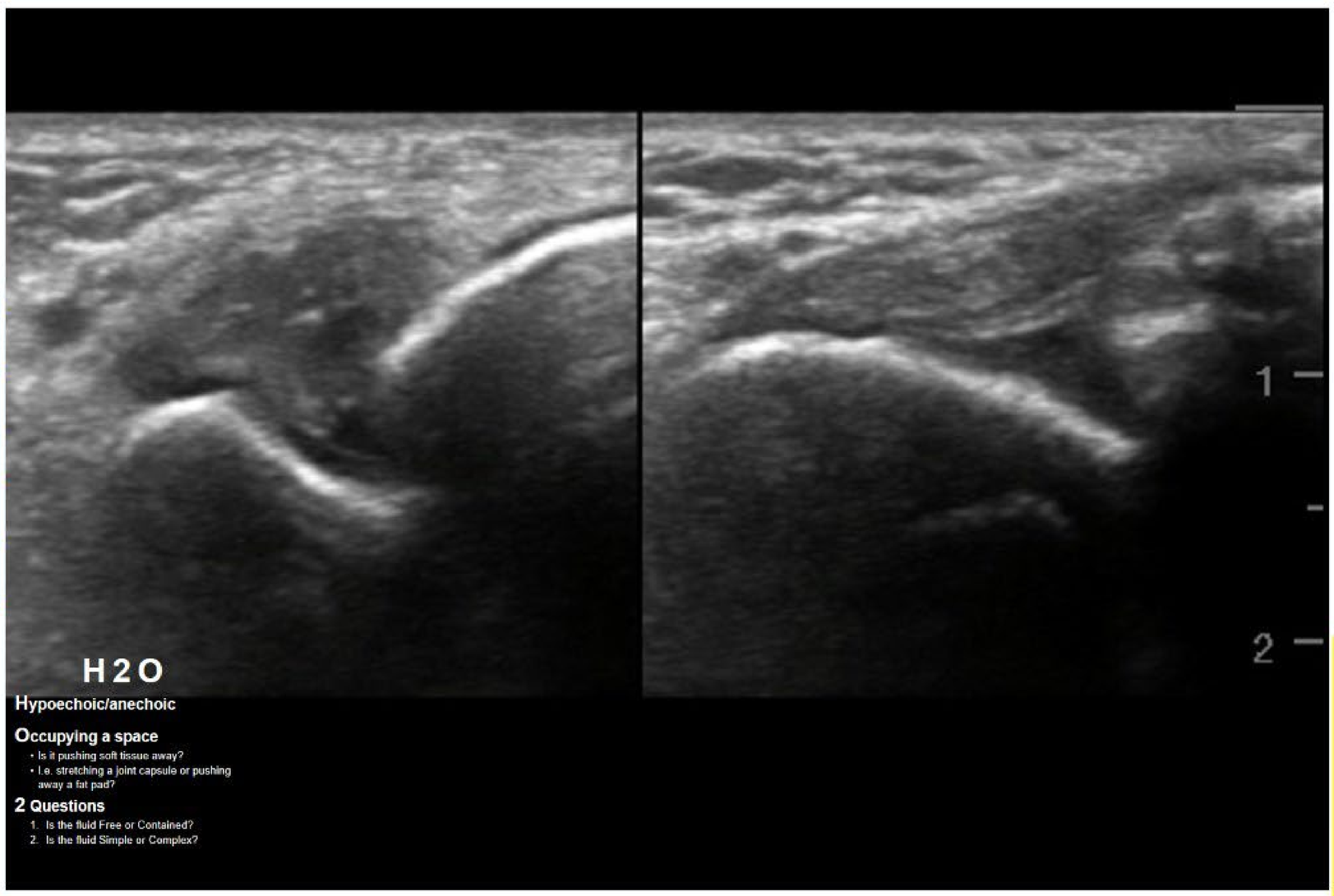
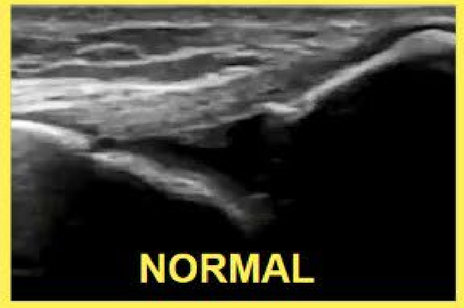
BONE — IRREGULAR? → REGULAR / ? INDETERMINATE / IRREGULAR

