Acute Pyelonephritis

Acute pyelonephritis (APN) is a bacterial infection of the kidneys. Imaging tests are usually not recommended for individuals suspected to have APN and without histories of pyelonephritis, diabetes, immune compromise, stones, kidney obstruction, prior kidney surgery, vesicoureteral reflux, lack of response to prior treatment, pregnancy, or advanced age.

For individuals with prior histories listed above, CT abdomen and pelvis (https://www.radiologyinfo.org/en/info/abdominct) with contrast is usually appropriate. Ultrasound (US) abdomen (https://www.radiologyinfo.org/en/info/abdominus) ; US color Doppler of the kidneys (https://www.radiologyinfo.org/en/info/ultrasound-renal) , bladder, and retroperitoneum; MRI abdomen/pelvis (https://www.radiologyinfo.org/en/info/mri-abdomen-pelvis) without contrast; MRI abdomen without and with contrast; or CT abdomen/pelvis without contrast may be appropriate.

For individuals with history of kidney stones or kidney obstruction, CT abdomen/pelvis with contrast or CT abdomen/pelvis without and with contrast is usually appropriate. US abdomen; US color Doppler kidneys, bladder, and retroperitoneum; MRI abdomen and pelvis without contrast; MRI abdomen without and with contrast; CT abdomen/pelvis without contrast; or CT abdomen/pelvis without and with contrast may be appropriate.

For pregnant women without complications, US abdomen; US color Doppler of kidneys, bladder, and retroperitoneum; MRI abdomen/pelvis without contrast; MRI abdomen without contrast; or MRU (https://www.radiologyinfo.org/en/info/urography) without contrast may be appropriate.

For individuals with a kidney transplant and without removal of native kidneys and without other complications, US duplex Doppler of the kidney transplant or CT abdomen/pelvis with contrast is usually appropriate. MRI abdomen/pelvis without and with contrast, MRI abdomen/pelvis without and with contrast, MRI abdomen/pelvis without contrast, CT abdomen/pelvis without contrast, or CT abdomen/pelvis without and with contrast may be appropriate.

— By Elaine Liang and Aya Kamaya, MD. This information originally appeared in the *Journal of the American College of Radiology*.

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