



Three Phase Bone Scintigraphy in Non-oncological Musculoskeletal Diseases: A Pictorial Review

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BACKGROUND

Nuclear medicine plays an important role in the diagnosis of various skeletal diseases. Three-phase bone scintigraphy (TPBS) is a functional imaging technique that evaluates regional perfusion, soft-tissue hyperemia, and osteoblastic activity. Its ability to distinguish soft-tissue from bone pathology and detect early physiological changes makes it a valuable tool. Hybrid SPECT/CT complements TPBS by improving lesion localization and diagnostic confidence.

OBJECTIVE

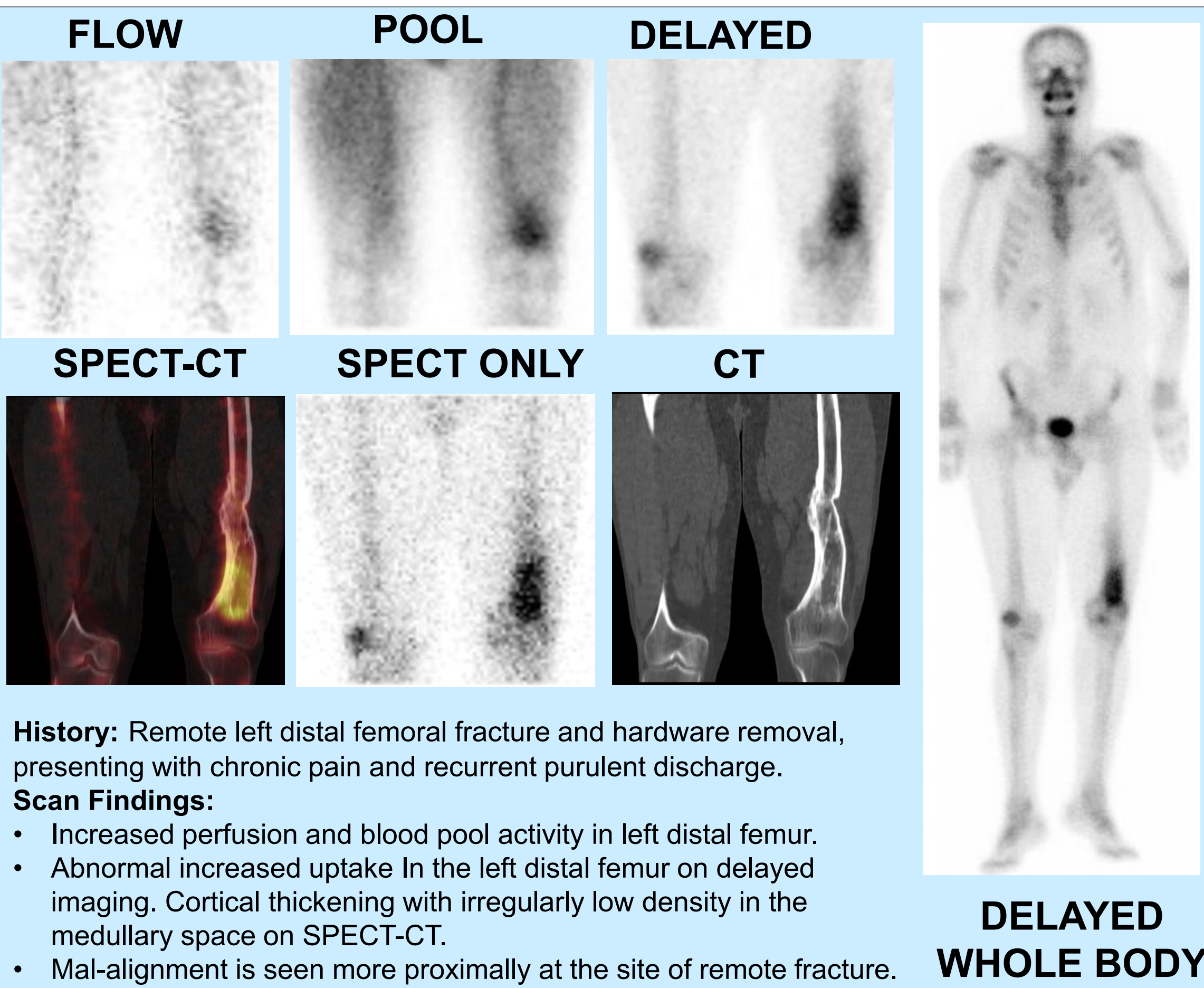
This pictorial highlights representative scintigraphic patterns of common musculoskeletal disorders with emphasis on key imaging findings.