FLUID — PRESENT? → NO FLUID / ? INDETERMINATE / FLUID



- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle



L S D

Location
- Superficial or Deep
- Anterior or Posterior
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm

INTERPRET IMAGE 1

Scan, Diagnose & Inject

ATFL

ACQUIRE THE IMAGE
LANDMARK: Lateral Malleolus
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BONE — IRREGULAR? → REGULAR / ? INDETERMINATE / IRREGULAR

FLUID — PRESENT? → NO FLUID / ? INDETERMINATE / FLUID

TISSUE (MUSCLE TENDON LIGAMENT NERVE) — ABNORMAL? → NORMAL / ? INDETERMINATE / ABNORMAL

CBD

Calcium
- Linear or pinpoint
- Oval or round
- Dimensions in mm

Bony irregularity
- Small area
- Large area
- Dimensions in mm

Doppler
- Low, medium, or high

THC

Thickness
- Compared to contralateral side
- Dimensions in mm

Heterogeneity
- Homogenous
- Heterogenous

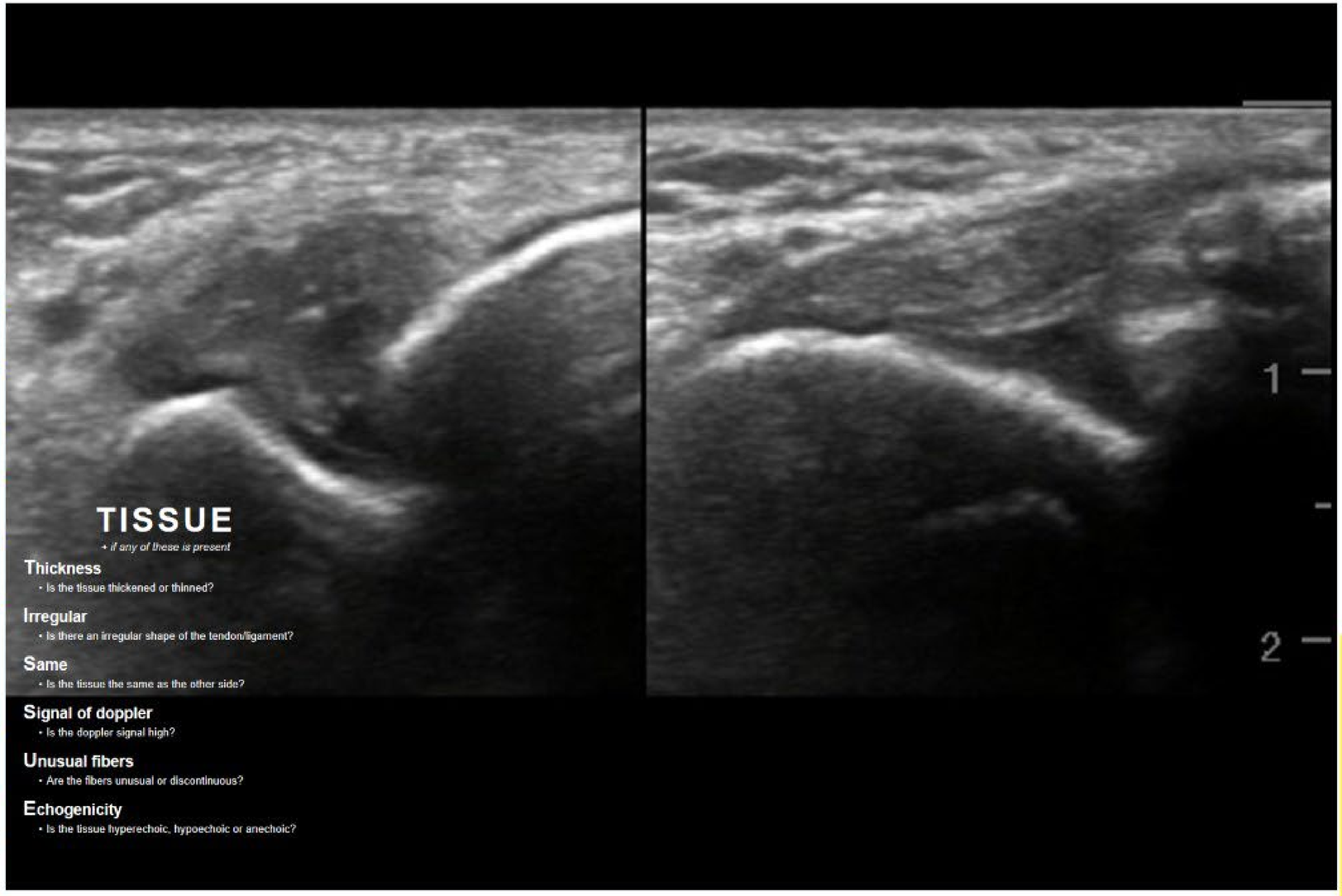
Colour
- Hypo vs Hyperechoic
- Is there anisotropy?

