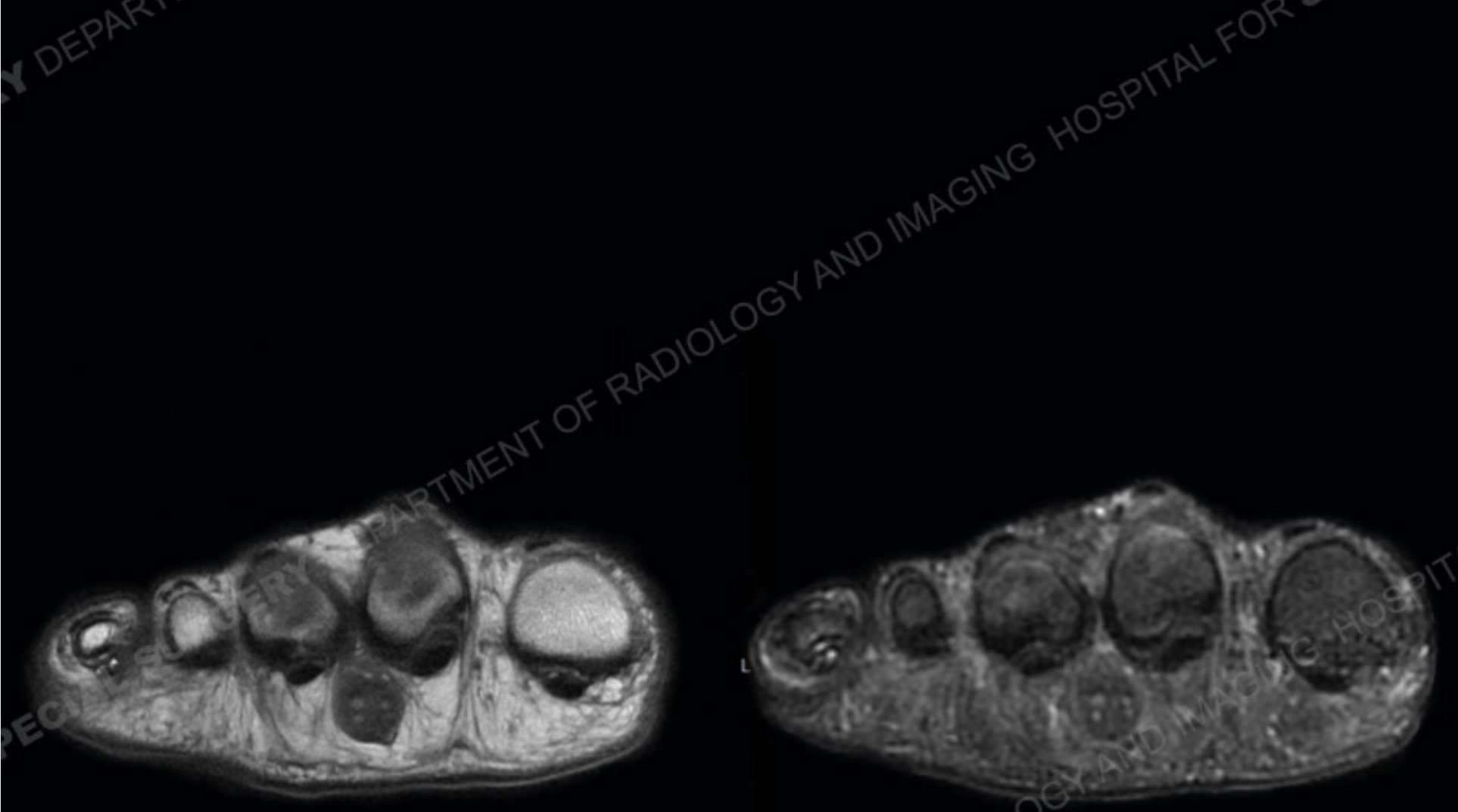
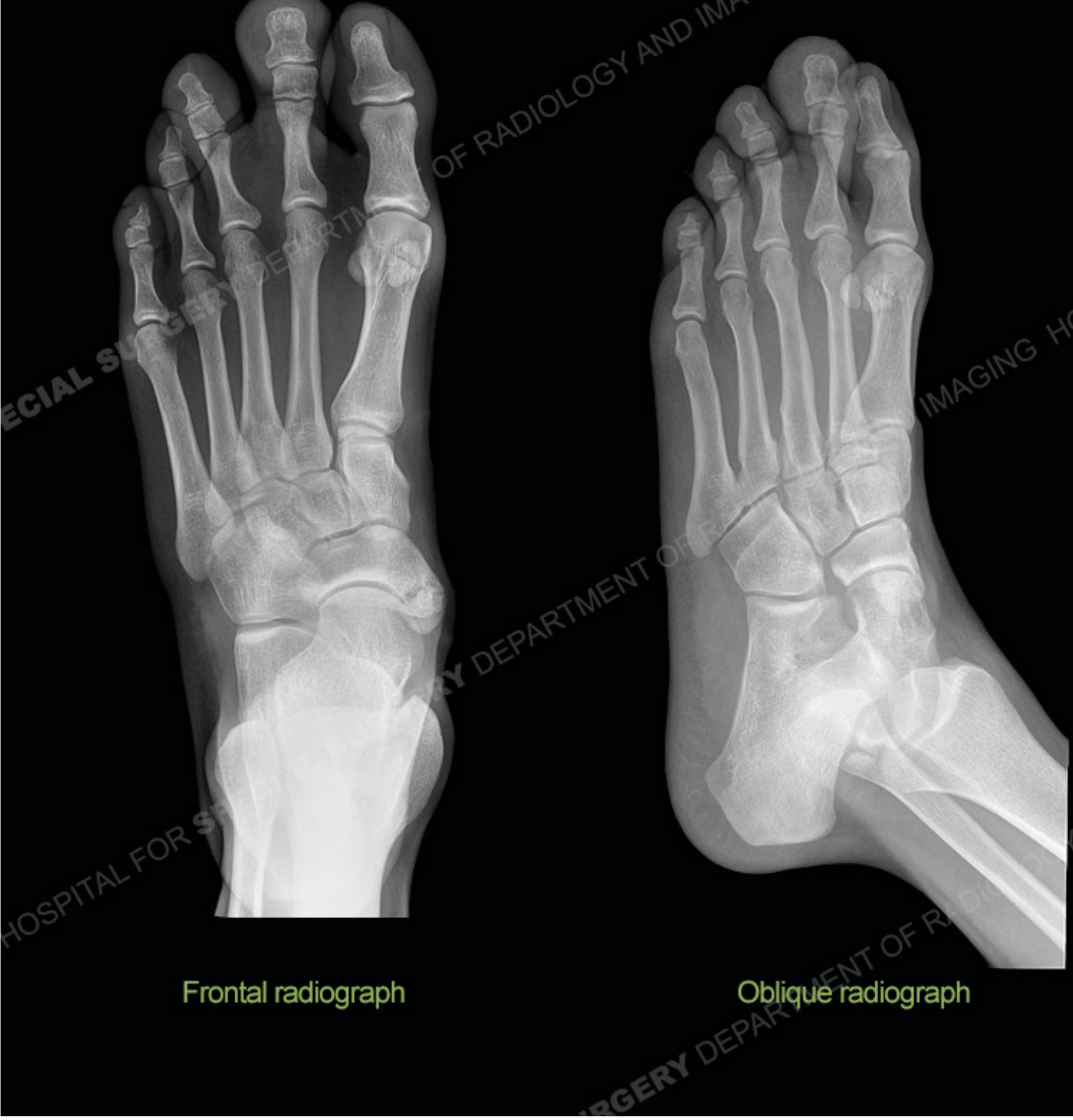
