

Symbia TruePoint SPECT•CT

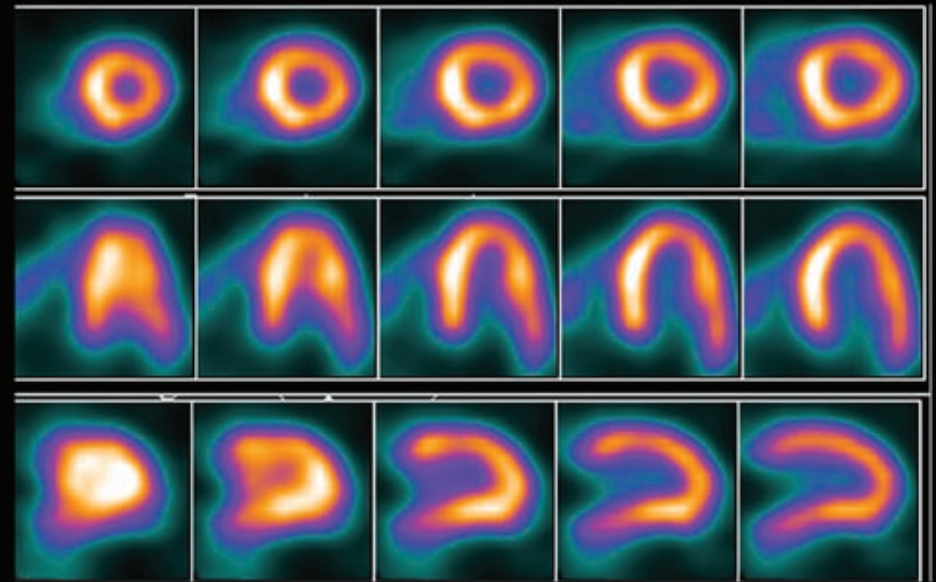
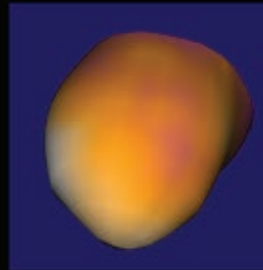
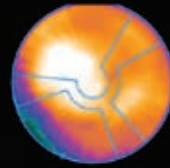
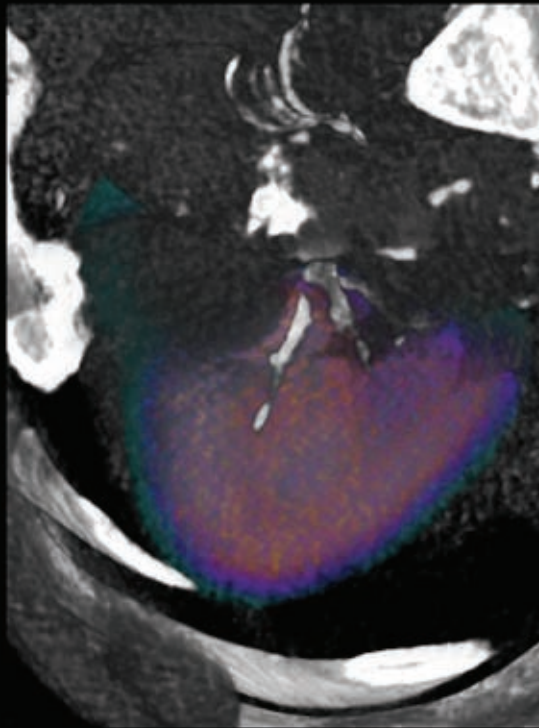
Clinical Images

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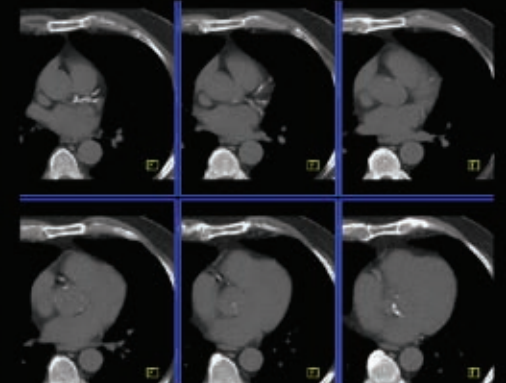
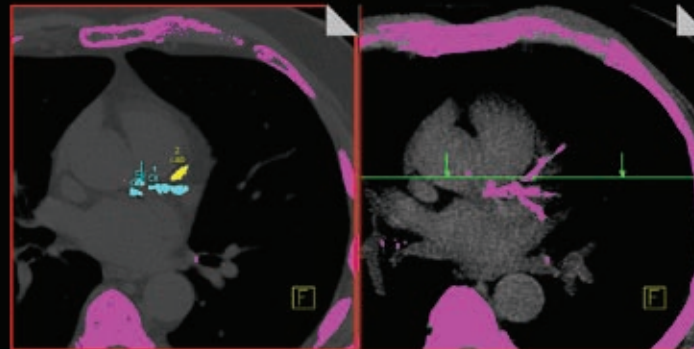
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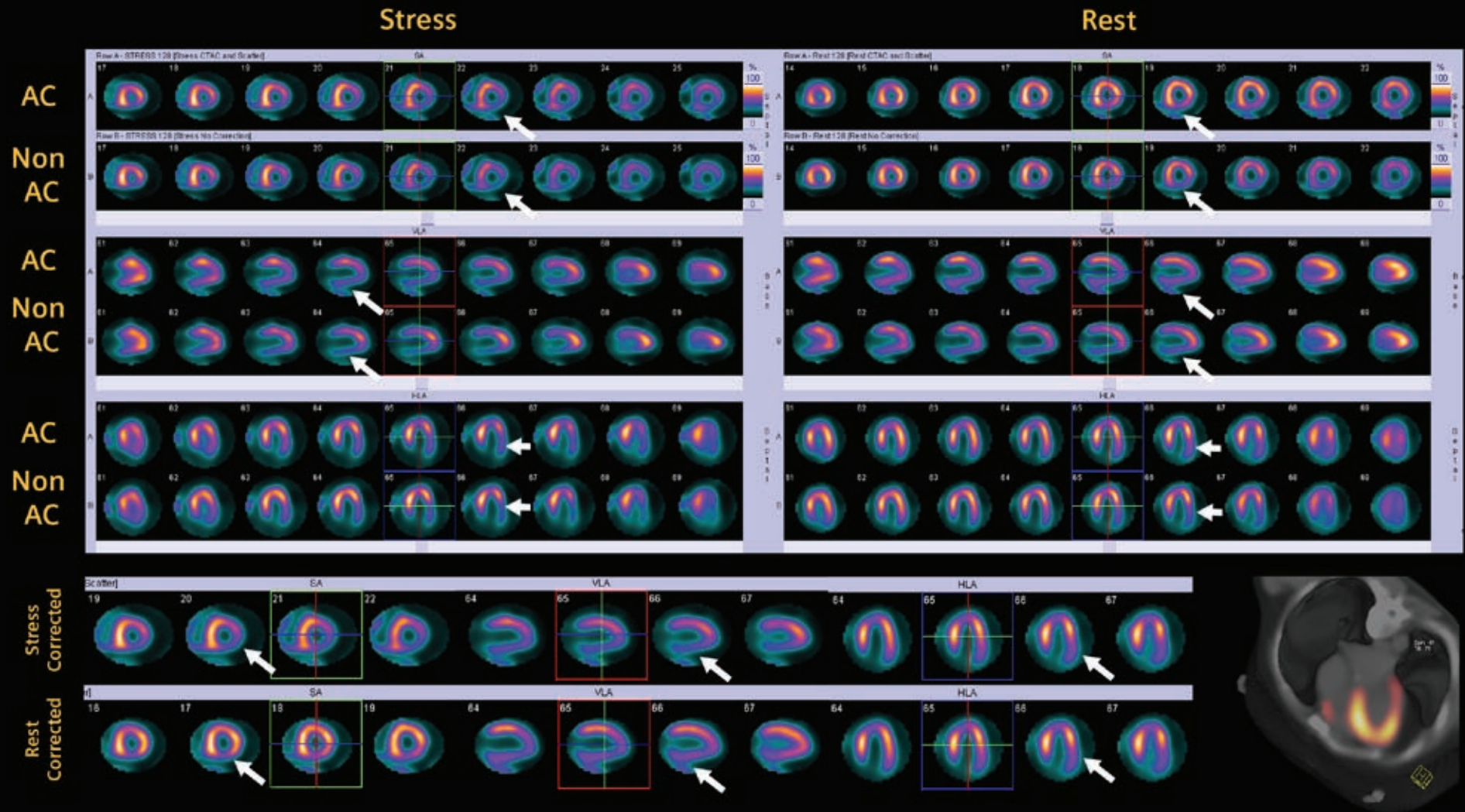
Threshold = 130 HU
(90.8 mg/cm³ CaHA)

Artery	Number of Lesions (1)	Volume [mm ³] (3)	Equiv. Mass [mg CaHA] (4)	Calcium Score (2)
LAD	0	0.0	0.00	0.0
LAD	2	277.8	65.12	353.7
Cx	3	1017.3	205.25	1264.7
RCA	3	279.5	55.35	346.5
Total	8	1574.6	325.72	1915.0



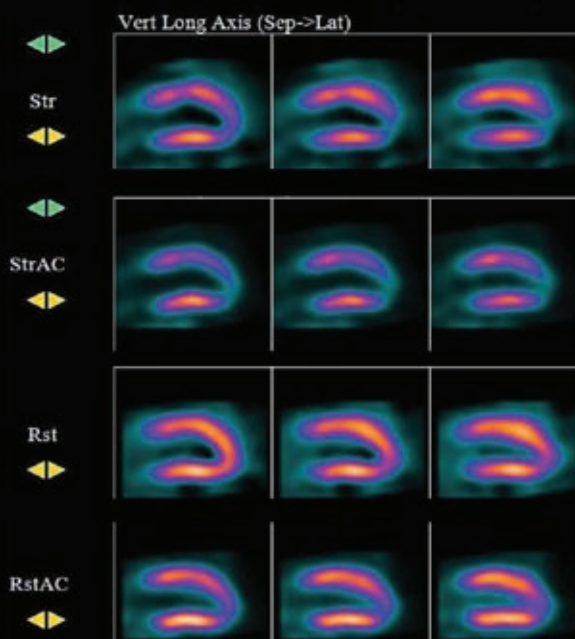
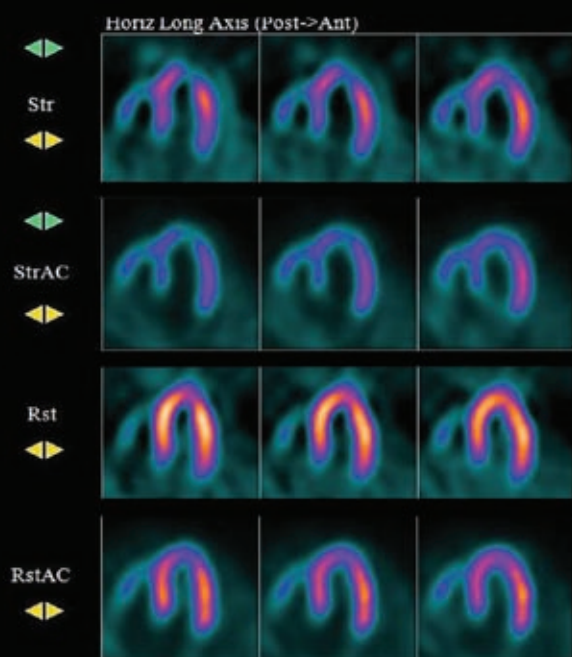
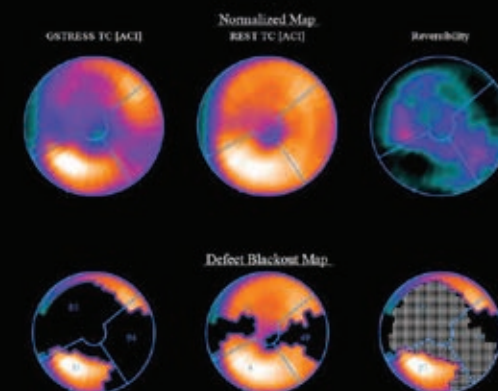
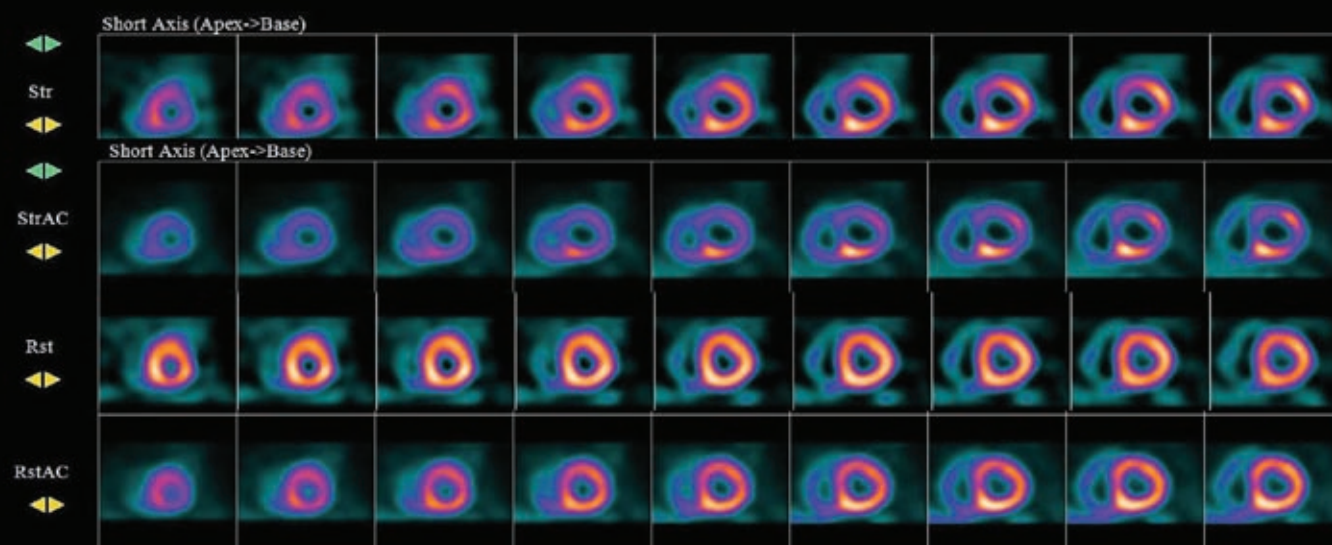
Asymptomatic Patient With Risk Factors for Coronary Artery Disease

