

Pediatric Appendicitis

POCUS application

Ultrasound Division 2023

Diagnostic scoring

Alvarado Score (AS)		Pediatric Appendicitis Score (PAS)	
Diagnostic criteria	Value	Diagnostic criteria	Value
Migration of pain	1	Migration of pain	1
Anorexia / ketones in urine	1	Anorexia	1
Nausea / vomiting	1	Nausea / emesis	1
Tenderness in right lower quadrant	2	Tenderness in right lower quadrant	2
Rebound pain	1	Cough / percussion / hopping tenderness	2
Elevation of temperature (≥ 37.3 °C)	1	Fever (≥ 38 °C)	1
Leukocytosis ($> 10,000/\mu\text{l}$)	2	Leukocytosis ($> 10,000/\mu\text{l}$)	1
Neutrophilia ($> 75\%$)	1	Neutrophilia ($> 75\%$)	1
Total	10	Total	10

Recommendations:

<4 = Look for an alternate diagnosis

>4 pts = Work up

POCUS for appendicitis

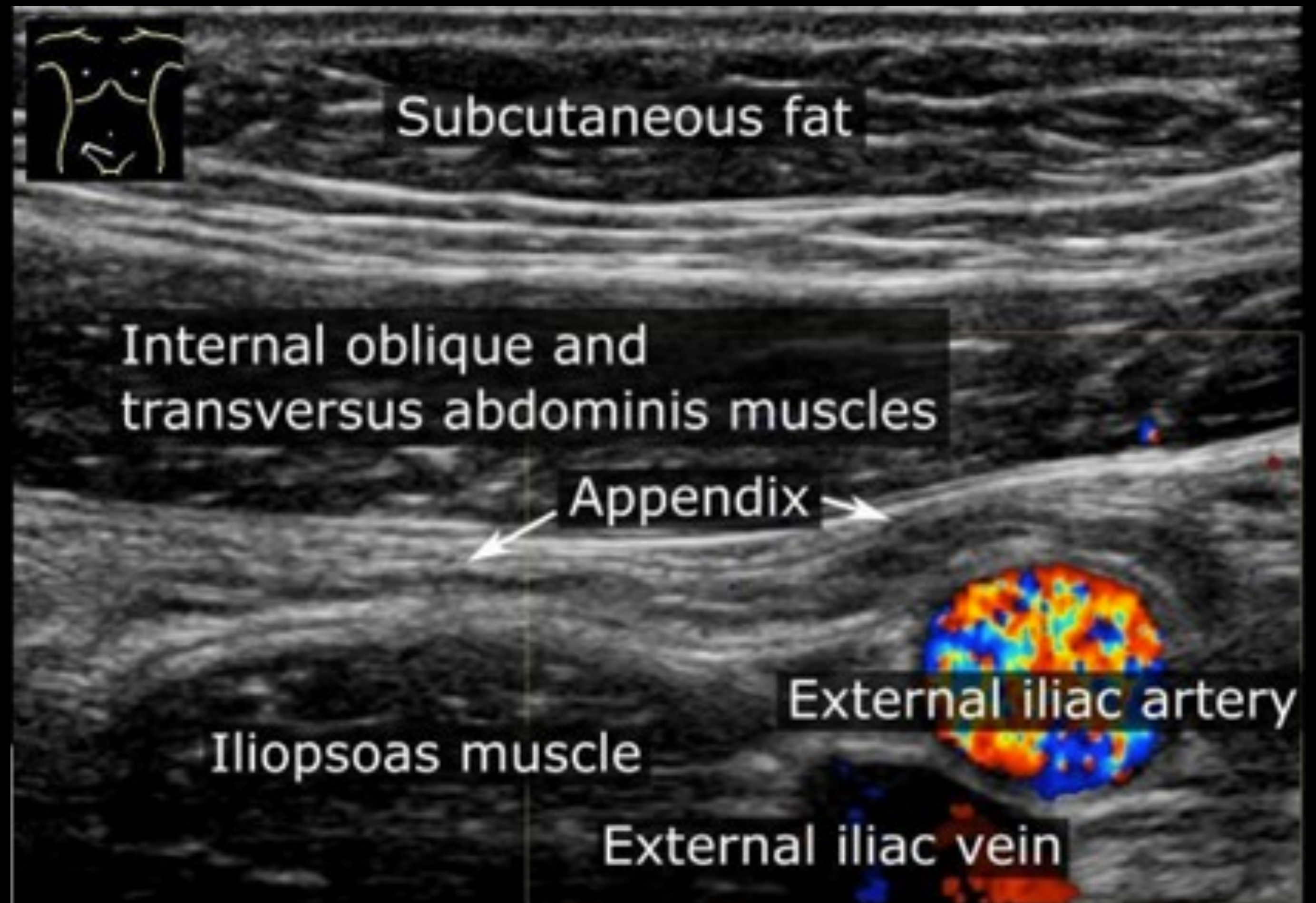
Probe & Anatomy



- Scan point of maximal tenderness

OR

- Landmark Technique
 - Anterior to the iliac vessels
 - Medial to psoas muscle



Normal vs. Appendicitis

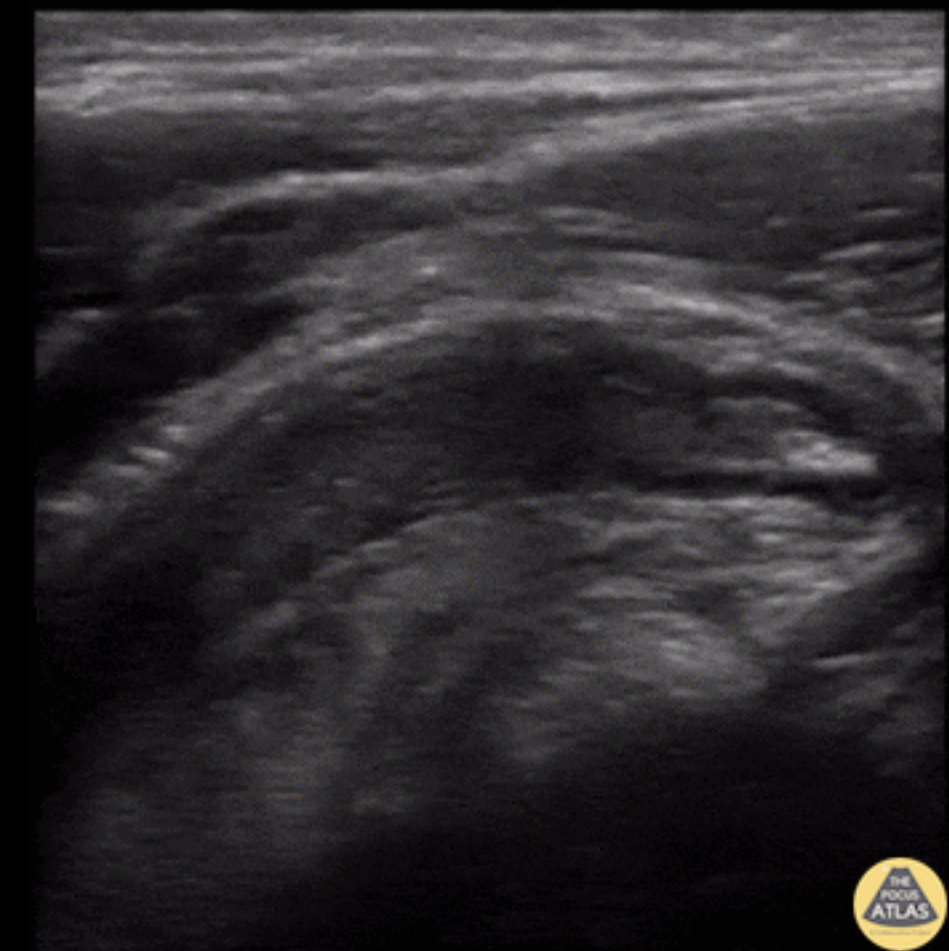
NORMAL

- Less than 6mm
- Compressible
- Lack of peristalsis



APPENDICITIS

- Greater than 6mm
- NON compressible
- Lack of peristalsis
- Possible appendicolith
- Hyperechoic surrounding fat and inflammation
- Hyperemia “ring of fire”
- Surrounding free fluid