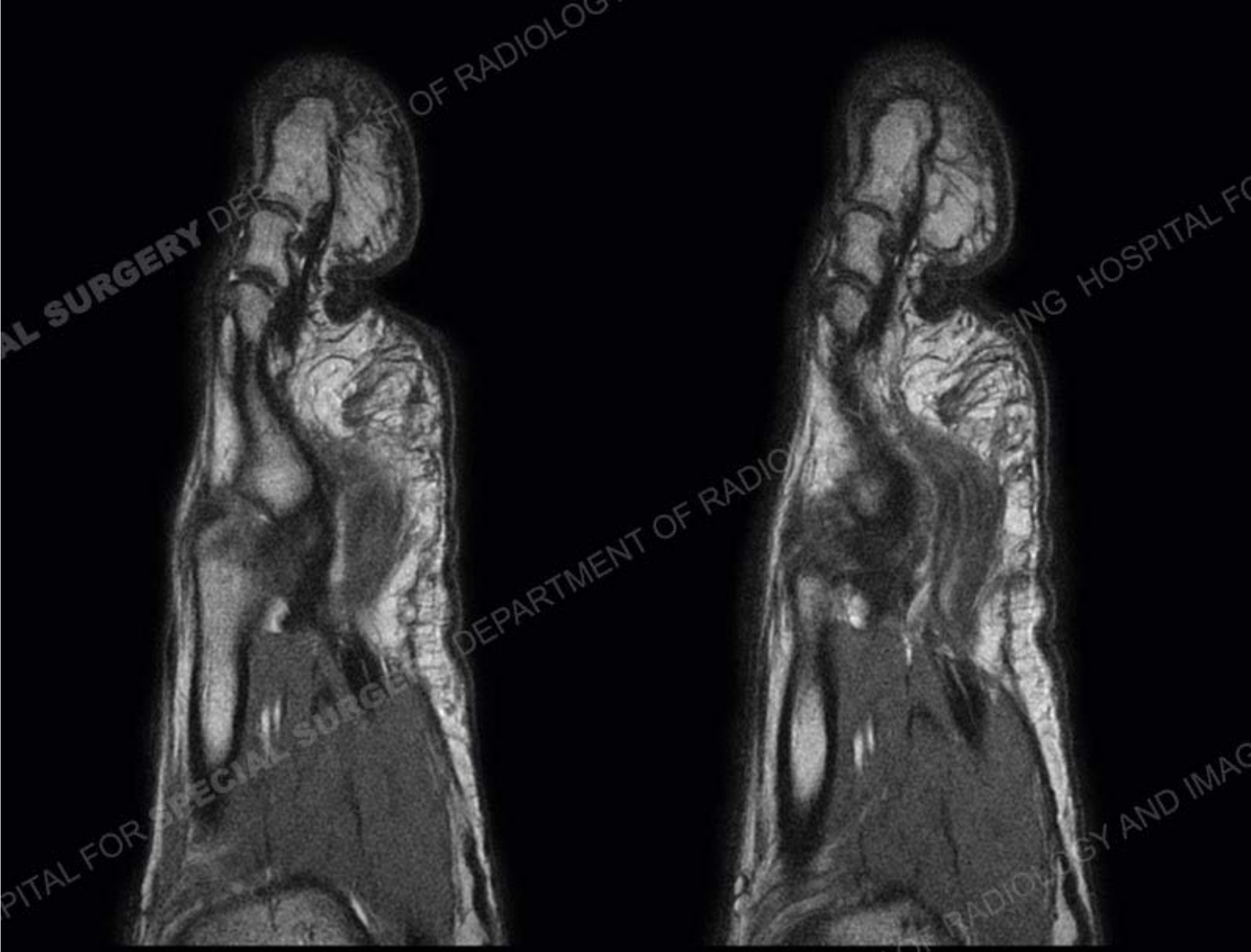