Heavy calcification (calcium score of 1912) is seen in the coronary arteries although myocardial perfusion is normal. Calcium score and myocardial perfusion SPECT were performed as an integrated procedure on the Symbia T6. 3D volume rendering of coronary calcium and perfusion is demonstrated using syngo CardioScore.



^{99m}Tc MIBI Myocardial Perfusion SPECT with CT Attenuation Correction — Reversible Ischemia in Inferolateral Wall

CT attenuation correction shows a decrease in the extent and severity of inferolateral wall ischemia related to diaphragmatic attenuation. The amount of ischemic myocardium at risk appears to be reduced due to CT AC.



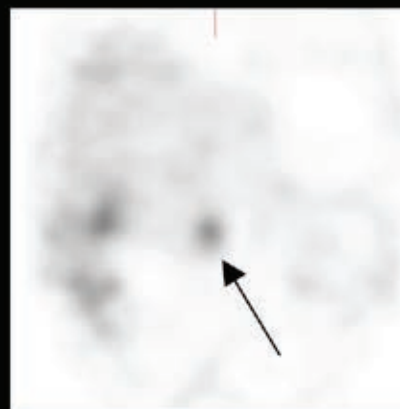
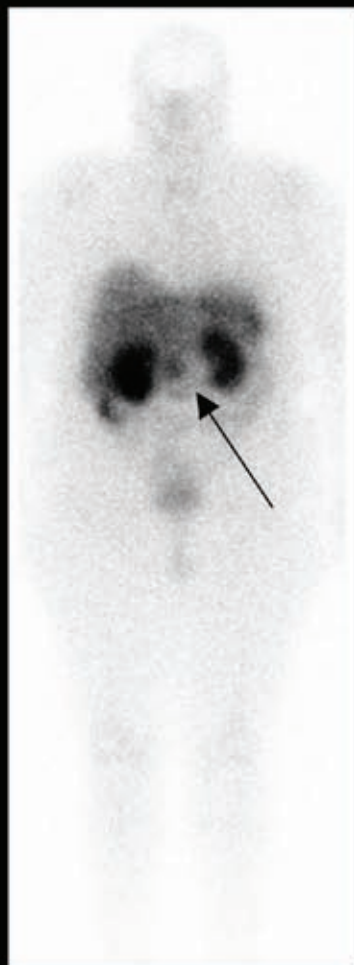
Triple Vessel Disease

51 year-old male with chest pain.

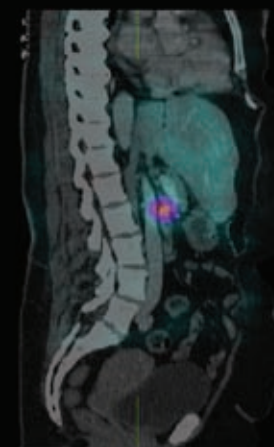
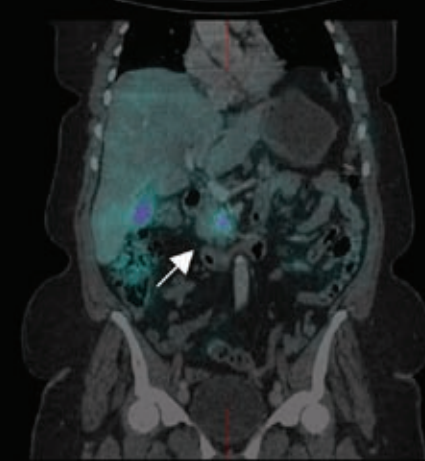
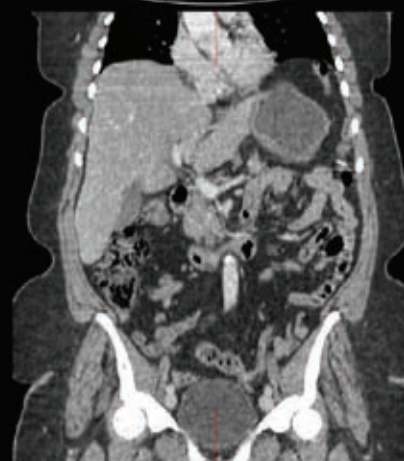
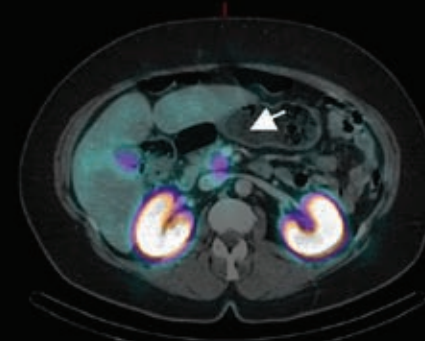
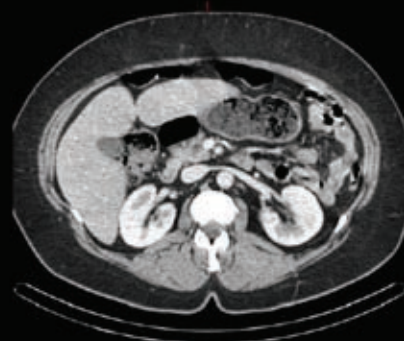
^{99m}Tc MIBI myocardial perfusion study on the Symbia T6 SPECT•CT shows reversible ischemia in the apex, anterior wall, septum and inferolateral wall.