LSD

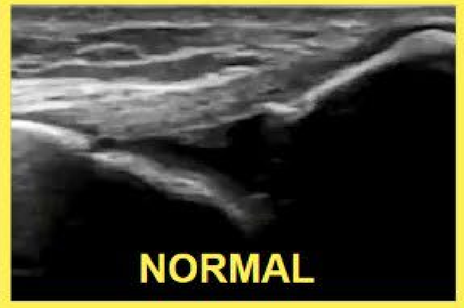
Location
- Superficial or Deep
- Anterior or Posterio
- Medial or Lateral

Shape
- Linear
- Curved
- Irregular

Dimensions
- in mm



- Bone
- Cartilage
- Fluid Bursa / Joint
- Ligament
- Tendon
- Muscle




L15HD3012201A0105
Foot/Ankle
1.5 cm
SC

FOOT & ANKLE: PLANTAR FASCIA

	CORTISONE
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	Any tear / thickening
SUBOPTIMAL CANDIDATE	Pt with prior cortisone injection to same area with pain relief < 4 weeks
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	25g x 1.5"
• TARGET	Into the skin and superficial fat, right down to the calcaneus until certain lidocaine is flowing adjacent fascia
CORTISONE	Triamcinolone 20mg or Methylprednisolone 20mg
• SYRINGE	3mL filled with 1mL Lidocaine 1%
• NEEDLE	22g x 1.5"
• TARGET	Medial calcaneal tubercle (medial and deep to plantar fascia on the screen)
• TOP TIPS	Use Dexamethasone 5mg to reduce fat atrophy risk
POST PROCEDURE	Follow up FOAS at 12 weeks
• ORAL PAIN MEDS	Acetaminophen is likely adequate
• IMMOBILIZE	No
• RETURN TO ADLs	Immediately
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	2 weeks
REPEAT TREATMENT	Minimum 12 weeks interval

	HYALURONIC ACID
TIMING	Anytime
OPTIMAL CANDIDATE	No tears and normal thickness
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • Any Tear • Thickening > 8mm
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	27g x 1.25"
• TARGET	Into the skin and superficial fat, right down to the calcaneus until certain lidocaine is flowing adjacent fascia
HYALURONIC ACID	1-2mL of soft-tissue adapted HA
• SYRINGE	1.2mL pre-filled syringe
• NEEDLE	25g x 1.5"
• TARGET	Adjacent area of abnormality or pain
• TOP TIPS	This might mean spreading the HA around a few different areas
POST PROCEDURE	Follow up FOAS at 12 weeks
• ORAL PAIN MEDS	Acetaminophen is likely adequate
• IMMOBILIZE	No
• RETURN TO ADLs	Immediately
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	2 weeks
REPEAT TREATMENT	Treatment is 2 injections, 7 days apart

	PROLOTHERAPY
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	No tears and normal thickness
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • Any Tear • Thickening > 8mm
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	27g x 1.25"
• TARGET	Into the skin, superficial to tendon, and consider a small amount into the fascia itself
PROLOTHERAPY	1mL Dextrose 50% + 3mL Lidocaine 1% = 12.5% Dextrose
• SYRINGE	5mL with 4mL of 12.5% Dextrose
• NEEDLE	25g x 1.5"
• TARGET	Into fascia and around fascia
• TOP TIPS	Inject maximum 4mL, 2mL is a common amount
POST PROCEDURE	Follow up FOAS q 4 weeks x 6
• ORAL PAIN MEDS	Acetaminophen+Tramadol/Codeine
• IMMOBILIZE	Only if worried about high pain, then boot for 2-3 days
• RETURN TO ADLs	Next day
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	Must discuss progress with therapist
REPEAT TREATMENT	Repeat prolo q 4 weeks x 3 - 6 total