Axial PD of forefoot

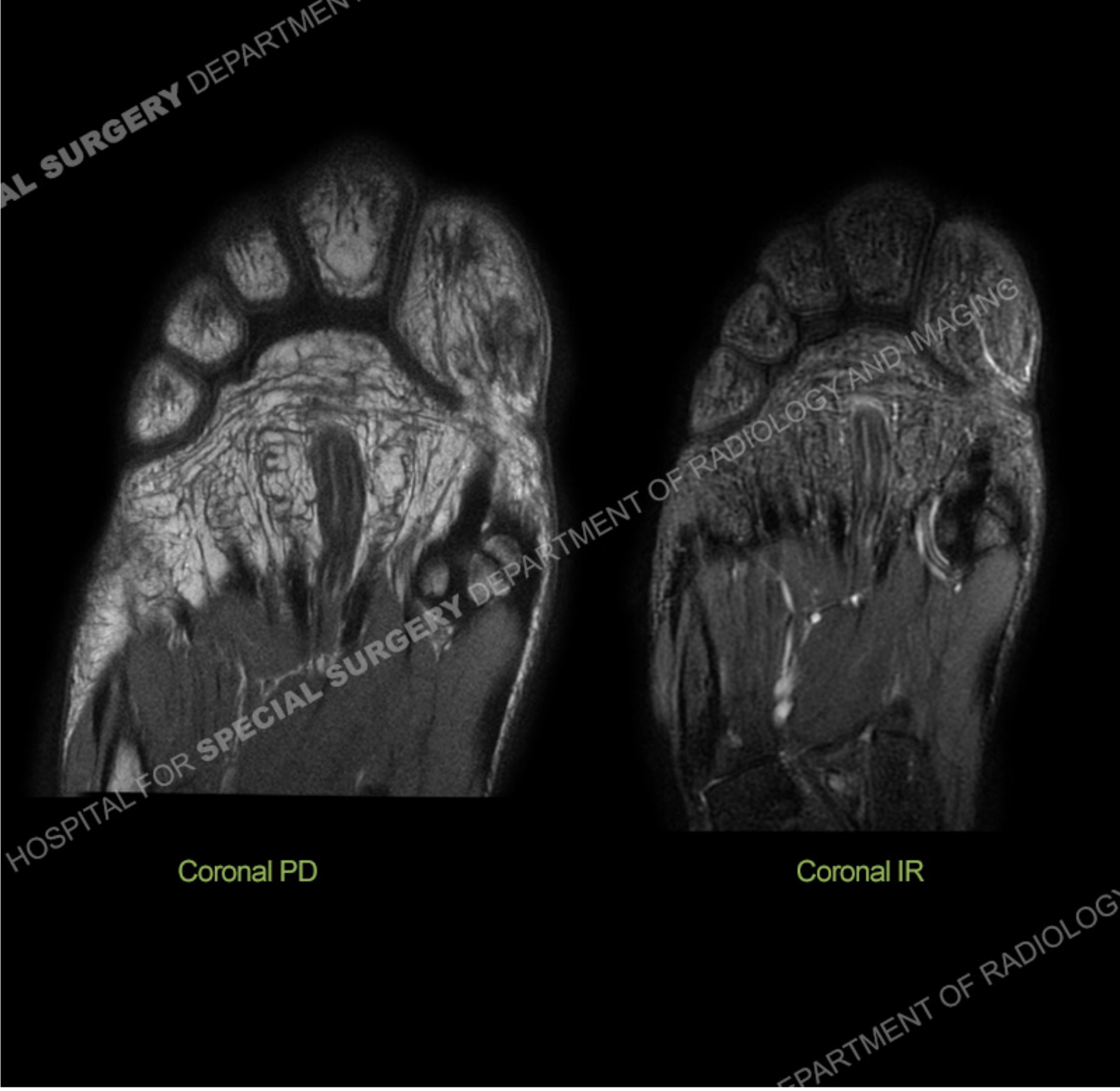
Axial IR of forefoot