CT attenuation correction shows more obvious perfusion defects than the uncorrected images. Coronary angiography revealed three vessel disease.

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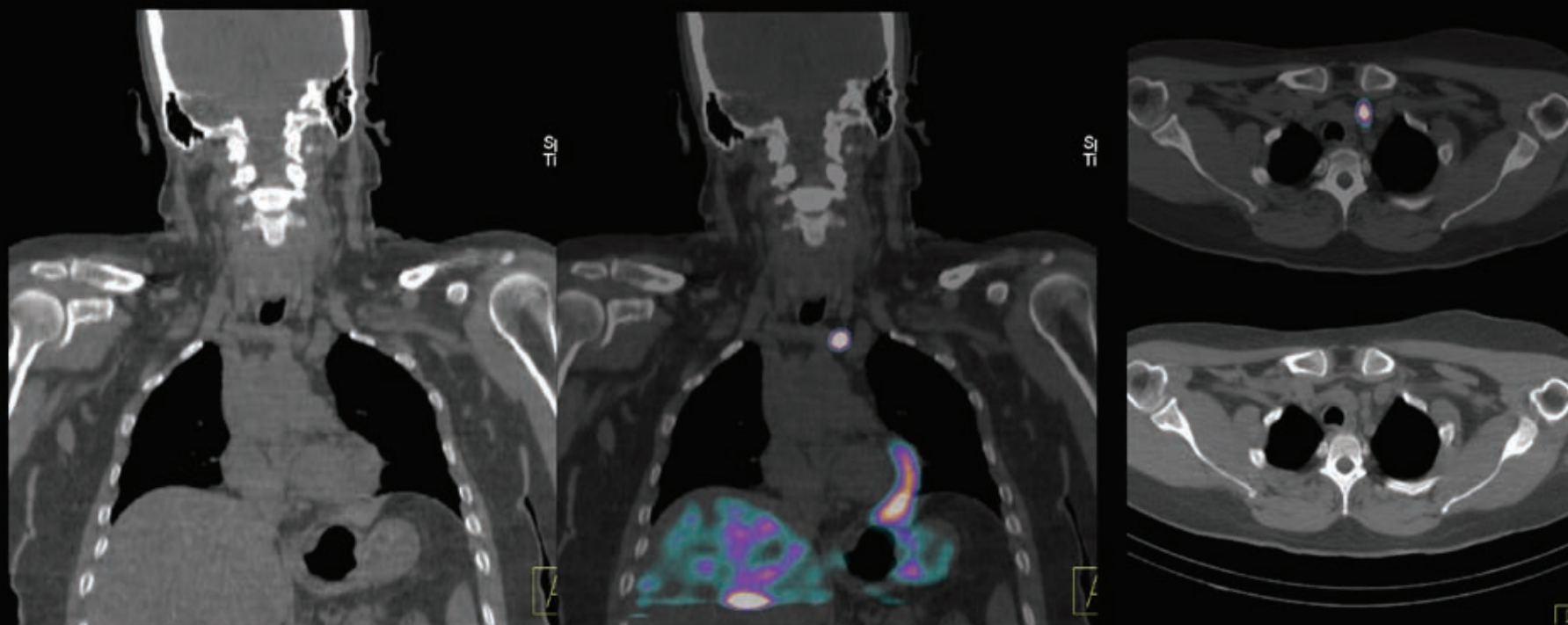


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Pancreatic Carcinoid Tumor

¹¹¹In Octreotide planar study shows solitary focal lesion in the mid abdomen. SPECT•CT study with contrast CT shows a tumor in the body of the pancreas.

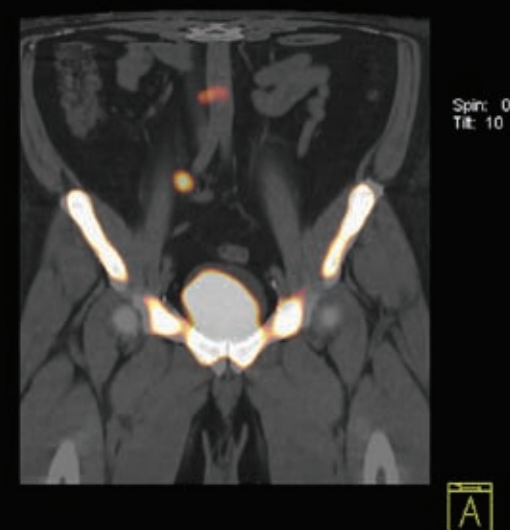
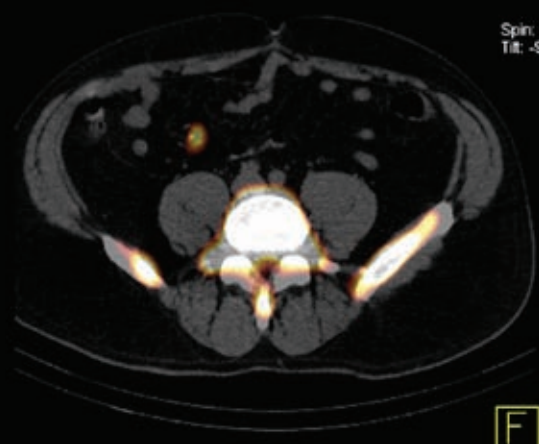
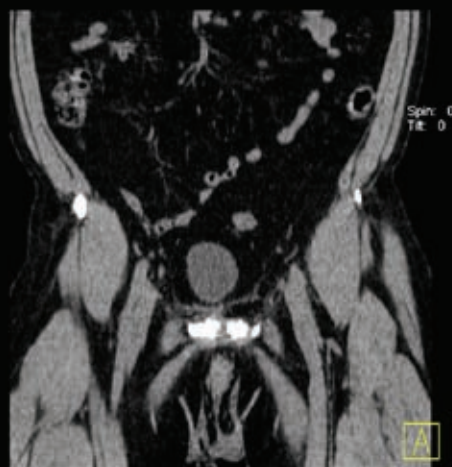


