PROCEDURE	TRACER	MOST COMMON INDICATION(S)	OTHER INDICATION(S)	REFERENCE
Bone scan	Tc-99m MDP	• Primary and metastatic bone neoplasms • Musculoskeletal infection and inflammation • Stress / occult fracture • Non accidental trauma • Metabolic bone disease	• Reflex sympathetic dystrophy • Pain of suspected musculoskeletal etiology	ACR-SPR guidelines, revised 2013
Renal scan with or without diuresis renography	Tc-99m MAG-3 Renal scan	• Renal function • Congenital and acquired renal abnormalities, including mass lesions • Urinary tract obstruction	• Renal allograft evaluation • Renovascular hypertension	ACR-SPR guidelines, revised 2013
Cortical renal scan	Tc-99m DMSA	• Pyelonephritis and parenchymal scarring • Renal function		ACR-SPR guidelines, revised 2013
Radionuclide cystogram	Tc-99m, different forms	• Initial evaluation of reflux in females with urinary tract infection • Diagnose familial reflux • Follow up of vesicoureteral reflux • Serial evaluation of reflux in patients with bladder dysfunction (e.g. neurogenic bladder)	• Quantification of post void residual urine in the bladder • Hydronephrosis	ACR -SPR –SNM guidelines, revised 2010

PROCEDURE	TRACER	MOST COMMON INDICATION(S)	OTHER INDICATION(S)	REFERENCE
Glomerular filtration rate calculation (GFR)	Tc-99m DTPA	• Evaluation of GFR		ACR-SPR guidelines, revised 2013
Gastric emptying and gastroesphageal reflux study	Tc-99m sulfur colloid	• Signs or symptoms of gastro-esophageal reflux • In infants and children, a gastroesophageal reflux study is often combined with a liquid gastric emptying study		ACR-SNM-SPR guidelines, revised 2010
Gastrointestinal (GI) bleeding scan	Tc-99m labeled RBCs	• To demonstrate the presence and site of acute GI bleeding		ACR-SNM-SPR guidelines, revised 2010
Meckel's scan	Tc-99m pertechnetate	• Demonstration of functioning ectopic mucosa		ACR-SNM-SPR guidelines, revised 2010
Hepatobiliary (HIDA) scan	Tc-99m Mebrofenin	• Neonatal hyperbilirubinemia • Acute cholecystitis	• Biliary leak • Biliary patency • Assessment of biliary enteric bypass • Choledochal cyst • Biliary dilatation • Functional biliary pain, acalculous biliary disorders	ACR-SPR guidelines, revised 2013

PROCEDURE	TRACER	MOST COMMON INDICATION(S)	OTHER INDICATION(S)	REFERENCE
Salivagram	Tc-99m sulfur colloid	• Verification of suspected aspiration		ACR-SNM-SPR guidelines, revised 2010
Lung perfusion scan	Tc-99m MAA	• Differential lung perfusion in patients with congenital heart disease such as cardiac shunts, pulmonary arterial stenosis and their treatment		ACR-SPR guidelines, revised 2009
Ventilation perfusion (V/Q) scan	Tc-99m MAA and Xe-133 or Tc99m-DTPA aerosol	• Assessment of probability of acute or chronic pulmonary thromboembolism • Quantification of differential pulmonary function		ACR-SPR guidelines, revised 2009
SPECT Myocardial perfusion scan	Tc-99 m sestamibi, Tc-99m tetrofosmin	• Kawasaki disease • Tetralogy of Fallot repair • Anomalous left coronary artery from the pulmonary artery • Post arterial switch operation • Cardiomyopathies • Cardiac transplant	• Estimation of right ventricular (RV) pressure overload, morphological RV as systemic ventricle	Ann Pediatr Cardiol. 2009 Jul-Dec; 2(2): 127–139.

PROCEDURE	TRACER	MOST COMMON INDICATION(S)	OTHER INDICATION(S)	REFERENCE
Thyroid uptake and scan	I-123, Tc-99m pertechnetate	• Evaluate hyperthyroidism • Laboratory tests suggestive of abnormal thyroid function • Evaluate size and location of thyroid tissue	• Evaluate congenital thyroid abnormalities • Evaluate known or suspected thyroid nodules	ACR-SNM-SPR guidelines, revised 2009
Lymphoscintigraphy	Tc-99m sulfur colloid	• Sentinel node evaluation • Lymphedema		
PET scan	F-18 FDG	• Evaluating an abnormality considered "indeterminate" by another imaging method in order to determine whether glucose metabolism in that abnormality favors a benign or malignant process • Guiding initial or subsequent treatment strategy in patients with known malignancy	• Cardiac metabolic imaging • Refractory seizures	ACR-SPR guidelines, revised 2012
MIBG scan	I-123 MIBG scan	• Detection, localization, staging and follow-up of neuroendocrine tumors and their metastases, in particular neuroblastoma	• 1-131 MIBG therapy for treatment of refractory neuroblastomas is used only as an investigational agent with expanded access	ACR-SPR guidelines, revised 2010