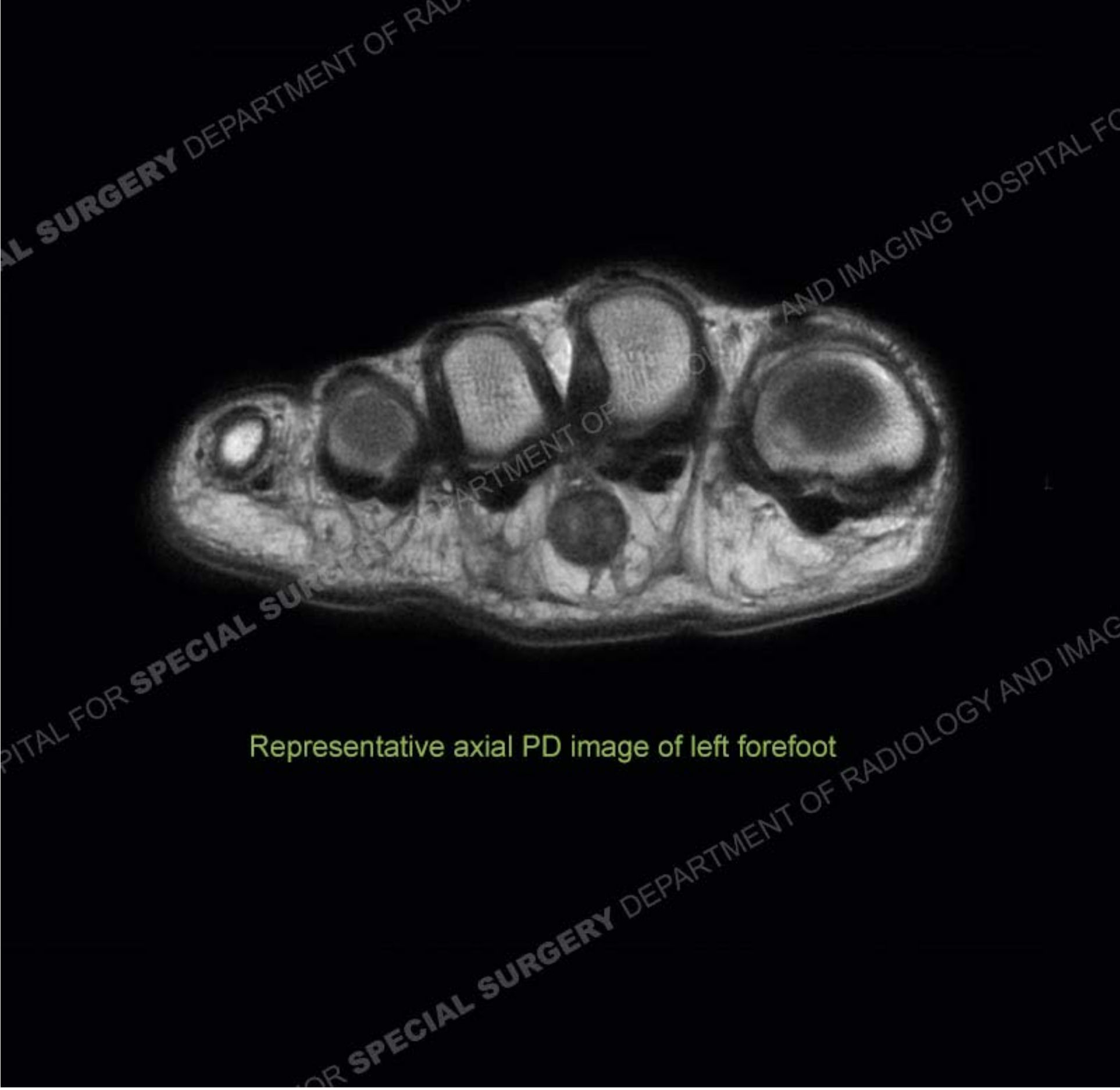
History: 20 year old man with increasing size of left forefoot mass.