Ectopic Parathyroid Adenoma

Hyperparathyroidism with no adenoma on the neck ultrasound. ^{99m}Tc MIBI SPECT•CT revealed an ectopic parathyroid adenoma in the anterior mediastinum. These findings assisted in surgical planning.

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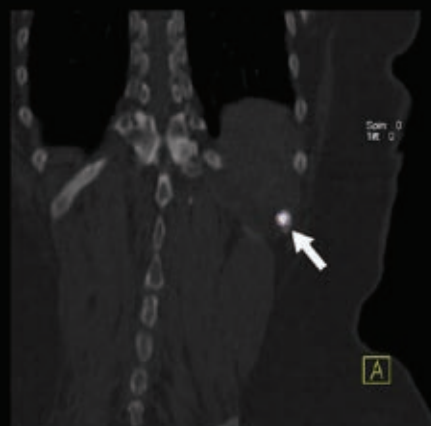
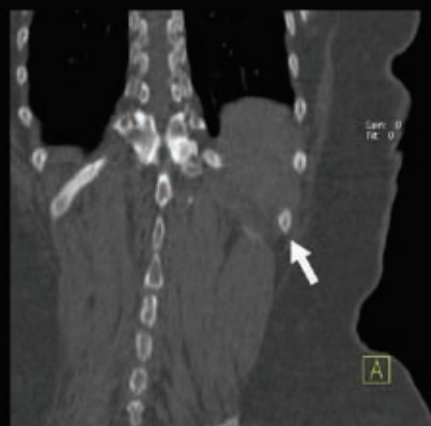
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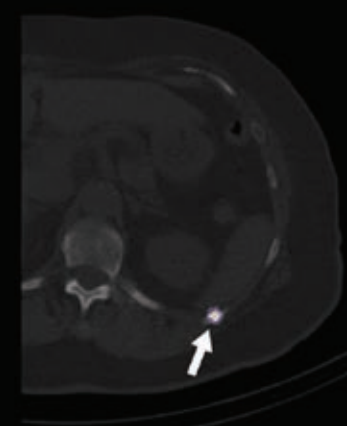
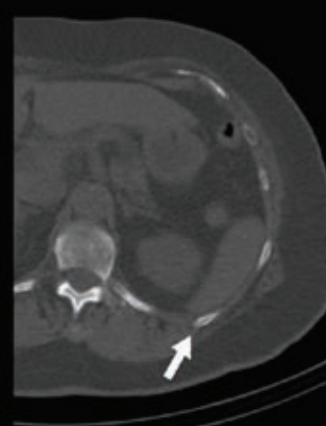
Prostate Carcinoma

Mesenteric metastases detection by SPECT•CT using ^{111}In Prostascint

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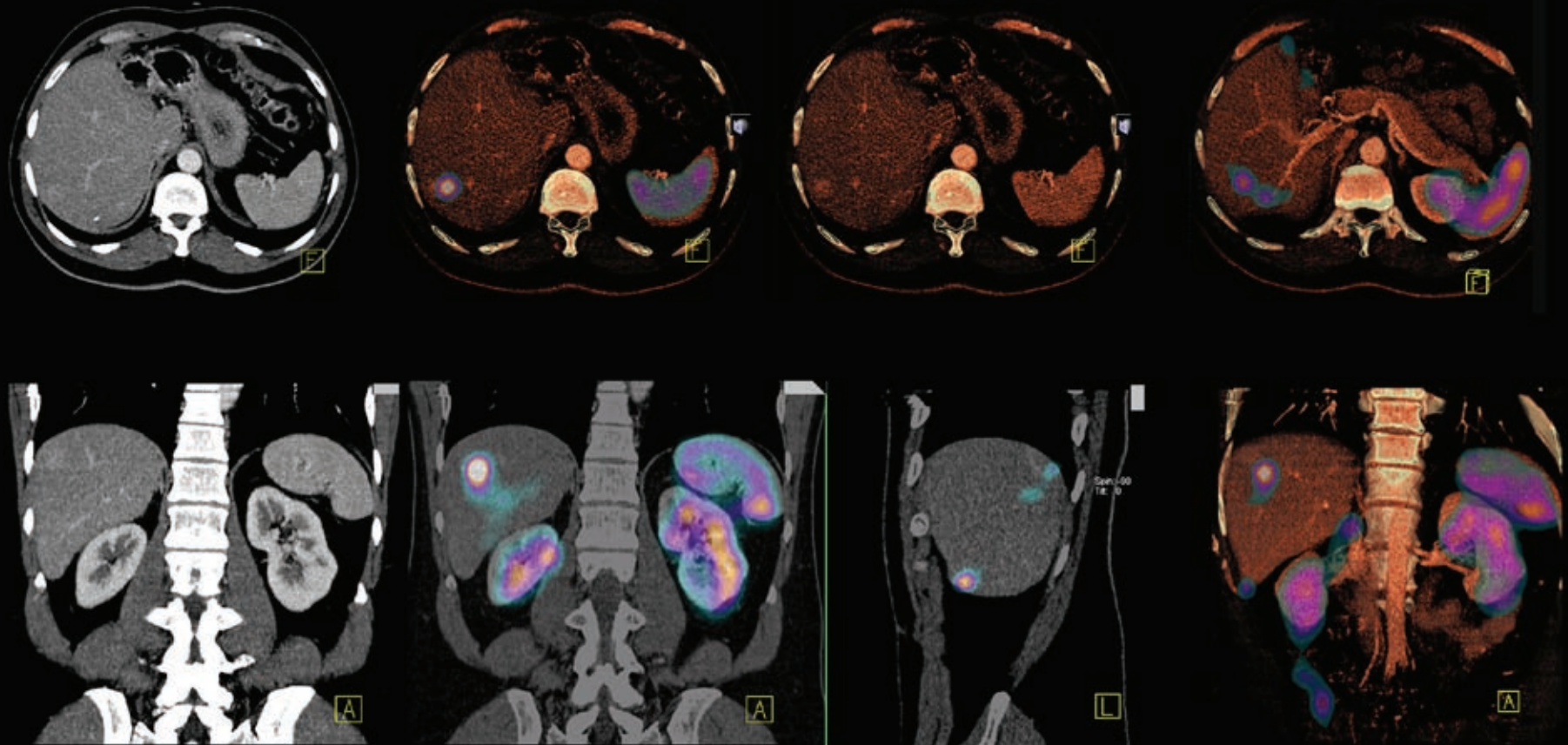