	PRP
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	No tears and normal thickness
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • Any Tear • Thickening > 8mm
ANESTHETIC	1 part Lidocaine 1% + 9 parts Normal saline or simply use Ropivicaine 0.2%
• SYRINGE	3mL
• NEEDLE	27g x 1.25"
• TARGET	Into the skin, superficial to tendon, and consider a small amount into the fascia itself
PRP	Leukocyte-Rich PRP (Red PRP) or Leukocyte-Poor PRP (Yellow PRP)
• SYRINGE	3mL
• NEEDLE	25g x 1.5"
• TARGET	Into fascia and around fascia
• TOP TIPS	Very Painful! Inject maximum 3mL, 1.5mL is a common amount
POST PROCEDURE	Follow up FOAS q 4 weeks x 6
• ORAL PAIN MEDS	Acetaminophen+Tramadol/Codeine
• IMMOBILIZE	Only if worried about high pain, then boot for 2-3 days
• RETURN TO ADLs	Next day
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	Must discuss progress with therapist
REPEAT TREATMENT	Repeat PRP if needed after 8 weeks

FOOT & ANKLE: ACHILLES TENDON

	CORTISONE
TIMING	
OPTIMAL CANDIDATE	Rarely used for this body part
SUBOPTIMAL CANDIDATE	
ANESTHETIC	
• SYRINGE	
• NEEDLE	
• TARGET	
CORTISONE	
• SYRINGE	
• NEEDLE	
• TARGET	
• TOP TIPS	
POST PROCEDURE	
• ORAL PAIN MEDS	
• IMMOBILIZE	
• RETURN TO ADLs	
• RETURN TO THERAPY	
• RETURN TO SPORT	
REPEAT TREATMENT	

	HYALURONIC ACID
TIMING	Anytime
OPTIMAL CANDIDATE	No tears (just tendinosis)
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • Tear > 10 % of tendon • Very poor strength
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	30g x 1"
• TARGET	Into the skin and superficial to tendon, until certain lidocaine is flowing adjacent tendon
HYALURONIC ACID	1-2mL of soft-tissue adapted HA
• SYRINGE	1.2mL pre-filled syringe
• NEEDLE	25g x 1.5"
• TARGET	Adjacent area of abnormality or pain
• TOP TIPS	This might mean spreading the HA around a few different areas
POST PROCEDURE	Follow up VISA-A at 12 weeks
• ORAL PAIN MEDS	Acetaminophen is likely adequate
• IMMOBILIZE	No
• RETURN TO ADLs	Immediately
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	2 weeks
REPEAT TREATMENT	Treatment is 2 injections, 7 days apart

	PROLOTHERAPY
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	No tears (just tendinosis)
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • Tear > 10 % of tendon • Very poor strength
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	30g x 1"
• TARGET	Into the skin, superficial to tendon, and consider a small amount into the tendon itself
PROLOTHERAPY	1mL Dextrose 50% + 3mL Lidocaine 1% = 12.5% Dextrose
• SYRINGE	5mL with 4mL of 12.5% Dextrose
• NEEDLE	25g x 1.5"
• TARGET	Into tendinosis + tear and around tear
• TOP TIPS	Very Painfull Inject maximum 4mL, 2mL is a common amount
POST PROCEDURE	Follow up VISA-A q 4 weeks x 6
• ORAL PAIN MEDS	Acetaminophen+Tramadol/Codeine
• IMMOBILIZE	Only if worried about high pain, then boot for 2-3 days
• RETURN TO ADLs	Next day
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	Must discuss progress with therapist
REPEAT TREATMENT	Repeat prolo q 4 weeks x 3 - 6 total

	PRP
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	No tears (just tendinosis)
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • Tear > 25 % of tendon • Very poor strength
ANESTHETIC	1 part Lidocaine 1% + 9 parts Normal saline or simply use Ropivicaine 0.2%
• SYRINGE	3mL
• NEEDLE	30g x 1"
• TARGET	Into the skin, superficial to tendon, and consider a small amount into the tendon itself
PRP	Leukocyte-Rich PRP (Red PRP) or Leukocyte-Poor PRP (Yellow PRP)
• SYRINGE	3mL
• NEEDLE	25g x 1.5"
• TARGET	Into tendinosis + tear and around tear
• TOP TIPS	Inject maximum 4mL, 2mL is a common amount
POST PROCEDURE	Follow up v q 4 weeks x 6
• ORAL PAIN MEDS	Acetaminophen+Tramadol/Codeine
• IMMOBILIZE	Only if worried about high pain, then boot for 2-3 days
• RETURN TO ADLs	Next day
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	Must discuss progress with therapist
REPEAT TREATMENT	Repeat PRP if needed after 8 weeks