Frontal radiograph
Oblique radiograph



Consecutive sagittal PD images of left second digit

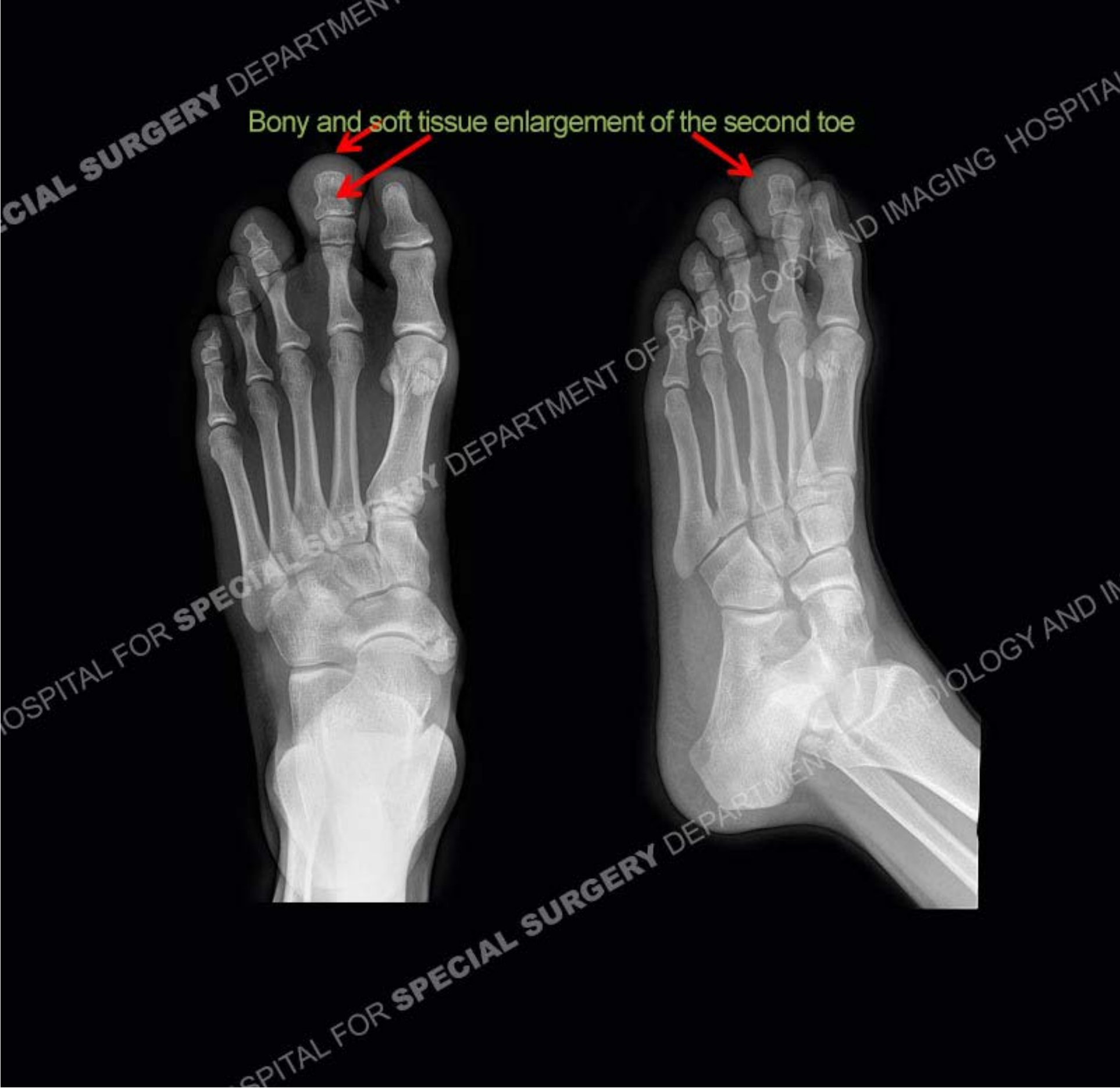