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Metastasis from Thyroid Cancer

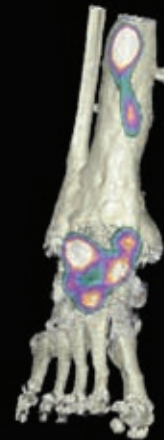
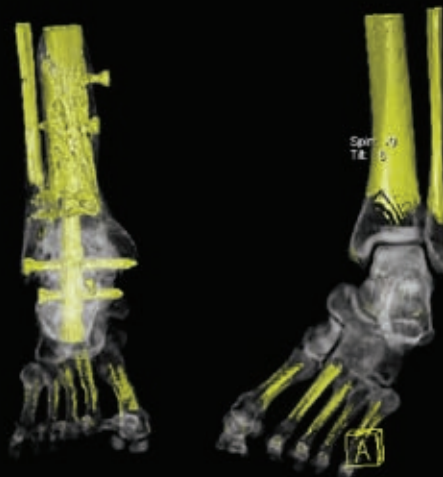
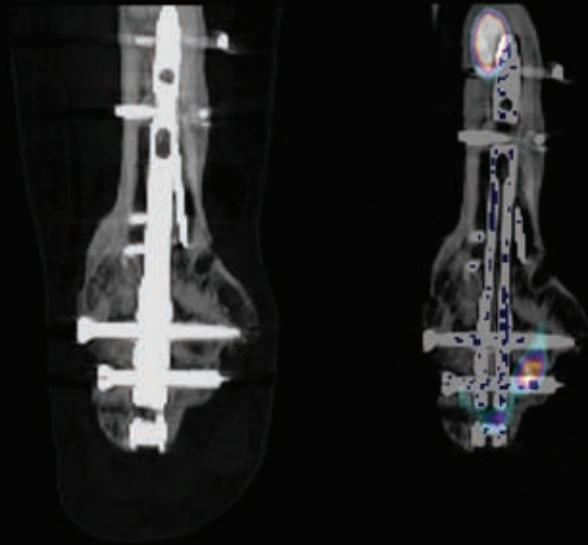
Solitary focal area shown in follow up ^{131}I whole-body scan in total thyroidectomy patient. A SPECT•CT was performed to localize and evaluate the ^{131}I avid focal area. The study localized a lesion to the left 11th rib with no correlative CT changes which would suggest a fracture or lytic lesion. The site is typical of early iodine avid metastasis.



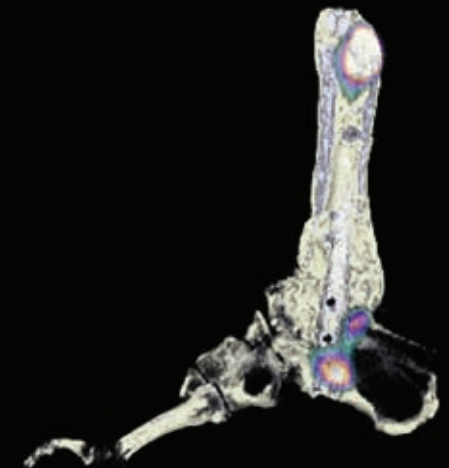
Liver Metastasis from Intestinal Carcinoid Tumor

^{111}In Octreotide SPECT•CT study. SPECT•CT Octreotide study performed 48 hours after injection with 3-phase liver contrast CT study. Fusion of venous phase of 3-phase contrast CT study with ^{111}In Octreotide SPECT shows small focal contrast blush in segment VII of liver which corresponds to focal area of uptake of ^{111}In Octreotide suggestive of metastasis from carcinoid tumor. Another small foci of ^{111}In Octreotide uptake in the inferior margin of the right lobe of liver in segment V suggestive of metastasis but without any abnormality on contrast CT.