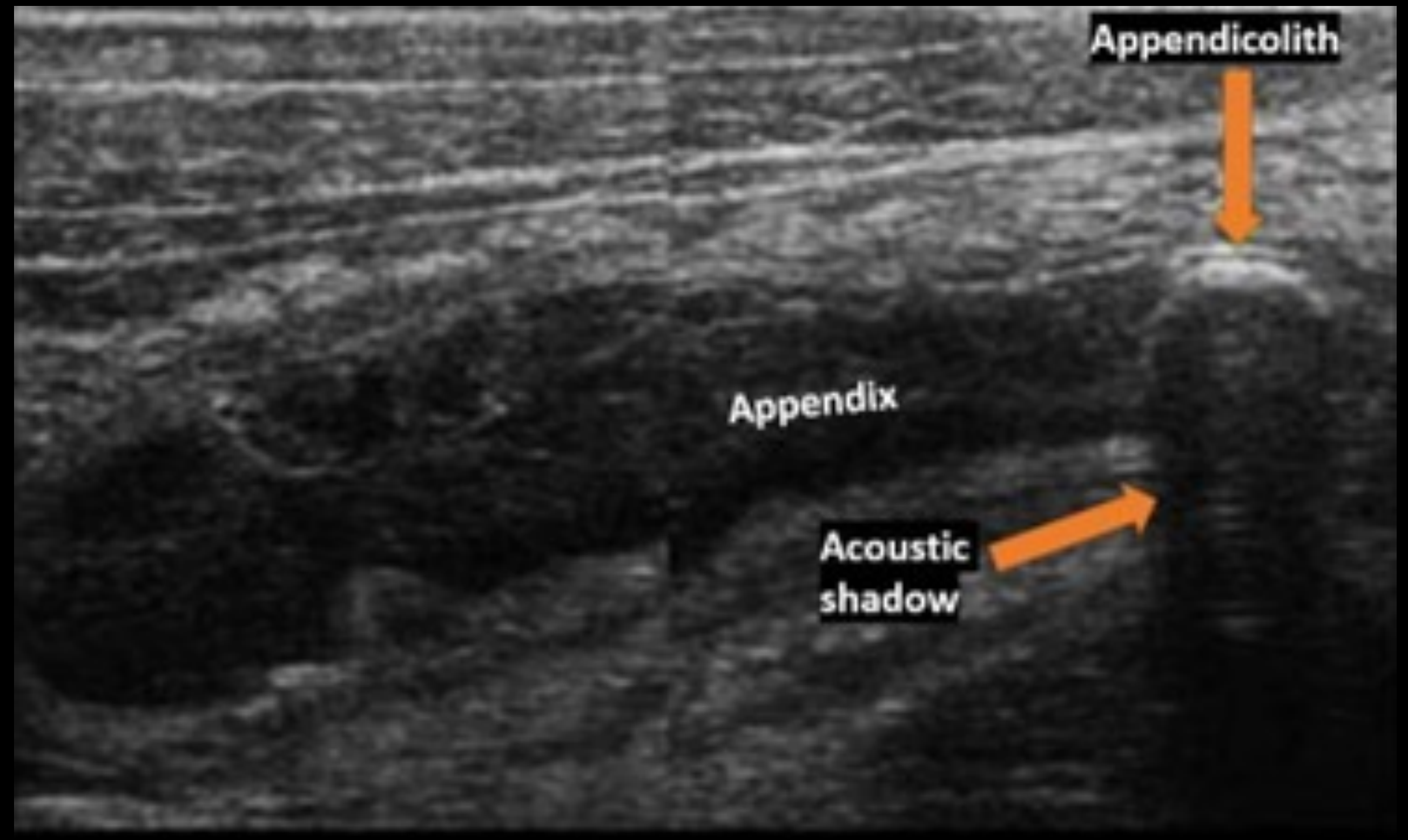
Ultrasound findings of acute appendicitis