METHODS

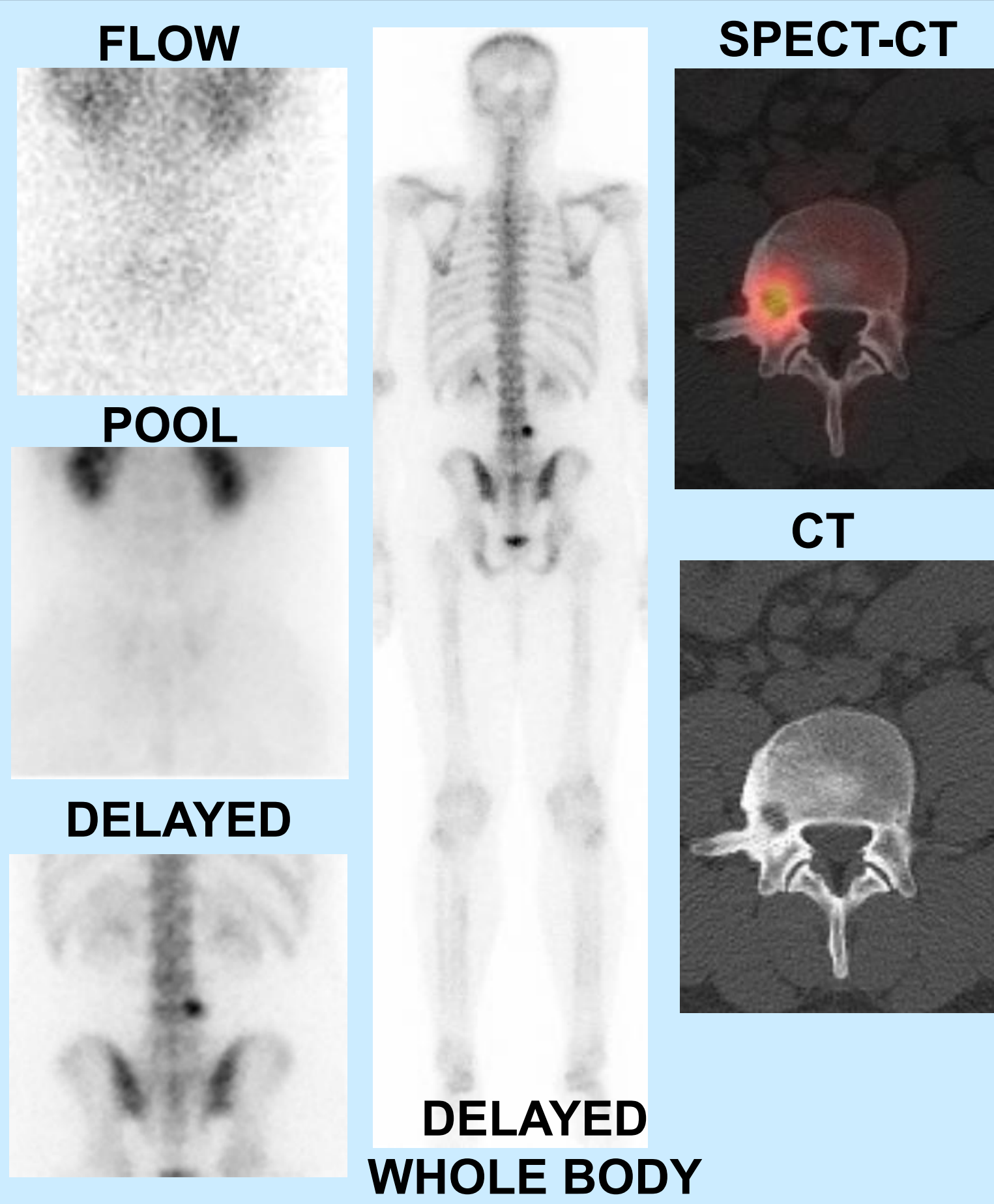
Representative cases with spectrum of non-oncological musculoskeletal disorders on three-phase bone scintigraphy were selected after approval from institutional review board. Cases with typical or atypical scintigraphic appearances and complementary SPECT/CT images were included to illustrate the spectrum of imaging patterns encountered in routine clinical practice.