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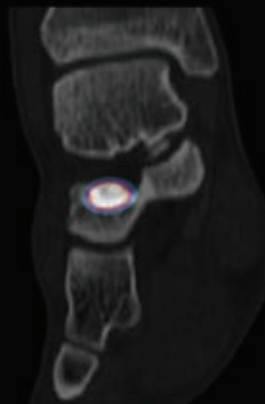
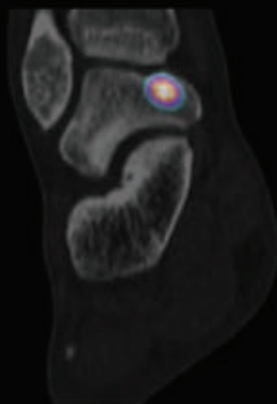
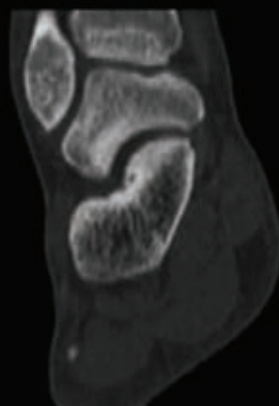
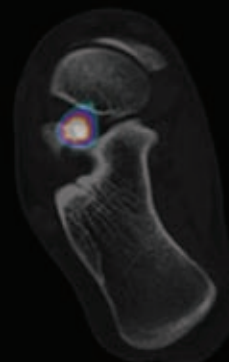
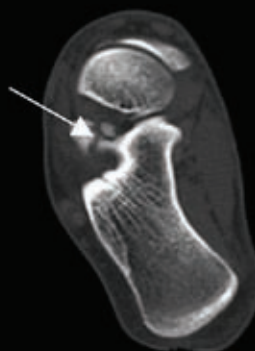
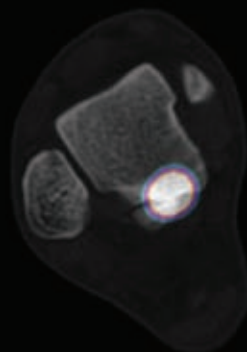
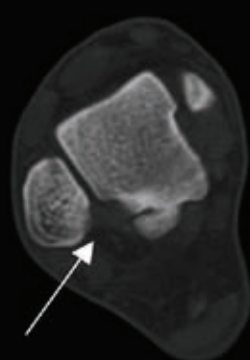
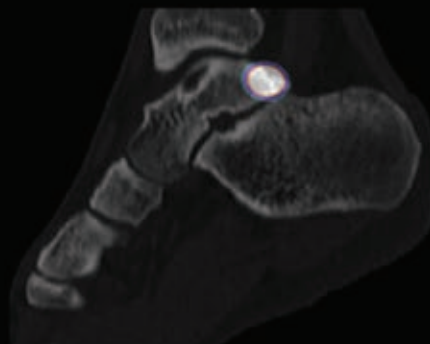
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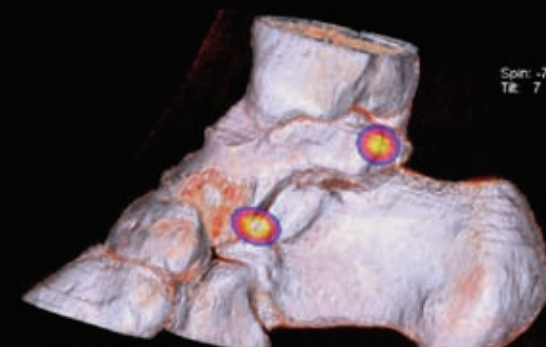
Arthrodesis of Left Ankle Joint

Loosening of intramedullary nail demonstrated by SPECT•CT. Traumatic fracture of ankle joint treated with arthrodesis using intramedullary nail through tibial shaft, talus & calcaneus. Complaint of persistent pain. ^{99m}Tc MDP bone SPECT•CT study was performed to assess joint status. Focal increase in bone metabolism at the lower end of the nail within the calcaneus as well at the upper end within tibial shaft. Pattern of uptake strongly suggestive of loosening of the nail.

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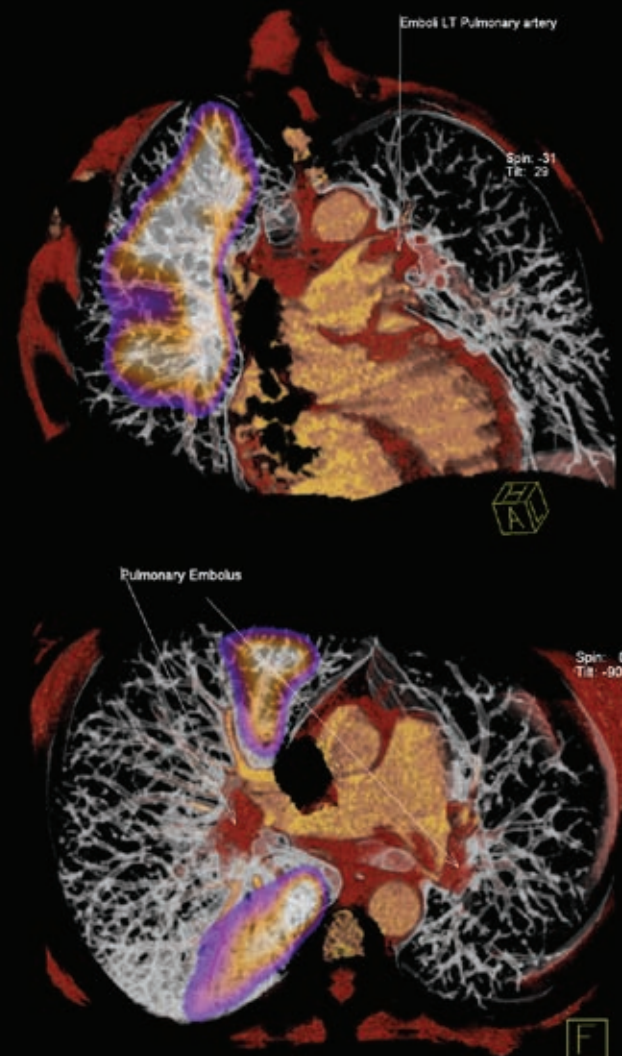
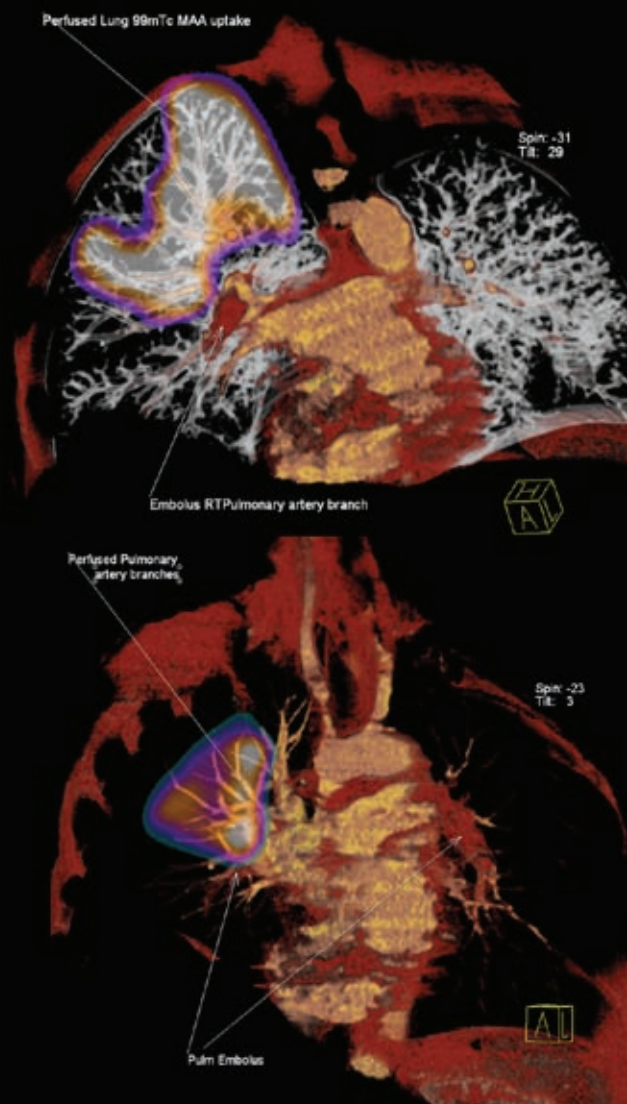
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Post Traumatic Subtalar Fracture

SPECT•CT demonstrates small subchondral fracture fragments involving the posterior calcaneal articular surface of the talus and anterior articular surface of the calcaneus. Focal increase in bone metabolism at the fracture fragments are related to shearing stress. SPECT•CT identifies the fracture fragments as cause for recurrent pain requiring surgical removal.

