

MRI Abdomen

CPT: 74181, 74182, 74183, S8037

NOTE: ALTERNATIVE TO CT

- Long term repeat follow up required, seeking to reduce radiation exposure
- Meets criteria for CT of Abdomen but CT is not feasible, contraindicated or patient is allergic to iodinated contrast

1 Major Symptom or Complaint presented as primary indication

1.1 Hematuria confirmed microscopically (dip stick alone not sufficient) Note: CT is preferred. MRI may be approved for children, pregnant women, those unable to tolerate iodinated contrast material, and those who have already been examined for this reason with MRI.

1.1.1 Confirmed microscopically (required only when hematuria is detected by dip stick test alone)

1.1.2 Urine is grossly (visibly) bloody

References

1. Ramesh Mazhari and Paul L Kimmel Hematuria: an algorithmic approach to finding the cause. Cleveland Clinic Journal of Medicine 2002; 69(11):870;
2. American College of Radiology ACR Appropriateness Criteria Hematuria 2005 page 4 accessed 2/11/09

1.2 Pain

1.2.1 Elevated lipase or Amylase

1.3 Weight loss (involuntary) of more than 5% body weight over 6 months

References

1. Reife Carol M, "Chapter 41. Weight Loss" (Chapter). Fauci AS, Braunwald E, Kasper DL, Hauser SL, Longo DL, Jameson JL, Loscalzo J: Harrison's Principles of Internal Medicine, 17th Edition: <http://www.accessmedicine.com/content.aspx?aID=2867909>. 4/1/09

2 Working Diagnosis or Rule Out presented as primary indication

2.1 Aortic Aneurysm Suspected

2.1.1 Abdominal and back pain

2.1.2 Dilation seen or suspected on prior imaging

2.1.3 Pulsatile abdominal mass

References:

1. Jonathan Golledge, Juanita Muller, Alan Daugherty, and Paul Norman Abdominal Aortic Aneurysm: Pathogenesis and Implications for Management *Arterioscler. Thromb. Vasc. Biol.*, Dec 2006; 26: 2605 – 2613.
2. David B. Hellmann, David J. Grand, and Julie A. Freischlag Inflammatory Abdominal Aortic Aneurysm *JAMA*, Jan 2007; 297: 395 – 400.
3. Stephen A. Badger, Mark E. O'Donnell, Muhammed A. Sharif, Christopher S. Boyd, Raymond J. Hannon, Louis L. Lau, Bernard Lee, and Chee V. Soong Risk Factors for Abdominal Aortic Aneurysm and the Influence of Social Deprivation *Angiology*, Oct 2008; 59: 559 – 566.
4. Miriam B. Rodin, Martha L. Daviglus, Gordon C. Wong, Kiang Liu, Daniel B. Garside, Philip Greenland, and Jeremiah Stamler Middle Age Cardiovascular Risk Factors and Abdominal Aortic Aneurysm in Older Age Hypertension, Jul 2003; 42: 61 – 68.
5. Martin R. Back Surveillance After Endovascular Abdominal Aortic Aneurysm Repair Perspectives in Vascular Surgery and Endovascular Therapy, Dec 2007; 19: 395 – 400.
6. C.A. Spencer, K. Jamrozik, P.E. Norman, and M.M.D. Lawrence-Brown The potential for a selective screening strategy for abdominal aortic aneurysm *J Med Screen*, Dec 2000; 7: 209 – 211.
7. Debbie Davis and Marveen Craig Unsuspected Abdominal Aortic Aneurysm *Journal of Diagnostic Medical Sonography*, May 2002; 18: 154 – 157.
8. Jack L. Cronenwett A Myth Exposed: Fast Growth in Diameter Does Not Justify Precocious Abdominal Aortic Aneurysm Repair Perspectives in Vascular Surgery and Endovascular Therapy, Mar 2004; 16: 79 – 80.
9. Salah D. Qanadli, Benoît Mesurolle, Marc Coggia, Olivier Barré, Sumio Fukui, Olivier A. Goeau-Brissonnière, Sophie Chagnon, and Pascal Lacombe Abdominal Aortic Aneurysm: Pretherapy Assessment with Dual-Slice Helical CT Angiography *Am. J. Roentgenol.*, Jan 2000; 174: 181 – 187

2.2 Biliary obstruction (MRCP requested: 74181, 74182, 74183, or S8037)

2.2.1 Dilated biliary tree on prior imaging

References:

1. Ryo Tamura, Tadashi Ishibashi, and Shoki Takahashi; Chronic Pancreatitis: MRCP versus ERCP for Quantitative Caliber Measurement and Qualitative Evaluation; Radiology 2006 238: 920-928; [favorably compares measurement accuracy of MR to ER CP]
2. M.-J. Kim, D. G. Mitchell, K. Ito, and E. K. Outwater ; Biliary Dilatation: Differentiation of Benign from Malignant Causes-Value of Adding Conventional MR Imaging to MR Cholangiopancreatography1; Radiology, January 1, 2000; 214(1): 173 – 181.
3. S. Saini; Imaging of the Hepatobiliary Tract . Engl. J. Med., June 26, 1997; 336(26): 1889 – 1894.
4. Taouli, Bachir, Ehman, Richard L., Reeder, Scott B. Advanced MRI Methods for Assessment of Chronic Liver Disease Am. J. Roentgenol. 2009 193: 14-27

2.3 Biliary tumor, known or suspected (MRCP requested: 74181, 74182, 74183, or S8037)

2.3.1 Dilated biliary tree on prior imaging

References:

1. Ryo Tamura, Tadashi Ishibashi, and Shoki Takahashi; Chronic Pancreatitis: MRCP versus ERCP for Quantitative Caliber Measurement and Qualitative Evaluation; Radiology 2006 238: 920-928; [favorably compares measurement accuracy of MR to ER CP]
2. M.-J. Kim, D. G. Mitchell, K. Ito, and E. K. Outwater ; Biliary Dilatation: Differentiation of Benign from Malignant Causes-Value of Adding Conventional MR Imaging to MR Cholangiopancreatography1; Radiology, January 1, 2000; 214(1): 173 – 181.
3. S. Saini; Imaging of the Hepatobiliary Tract . Engl. J. Med., June 26, 1997; 336(26): 1889 – 1894.

2.4 Crohn's Disease, suspected

2.4.1 Pain, weight loss, or fever

References:

1. ACR Appropriateness Criteria Crohn's Disease Reviewed 2012
2. Rakesh Sinha, Ratan Verma, Sadhna Verma, and Arumugam Rajesh Review: MR Enterography of Crohn's Disease: Part 2, Imaging and Pathologic Findings AJR July 2012 197:80-85
3. Hara, Amy K., Alam, Shayan, Heigh, Russell I., Gurudu, Suryakanth R., Hentz, Joseph G., Leighton, Jonathan A. Using CT Enterography to Monitor Crohn's Disease Activity: A Preliminary Study Am. J. Roentgenol. 2008 190: 1512-151
4. Seung Soo Lee, Ah Young Kim, Suk-Kyun Yang, Jun-Won Chung, So Yeon Kim, Seong Ho Park, and Hyun Kwon Ha Crohn's Disease of the Small Bowel: Comparison of CT Enterography, MR Enterography, and Small-Bowel Follow-Through as Diagnostic Techniques Radiology June 2009 251:751-761;

2.5 Non Alcoholic Fatty Liver Disease Suspected

2.5.1 Hepatomegaly

2.5.2 Elevated alanine or aspartate aminotransferase

References

1. Angulo, Paul Nonalcoholic Fatty Liver Disease N Engl J Med 2002 346: 1221-1231 "Nonalcoholic fatty liver disease is an increasingly recognized condition that may progress to end-stage liver disease. The pathological picture resembles that of alcohol-induced liver injury, but it occurs in patients who do not abuse alcohol. A variety of terms have been used to describe this entity, including fatty-liver hepatitis, nonalcoholic Laënnec's disease, diabetes hepatitis, alcohol-like liver disease, and nonalcoholic steatohepatitis.

