

GUNDERSEN/LUTHERAN ULTRASOUND DEPARTMENT POLICY AND PROCEDURE MANUAL

SUBJECT: Renal Transplant Sonography

SECTION: Radiology Ultrasound

ORIGINATOR: Deborah L. Richert, BSVT, RDMS, RVT

DATE: September 13, 2013

APPROVED BY:

Jody Riherd MD

Dave Clayton RDMS RVT

- Longitudinal renal transplant with maximum length and location labeled (e.g. RLQ/LLQ) (Transplant kidneys should be morphologically similar to a normal native kidney)
- Longitudinal images of medial, mid, and lateral renal transplant
- Transverse images upper, mid, and lower pole renal transplant
- Longitudinal color and/or power Doppler images of the renal transplant to demonstrate the overall perfusion of the transplant (Look for areas of hypoperfusion)
- Longitudinal bladder
- Transverse bladder
- Transplant renal artery: from iliac artery anastomosis to renal hilum – measure velocities at origin and distal renal artery (Provided flow in the iliac artery is normal, transplant renal artery velocities should be less than 200 cm/sec)
- Transplant renal vein: from iliac vein anastomosis to renal hilum – show patency
- Arcuate arteries: upper, mid, and lower pole images with color and spectral Doppler to measure the RI (resistive index) (Do not angle correct)

Renal Transplant Arcuate Artery RI Values:

- Normal: < .80
- Probably Abnormal: .80 - .90
- Definitely Abnormal: > .90
- RI's are nonspecific; they just indicate transplant dysfunction

Source: Mayo Clinic Renal Transplant Imaging Protocol and Jody Riherd, MD