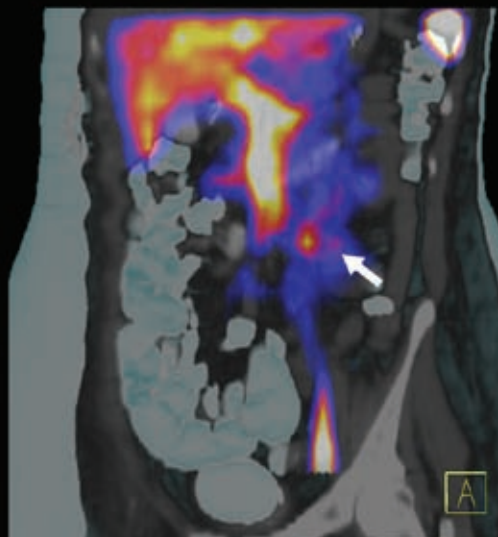
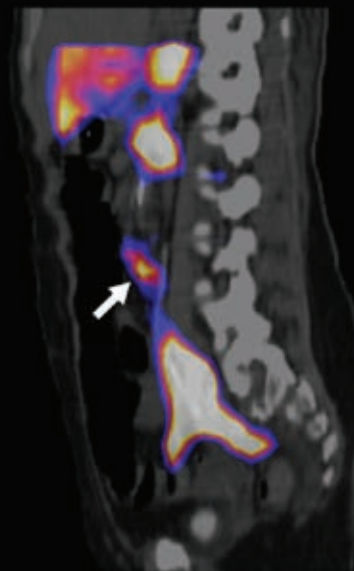
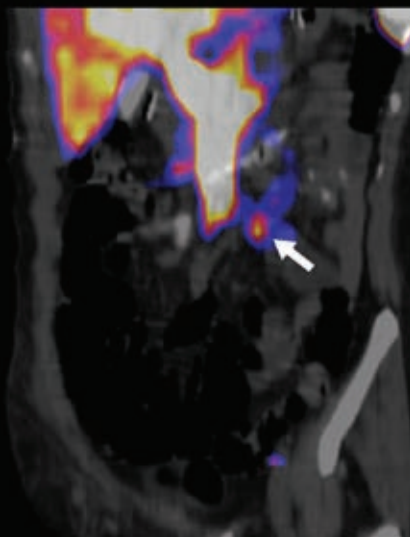
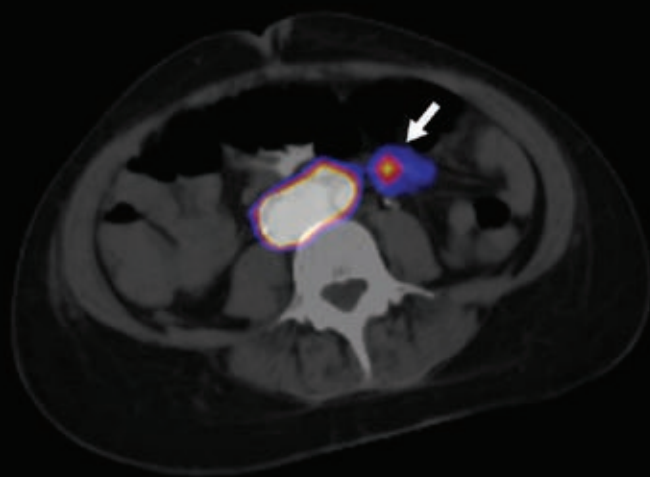
Data courtesy of Moncton Hospital, Canada



Bilateral Pulmonary Embolism

Perfusion SPECT and CT pulmonary angiogram performed sequentially on Symbia T6. Volume rendered fusion images: large thrombi in left main PA and lower branch of right PA shown on CT angiography. Perfusion SPECT shows absence of perfusion in whole of left lung and middle and lower lobe of right lung which correlates with thrombi seen on CT angiography. Upper lobe of right lung is perfused and vasculature shows contrast opacification. Small peripheral perfusion defects in right upper lobe suggest peripheral emboli.

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Gastrointestinal Bleeding Following Bowel Resection

Blunt trauma to abdomen.
Intestinal resection performed.
Progressive intestinal blood loss following surgery.

Abdominal CT and 2 separate catheter angiographies negative for bleeder. Patient continued to deteriorate with falling hematocrit and lapsed into coma.

GI Bleed SPECT•CT study performed using labelled bloodpool for localization of bleeder site.

Small foci of active bleeding localized on SPECT•CT to bowel lumen just distal to site of bowel anastomosis.

Scan suggestive of bleeding from anastomotic site. Immediate surgery performed with re-anastomosis.

Dramatic improvement in patients condition following surgery with gradual rise in hematocrit.

*Data courtesy The Moncton Hospital,
Moncton, NB, Canada*

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Contact Addresses

Siemens Medical Solutions USA
Molecular Imaging
2501 N. Barrington Road
Hoffman Estates, IL 60192-5203
USA
Telephone: +1-888-826-9702
www.siemens.com/mi

Siemens Medical Solutions USA
Molecular Imaging
810 Innovation Drive
Knoxville, TN 37932-2751
USA
Telephone: +1-888-826-9702
www.siemens.com/mi

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Siemens Medical Solutions USA
Molecular Imaging
810 Innovation Drive
Knoxville, TN 37932-2751
USA

Headquarters

Siemens Medical Solutions USA, Inc.
51 Valley Stream Parkway
Malvern, PA 19355-1406
USA
Telephone: +1-888-826-9702

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