CASES

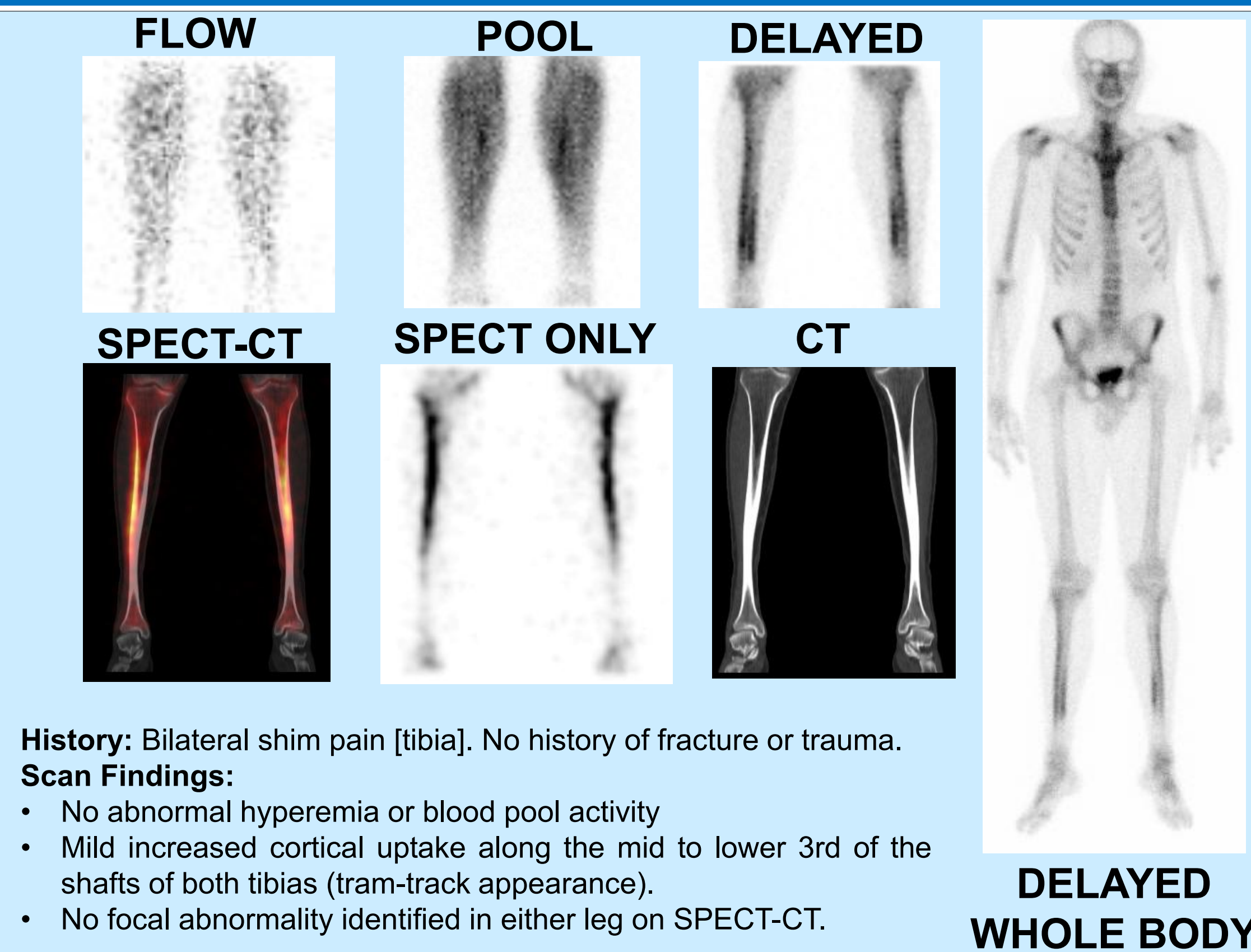
OSTEOMYELITIS



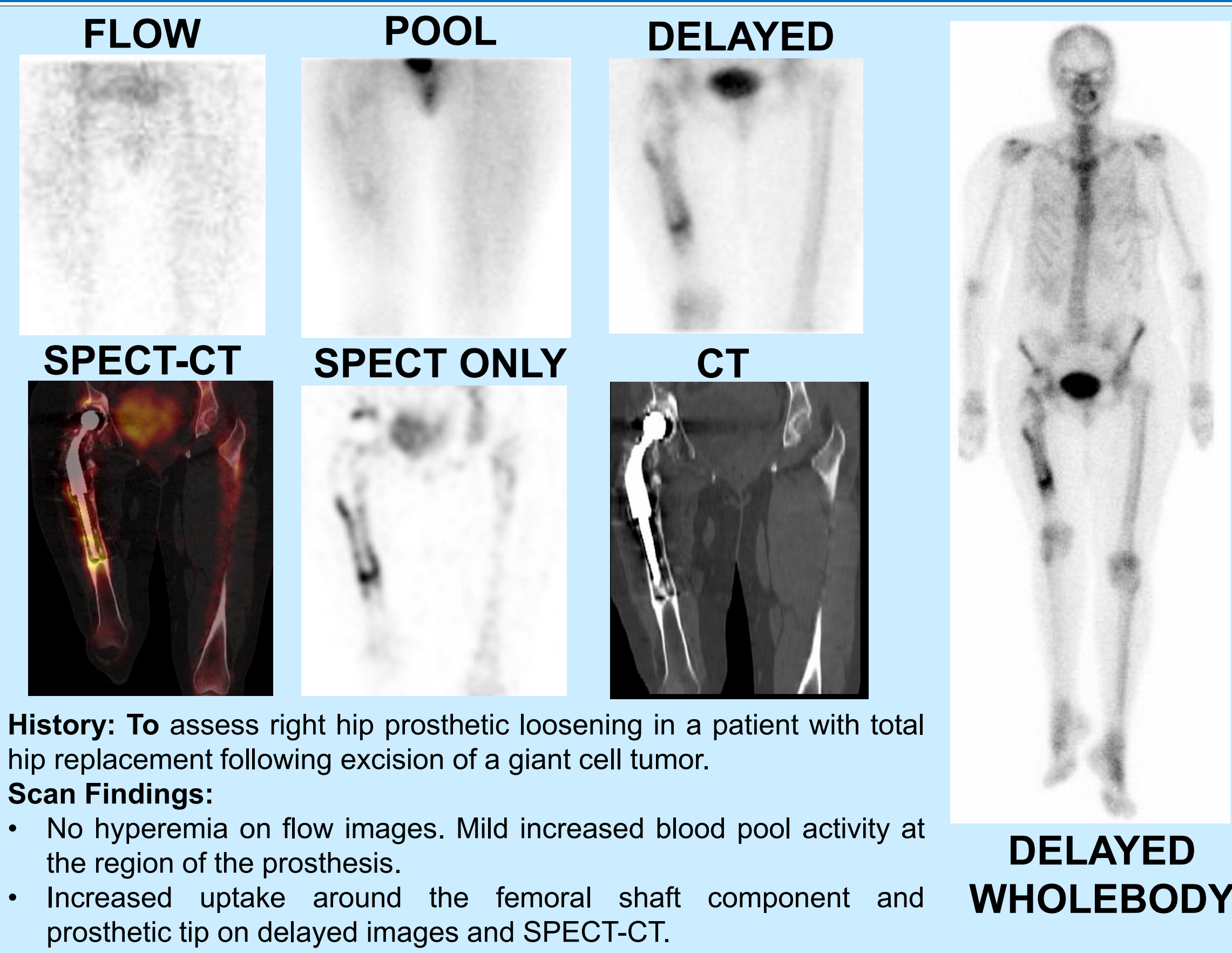
OSTEOID OSTEOMA