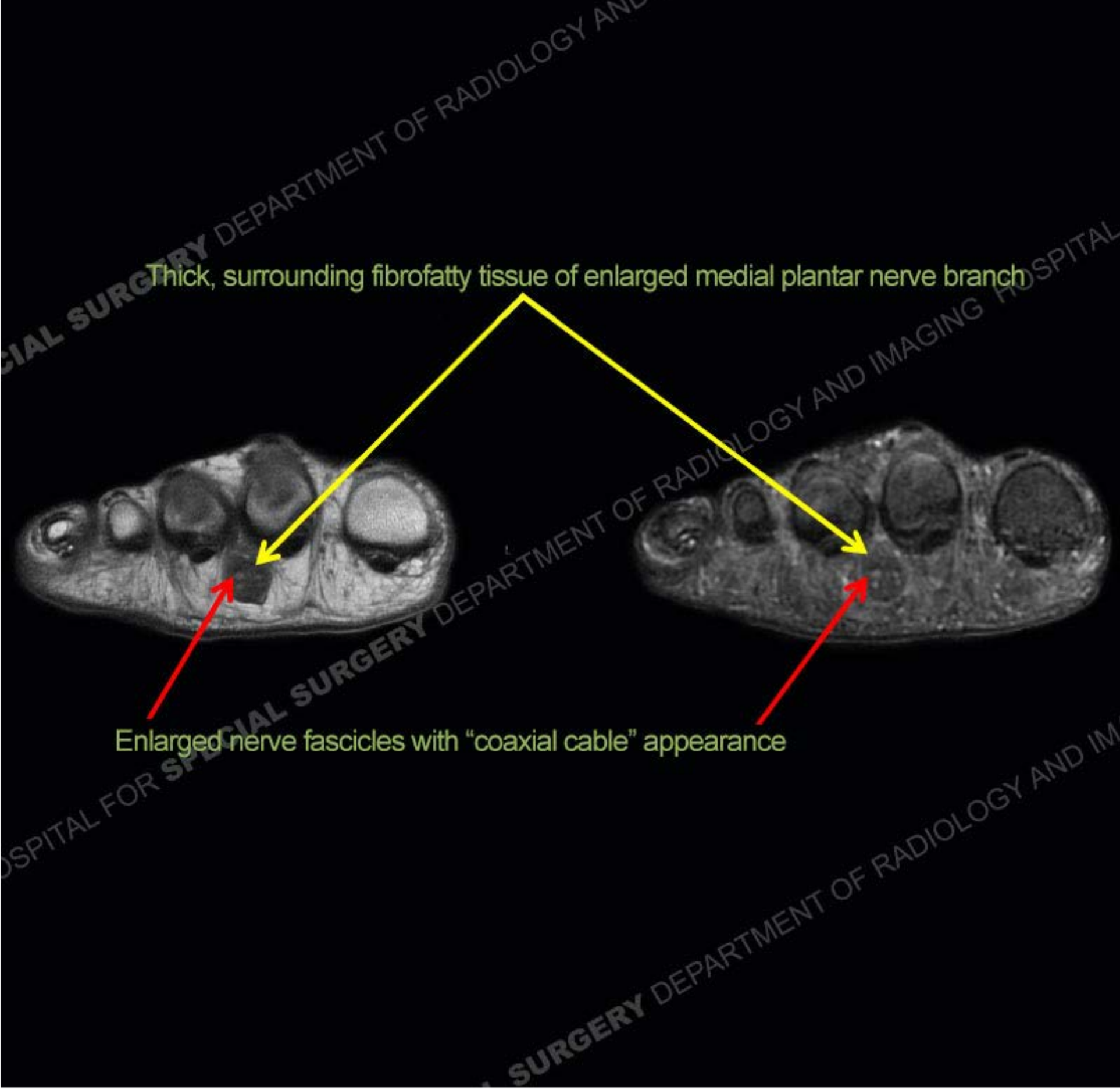


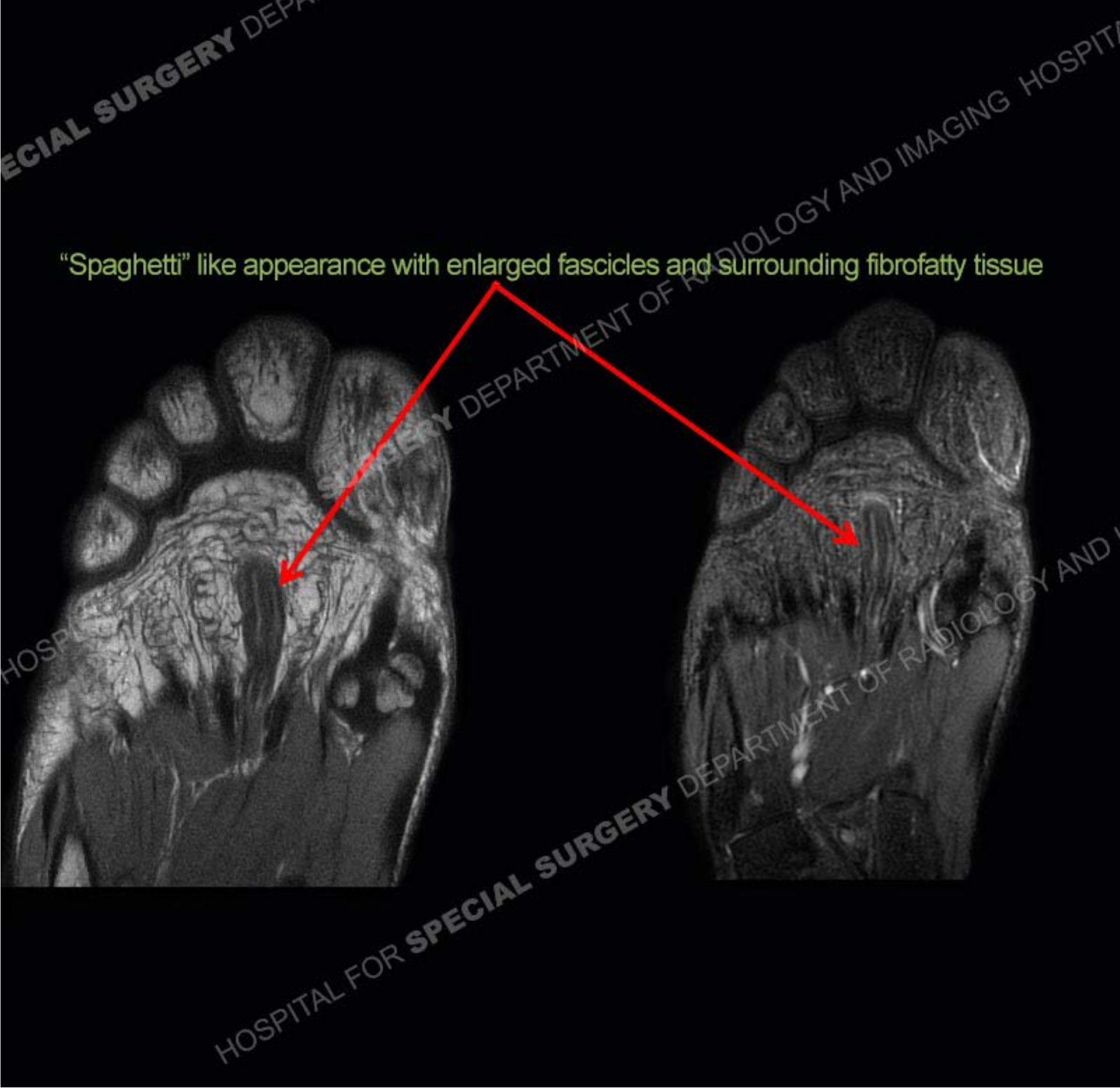
Representative axial PD image of left forefoot