ANKLE: ANKLE LIGAMENTS (ATFL, AITFL)

	CORTISONE
TIMING	
OPTIMAL CANDIDATE	Rarely used for this body part
SUBOPTIMAL CANDIDATE	
ANESTHETIC	
• SYRINGE	
• NEEDLE	
• TARGET	
CORTISONE	
• SYRINGE	
• NEEDLE	
• TARGET	
• TOP TIPS	
POST PROCEDURE	
• ORAL PAIN MEDS	
• IMMOBILIZE	
• RETURN TO ADLs	
• RETURN TO THERAPY	
• RETURN TO SPORT	
REPEAT TREATMENT	

	HYALURONIC ACID
TIMING	Anytime
OPTIMAL CANDIDATE	No tears and only mild thickening
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • ATFL Complete Tear • AITFL Thickening > 3mm
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	27g x 1.25"
• TARGET	Into the skin and superficial fat, right down to the ligaments until certain lidocaine is flowing adjacent ligament
HYALURONIC ACID	1-2mL of soft-tissue adapted HA
• SYRINGE	1.2mL pre-filled syringe
• NEEDLE	25g x 1.5"
• TARGET	Adjacent area of abnormality or pain
• TOP TIPS	This might mean spreading the HA around a few different areas
POST PROCEDURE	Follow up FOAS at 12 weeks
• ORAL PAIN MEDS	Acetaminophen is likely adequate
• IMMOBILIZE	No
• RETURN TO ADLs	Immediately
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	2 weeks
REPEAT TREATMENT	Treatment is 2 injections, 7 days apart

	PROLOTHERAPY
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	No tears and only mild thickening
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • ATFL Complete Tear • AITFL Thickening > 3mm
ANESTHETIC	Lidocaine 1%
• SYRINGE	3mL
• NEEDLE	27g x 1.25"
• TARGET	Into the skin and superficial fat, right down to the ligaments until certain lidocaine is flowing into ligament
PROLOTHERAPY	1mL Dextrose 50% + 3mL Lidocaine 1% = 12.5% Dextrose
• SYRINGE	5mL with 4mL of 12.5% Dextrose
• NEEDLE	25g x 1.5"
• TARGET	Into ligaments and around ligaments
• TOP TIPS	Inject maximum 2mL each ligament, 1.5mL is a common amount
POST PROCEDURE	Follow up FOAS q 4 weeks x 6
• ORAL PAIN MEDS	Acetaminophen is likely adequate
• IMMOBILIZE	No
• RETURN TO ADLs	Next day
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	Must discuss progress with therapist
REPEAT TREATMENT	Repeat prolo q 4 weeks x 3 - 6 total

	PRP
TIMING	Not usually in first 6 weeks of pain
OPTIMAL CANDIDATE	No tears and only mild thickening
SUBOPTIMAL CANDIDATE	• VAS > 7 / 10 with ADLs • ATFL Complete Tear • AITFL Thickening > 3mm
ANESTHETIC	1 part Lidocaine 1% + 9 parts Normal saline or simply use Ropivicaine 0.2%
• SYRINGE	3mL
• NEEDLE	27g x 1.25"
• TARGET	Into the skin and superficial fat, right down to the ligaments until certain lidocaine is flowing into ligament
PRP	Leukocyte-Poor PRP (Yellow PRP)
• SYRINGE	5mL
• NEEDLE	25g x 1.5"
• TARGET	Into ligaments and around ligaments
• TOP TIPS	Inject maximum 2mL each ligament, 1.5mL is a common amount
POST PROCEDURE	Follow up FOAS q 4 weeks x 6
• ORAL PAIN MEDS	Acetaminophen is likely adequate
• IMMOBILIZE	No
• RETURN TO ADLs	Next day
• RETURN TO THERAPY	1 week
• RETURN TO SPORT	Must discuss progress with therapist
REPEAT TREATMENT	Repeat PRP if needed after 8 weeks