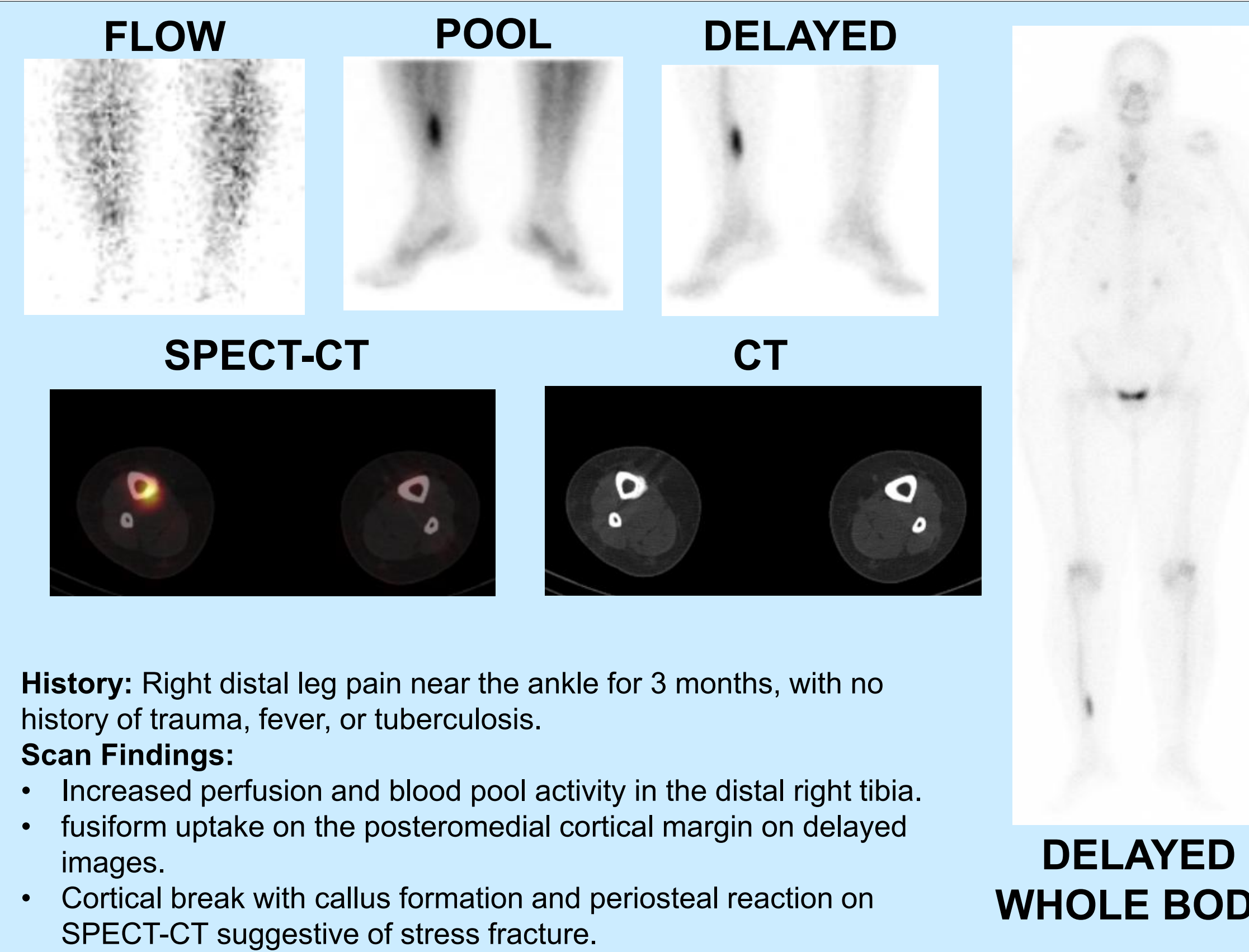
SHIN SPLINTS



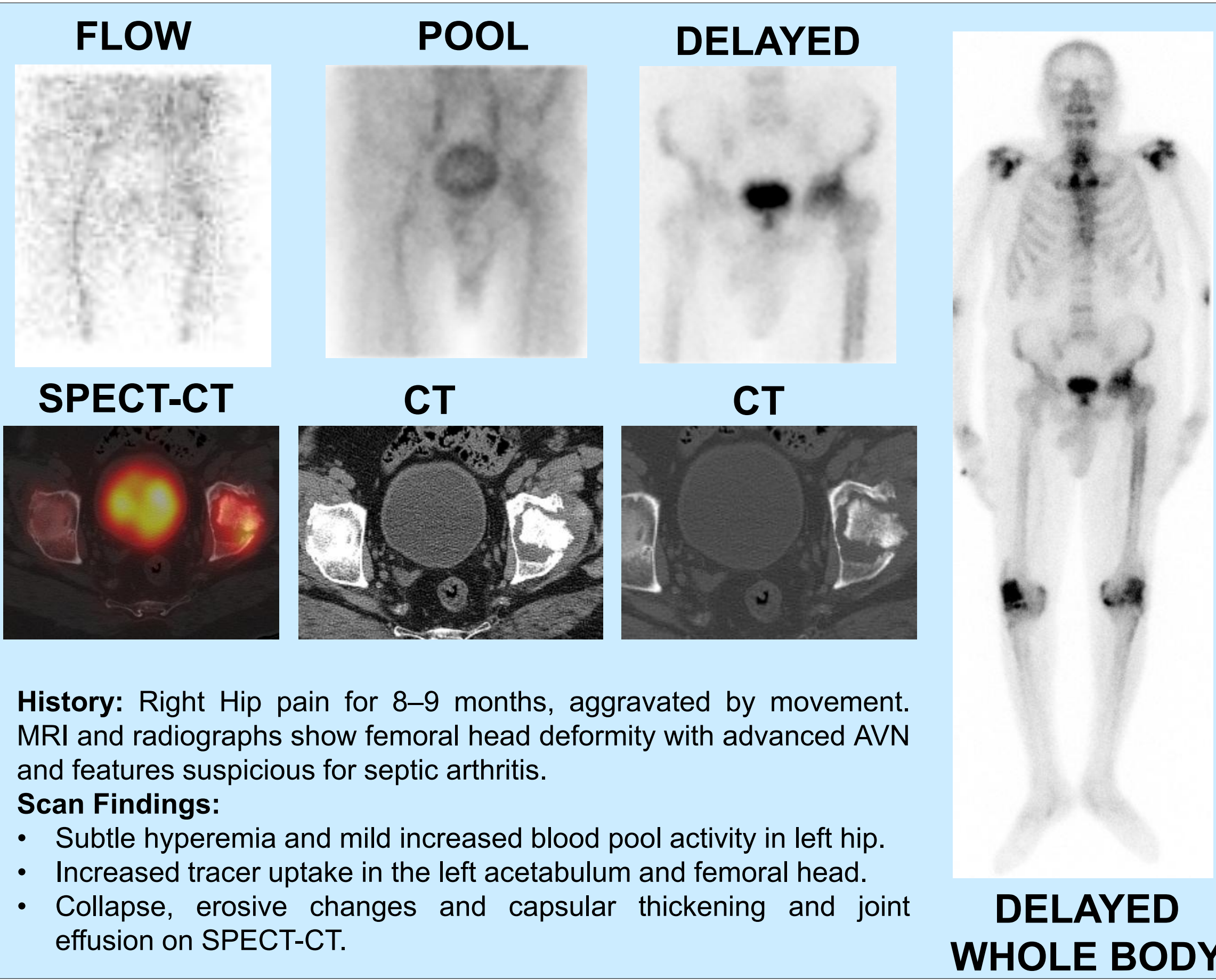
PROSTHETIC LOOSENING



