Case 4: 15 year old, female, track athlete who reports persistent bilateral lower extremity pain

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Imaging Method

• Dynamic anterior images of the lower extremities following IV administration of 20 mCi Tc-99m MDP.
• Subsequent anterior immediate blood pool images.
• 3 hour delayed images in multiple views.
• Large field of view gamma camera with LEAP collimator and photopeak set at 140 KeV
Findings:

- Dynamic images demonstrate symmetric perfusion to both lower extremities.
- Immediate blood pool images demonstrate symmetric soft tissue activity at both lower extremities.
- Delayed images demonstrate bilateral, linear regions of increased activity at the mid aspects of both right and left posterior periosteum.
Discussion:

• The mild to moderately increased activity at the mid shaft, posteromedial, periosteal aspects of the tibiae in an elongated distribution on the delayed images with symmetric perfusion and blood pool activity illustrates the classic findings of tibial stress syndrome otherwise known as “shin splints”.¹ ²
Discussion:

- This entity can be differentiated from a stress fracture, which generally demonstrates a discrete, fusiform distribution of more intensely increased activity on the delayed images. Also, stress fractures often demonstrate increased focal activity on the perfusion and blood pool images.

- Distinction of these two entities is clinically useful in the young athlete as the required period of healing is significantly longer with a stress fracture.
Final Diagnosis:

- Shin Splints: The patient’s symptoms abated following several weeks of rest.
References:
