

THE MRI CENTERS OF NEW ENGLAND



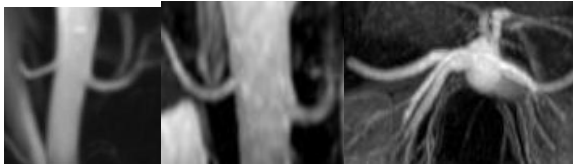
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Renovascular Hypertension: Renal Artery Stenosis

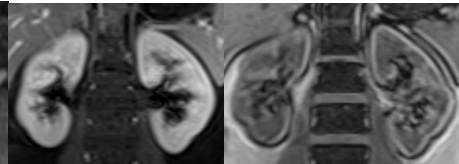
Renal artery stenosis is most commonly caused by atherosclerosis. Vasculitis, of which fibromuscular dysplasia is most common, may cause narrowing of the renal arteries, as the predominant cause in young patients. High blood pressure that cannot be adequately controlled with medication may be seen, and kidney function may deteriorate. The American College of Radiology Appropriateness Criteria provides evidence based imaging guidelines, including for urologic and vascular imaging. (<http://www.acr.org/ac>).

For patients with a high index of suspicion for renovascular disease, contrast-enhanced MRA and CTA are most accurate. Magnetic resonance angiography, MRA, depicts the arterial supply of the kidneys well. In patients with diminished renal function, MRA, which may be performed with and without contrast is best suited to evaluate renovascular disease. Single dose and low dose renal MRA are offered. State of the art MRA techniques, now available; allow imaging of the kidney arteries, without contrast, using no radiation, for assessment of renal artery stenosis, and its hemodynamic significance. Phase contrast MRA may be performed without contrast and provides diagnostic information regarding the hemodynamic significance of stenosis. Renal anatomy, kidney size and any possible cortical loss are evaluated with renal MRI, which may be performed without contrast, when necessary. It is exciting that this innovative technology allows safe imaging of kidney arteries, regardless of kidney function.

Renal MRA without contrast



Renal MRI without contrast



Single dose renal MRA



Normal renal arteries



Severe right renal artery stenosis

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