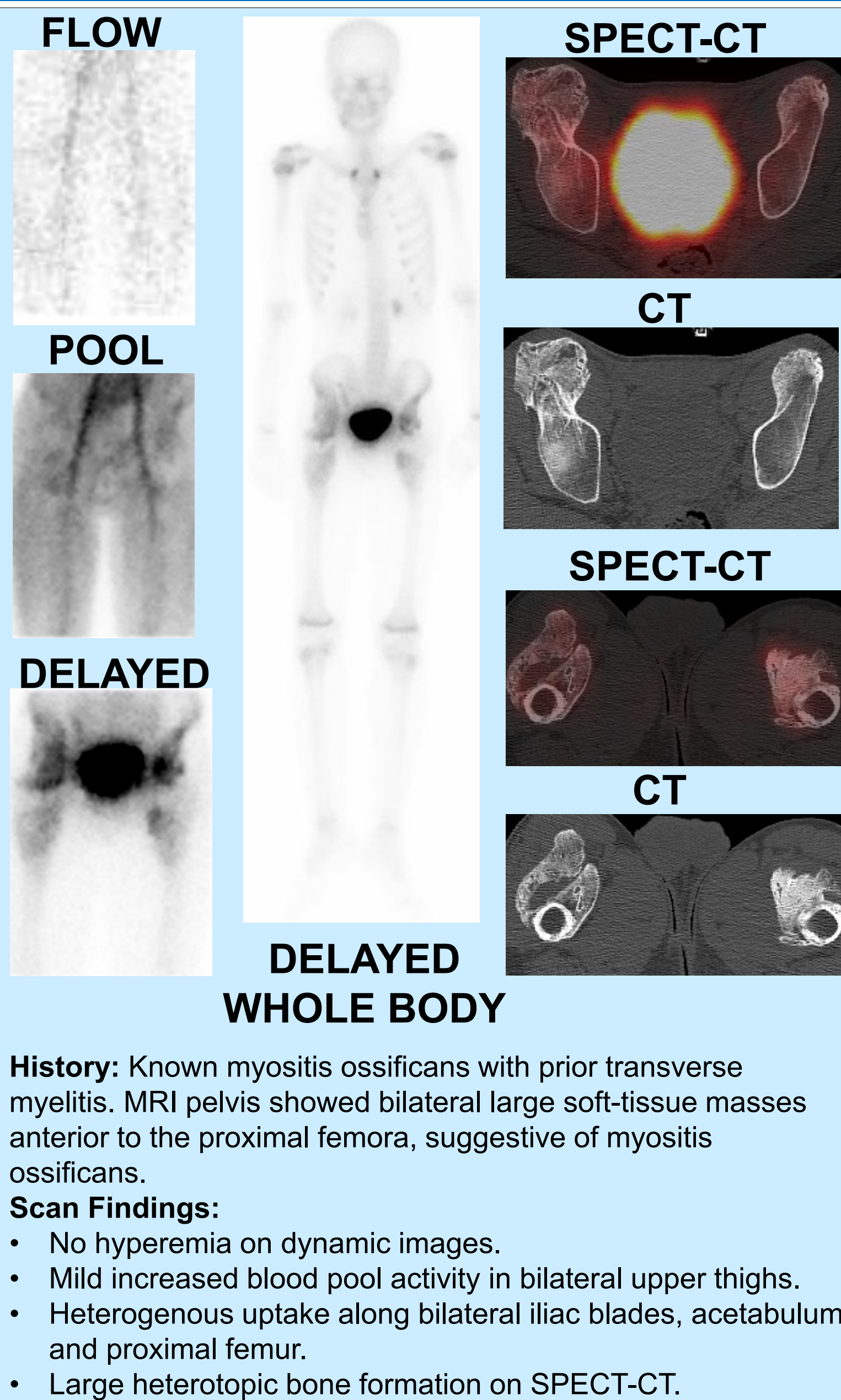
STRESS FRACTURE



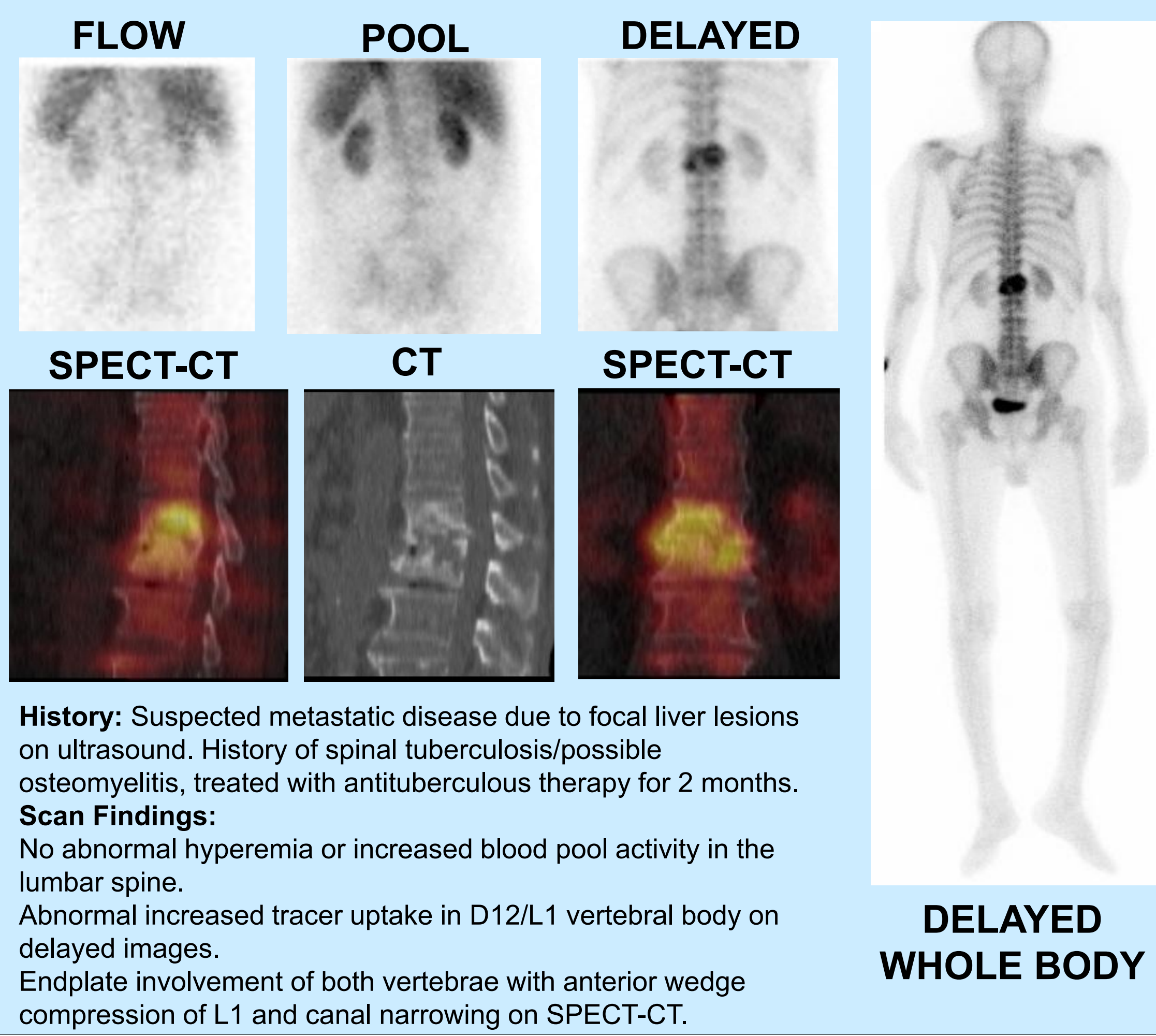
SEPTIC ARTHRITIS



MYOSITIS OSSIFICANS



SPINAL TUBERCULOSIS



CONCLUSION

This pictorial highlights the diverse imaging patterns of non-oncological musculoskeletal disorders on three-phase bone scintigraphy. Combining planar scintigraphy with SPECT-CT provides complementary functional and anatomical information, aiding accurate diagnosis and management.