Primary findings

Greater than 6mm from outer wall to outer wall



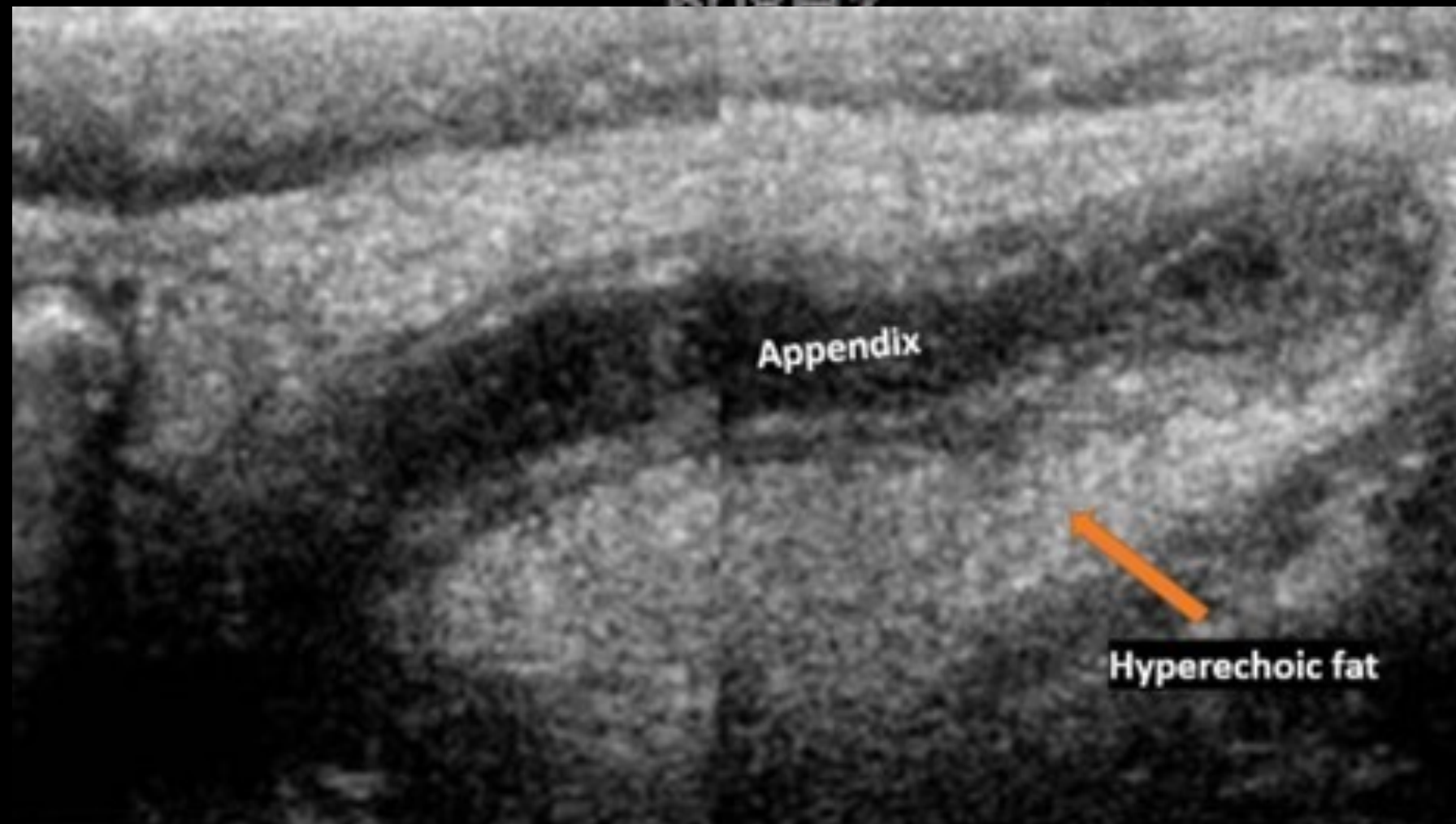
Presence of an appendicolith



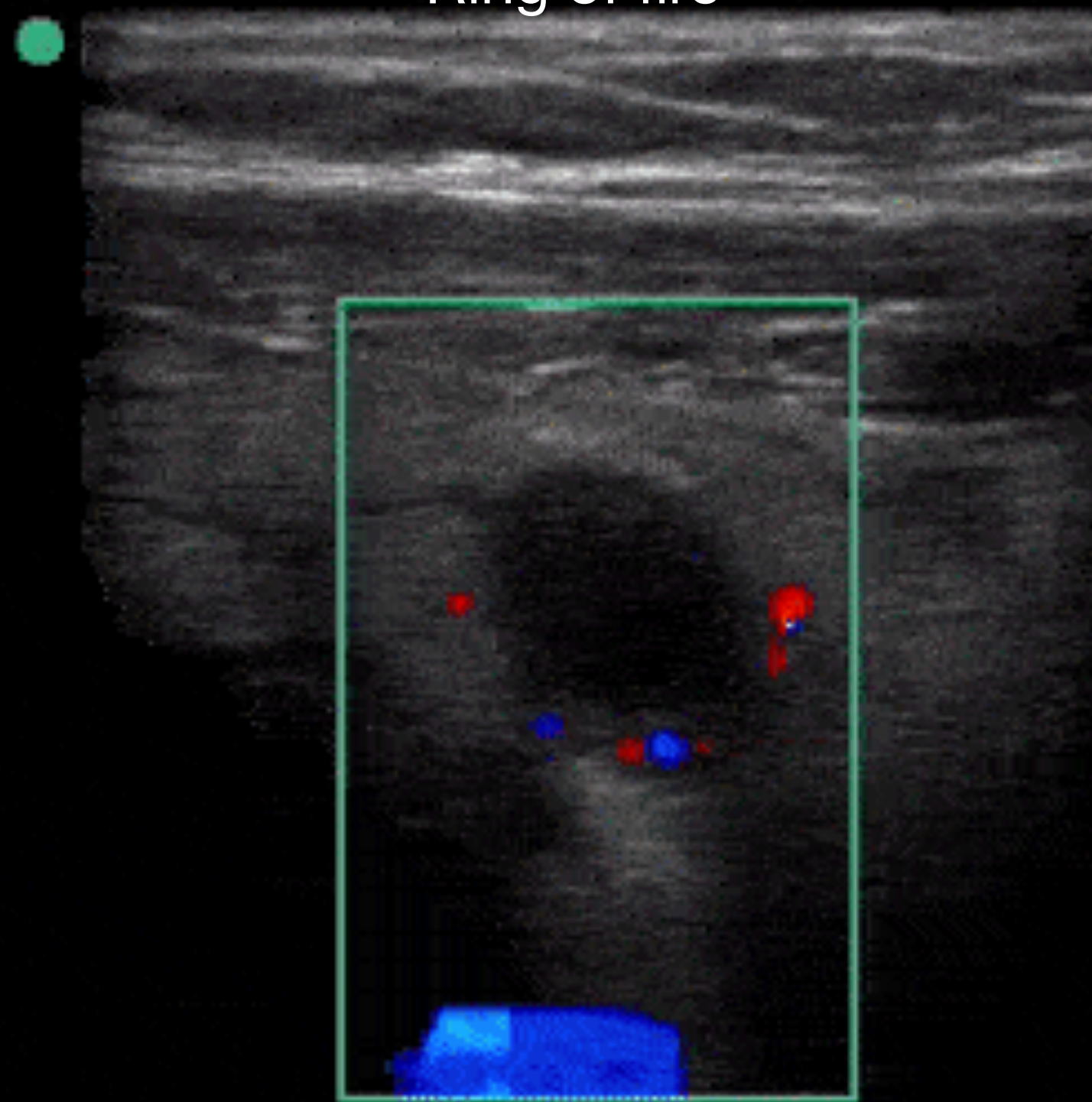
Ultrasound findings of acute appendicitis

Secondary findings

Surrounding inflammation with hyperechoic fat



Ring of fire



Free fluid in RLQ