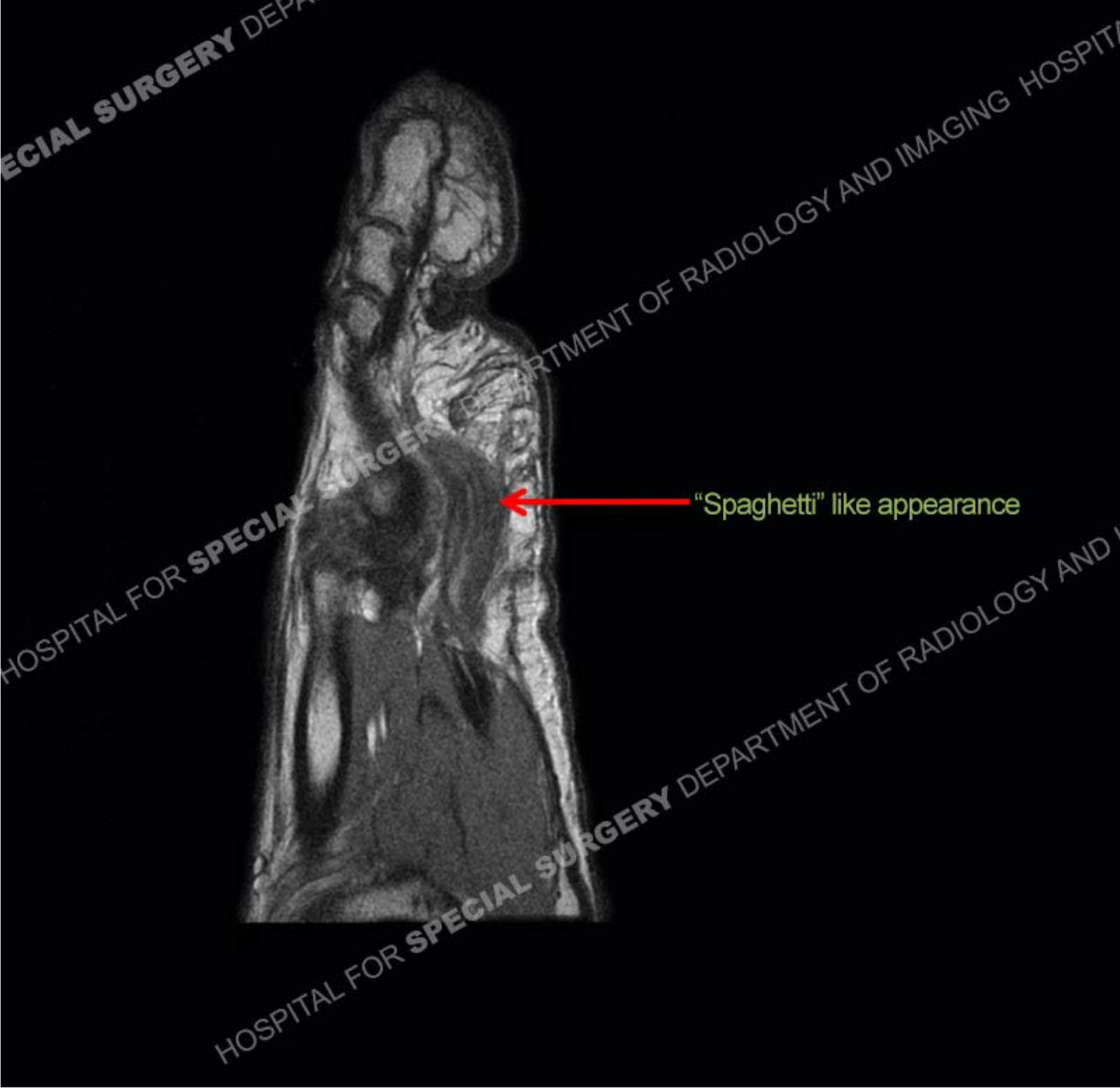
Findings

Radiographs demonstrate a focal enlargement of the second digit with particular prominence of the soft tissue but with additional enlargement of the bones. The MRI demonstrates an enlargement of the branch of the medial plantar nerve extending to the second digit with marked prominence of the nerve fascicles and a surrounding, thickened fibrofatty tissue. On the axial images, the nerve demonstrates a “coaxial cable” type appearance with a more “spaghetti” type appearance on the coronal and sagittal images.


Bony and soft tissue enlargement of the second toe


Thick, surrounding fibrofatty tissue of enlarged medial plantar nerve branch
Enlarged nerve fascicles with “coaxial cable” appearance

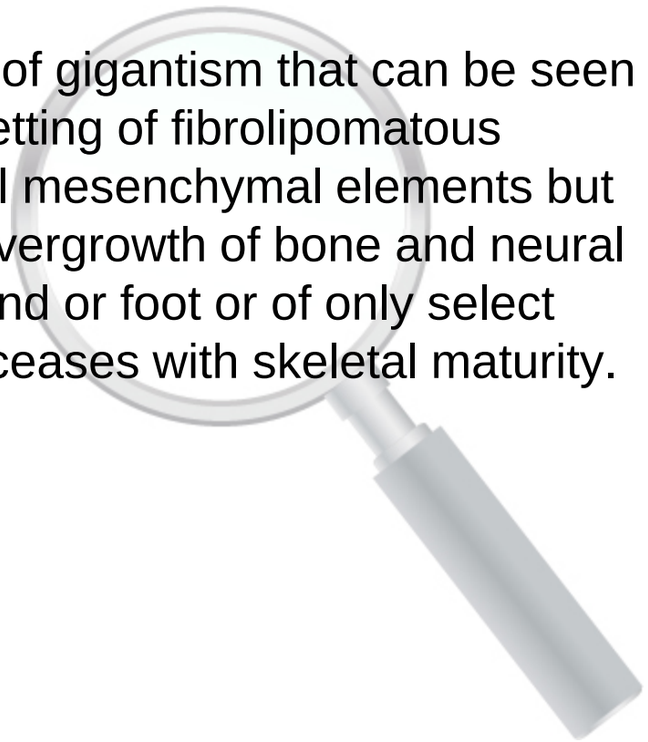




Diagnosis: Fibrolipomatous hamartoma with macrodystrophia lipomatosa

Fibrolipomatous hamartoma (aka lipofibromatous hamartoma, neural fibrolipoma) is a benign neoplasm of the nerve with disorganized overgrowth of nerve elements encased in a fibro-fatty mass. This most commonly is seen in the median nerve but can be seen in the radial, ulnar, or as in this case the plantar nerves. It yields a pathognomonic appearance with a “coaxial cable” appearance on axial images and a “spaghetti” appearance on coronal or sagittal images. This relates to the overgrowth of neural and surrounding fibrofatty elements.

Macrodystrophia lipomatosa (ML) is a focal form of gigantism that can be seen from numerous causes but is often seen in the setting of fibrolipomatous hamartoma. ML results from an overgrowth of all mesenchymal elements but especially fatty, soft tissue. In addition, there is overgrowth of bone and neural tissue. This process can be seen of the entire hand or foot or of only select rays (typically the second or third). The process ceases with skeletal maturity.



References

Tumors and tumor-like lesions of peripheral nerves.Woertler K. Semin Musculoskelet Radiol. 2010 Nov;14(5):547-58. doi: 10.1055/s-0030-1268073. Epub 2010 Nov 11. http://radiopaedia.org/articles/fibrolipomatous-hamartoma-of-the-nerve

http://radiopaedia.org/articles/macrodystrophia-lipomatosa

http://emedicine.medscape.com/article/1609075-overview#a11