2.6 Metastases, Suspected liver

2.6.1 Abnormal liver function tests

2.6.2 Jaundice

2.6.3 Known malignancy elsewhere

2.6.4 Mass on US

2.7 PANCREATITIS (MRCP REQUESTED: 74181 74182 74183 or S8037)

2.7.1 Known

2.7.1.1 Condition unimproved or worsening under therapy

2.7.1.1.1 Blood Pressure falling

2.7.1.1.2 Fever

2.7.1.1.3 Hematocrit falling

2.7.1.1.4 Renal Failure

2.7.1.2 Pseudocyst suspected

2.7.1.2.1 Recurrent or chronic pancreatitis

2.7.1.2.1.1 Back Pain

2.7.1.2.1.2 Mass, back pain, or abdominal tenderness

2.7.1.2.1.3 Post trauma

2.7.1.2.1.4 Tenderness

2.7.1.2.1.5 US findings nondiagnostic

2.7.1.2.1.6 Worsening under treatment

2.7.2 Suspected BOTH

2.7.2.1 Elevated Lipase or Amylase

2.7.2.2 Pain

2.8 Peutz-Jeghers Syndrome to screen for small bowel tumors

2.8.1 reference: NCCN update March 2014

2.9 Pheochromocytoma suspected

2.9.1 Elevated catecholamines

2.9.2 Elevated metanephrines

2.9.3 Elevated VMA

2.9.4 Hypertension not responding to medical therapy

References

1. Shulkin BL, Ilias I, Sisson JC et al. Current trends in functional imaging of pheochromocytomas and paragangliomas. Ann N Y Acad Sci 2006;1073:374–382
2. Lumachi F, Tregnaghi A, Zucchetta P et al. Sensitivity and positive predictive value of CT, MRI and 123I-MIBG scintigraphy in localizing pheochromocytomas: A prospective study. Nucl Med Commun 2006;27:583–587
3. Adler, Joel T. , Meyer-Rochow, Goswin Y. , Chen, Herbert , Benn, Diana E. , Robinson, Bruce G. , Sippel, Rebecca S. , Sidhu, Stan B. Pheochromocytoma: Current Approaches and Future Directions Oncologist 2008 13: 779-793;

2.10 STONE, BILIARY SUSPECTED (CHOLEDOCHOLITHIASIS) (MRCP REQUESTED: 74181, 74182, 74183, or S8037)

2.10.1 Cholangitis

2.10.2 Colicky abdominal pain and nondiagnostic ultrasound exam

2.10.3 Common bile duct stone on ultrasound

2.10.4 Dilated biliary ducts on prior imaging

2.10.4.1 Common bile duct dilated to greater than 10 mm on ultrasound if gallbladder removed (post cholecystectomy) or greater than 6 mm if gallbladder present

2.10.5 Elevated direct bilirubin level

2.10.6 Elevated liver function tests (AST, ALT, alkaline phosphatase)

2.10.7 Elevated pancreatic enzymes (amylase or lipase)

2.10.8 Jaundice

2.10.9 Pancreatitis, known

References:

1. ASGE Standards of Practice Committee The Role of Endoscopy in the Evaluation fo Suspected Choledocholithiasis Gastrointest Endosc 2010; 71:1

3 Abnormal Physical Exam Finding presented as primary indication

3.1 Mass, abdominal or rectal

3.2 Tenderness

3.2.1 Elevated lipase or amylase

4 Abnormal Lab or Imaging presented as primary indication

4.1 Adrenal mass seen on prior imaging

4.1.1 Interval assessment for stability (6 months, 12 months and two years)

References:

1. Young, William F., Jr.; The Incidentally Discovered Adrenal Mass; N Engl J Med 2007 356: 601-610
2. Aldosterone elevated

4.3 Biliary obstruction (MRCP requested: 74181, 74182, 74183, or S8037)

4.3.1 Dilated biliary tree on prior imaging

References:

1. Ryo Tamura, Tadashi Ishibashi, and Shoki Takahashi; Chronic Pancreatitis: MRCP versus ERCP for Quantitative Caliber Measurement and Qualitative Evaluation; Radiology 2006 238: 920-928; [favorably compares measurement accuracy of MR to ER CP]
2. M.-J. Kim, D. G. Mitchell, K. Ito, and E. K. Outwater ; Biliary Dilatation: Differentiation of Benign from Malignant Causes-Value of Adding Conventional MR Imaging to MR Cholangiopancreatography1; Radiology, January 1, 2000; 214(1): 173 – 181
3. S. Saini; Imaging of the Hepatobiliary Tract . Engl. J. Med., June 26, 1997; 336(26): 1889 – 1894
4. Taouli, Bachir, Ehman, Richard L., Reeder, Scott B. Advanced MRI Methods for Assessment of Chronic Liver Disease Am. J. Roentgenol. 2009 193: 14-27

4.4 Catecholamines elevated (suspected pheochromocytoma)

4.4.1 Hypertension

References:

1. Moser, Marvin, Setaro, John F. Resistant or Difficult-to-Control Hypertension N Engl J Med 2006 355: 385-392

4.5 Complex Renal Cysts CT is the preferred imaging modality, however MRI may be appropriate and can be approved.

4.5.1 Renal cyst seen on prior imaging with any one of the following (Bosniak Category IIF or higher)

4.5.1.1 Septa

4.5.1.1.1 any number thicker than 1mm

4.5.1.1.2 Multiple thin

4.5.1.2 Thick cyst wall

4.5.1.3 Intrarenal

4.5.1.4 3cm in diameter or greater

4.5.1.5 calcification(s)

4.5.1.6 Contrast enhancement on CT

References:

1. Gary M. Israel, Nicole Hindman, and Morton A. Bosniak Evaluation of Cystic Renal Masses: Comparison of CT and MR Imaging by Using the Bosniak Classification System Radiology 2004 231: 365-371.
2. Thomas Whelan Guidelines on the management of renal cyst disease Can Urol Assoc J. 2010 April; 4(2): 98–99
3. Balci, NC, Semelka, RC, Patt, RH, Dubois, D, Freeman, JA, Gomez-Caminero, A, Woosley, JT, Complex renal cysts: findings on MR imaging ; Am. J. Roentgenol. 1999 172: 1495-1500
4. M. Suh, F. V. Coakley, A. Qayyum, B. M. Yeh, R. S. Breiman, and Y. Lu Distinction of Renal Cell Carcinomas from High-Attenuation Renal Cysts at Portal Venous Phase Contrast-enhanced CT Radiology, August 1, 2003; 228(2): 330 – 334.
5. Freire, Maxime, Remer, Erick M. Clinical and Radiologic Features of Cystic Renal Masses Am. J. Roentgenol. 2009 192: 1367-1372

4.6 Direct bilirubin elevated (MRCP requested: 74181, 74182, 74183, or S8037)

4.6.1 Suspected biliary obstruction

References

1. Role of Magnetic Resonance Cholangiopancreatography in Patients With Suspected Choledocholithiasis Mari M. Calvo, Luis Bujanda, Angel Calderón, Iñaki Heras, José L. Cabriada, Antonio Bernal, Victor Orive, and Angel Capelastegi Mayo Clin Proc. May 2002 77(5):422-428;
2. Magnetic Resonance Cholangiopancreatography: A Meta-Analysis of Test Performance in Suspected Biliary Disease Joseph Romagnuolo, Marc Bardou, Elham Rahme, Lawrence Joseph, Caroline Reinhold, and Alan N. Barkun Ann Intern Med October 7, 2003 139:547-557
3. Aldosterone elevated
4. Urine free cortisol elevated

4.9 Liver nodule seen on other imaging

4.9.1 Less than 1 cm in diameter

4.9.1.1 CT or MRI every 3 months

4.9.1.1.1 Stable continue imaging with same modality as first used

4.9.1.1.2 Enlarging proceed as indicated by size

4.9.2 Greater than 1 cm in diameter

4.9.2.1 4 phase CT or MRI

4.9.2.1.1 If not diagnostic for carcinoma perform 2nd type of 4 phase liver imaging (MRI or CT)

4.9.2.1.2 If still not diagnostic continue with follow up imaging

References:

1. NCCN Guidelines Hepatocellular Carcinoma 2.2012 accessed 8/2/2012
2. Bruix J and Sherman M. Management of hepatocellular carcinoma: An Update. Hepatology July 2010;1-35

4.10 Hematuria

4.10.1 Note: CT is preferred. MRI may be approved for children, pregnant women, those unable to tolerate iodinated contrast material, and those who have already been examined for this reason with MRI.

4.10.2 Confirmed microscopically (requires a urinalysis)

References:

1. American College of Radiology ACR Appropriateness Criteria Hematuria 2005 page 4 accessed 2/11/09

4.11 VMA elevated (suspected pheochromocytoma)

4.11.1 hypertension

5 Significant Prior Medical History presented as primary indication

5.1 Biliary obstruction (MRCP requested: 74181, 74182, 74183, or S8037)

5.1.1 Dilated biliary tree on prior imaging

References:

1. Ryo Tamura, Tadashi Ishibashi, and Shoki Takahashi; Chronic Pancreatitis: MRCP versus ERCP for Quantitative Caliber Measurement and Qualitative Evaluation; Radiology 2006 238: 920-928; [favorably compares measurement accuracy of MR to ER CP]
2. M.-J. Kim, D. G. Mitchell, K. Ito, and E. K. Outwater ; Biliary Dilatation: Differentiation of Benign from Malignant Causes-Value of Adding Conventional MR Imaging to MR Cholangiopancreatography1; Radiology, January 1, 2000; 214(1): 173 – 181.
3. S. Saini; Imaging of the Hepatobiliary Tract . Engl. J. Med., June 26, 1997; 336(26): 1889 – 1894.
4. Taouli, Bachir, Ehman, Richard L., Reeder, Scott B. Advanced MRI Methods for Assessment of Chronic Liver Disease Am. J. Roentgenol. 2009 193: 14-27

5.2 Biliary tumor, known or suspected (MRCP requested: 74181, 74182, 74183, or S8037)

5.2.1 Dilated biliary tree on prior imaging

References:

1. Ryo Tamura, Tadashi Ishibashi, and Shoki Takahashi; Chronic Pancreatitis: MRCP versus ERCP for Quantitative Caliber Measurement and Qualitative Evaluation; Radiology 2006 238: 920-928; [favorably compares measurement accuracy of MR to ER CP]
2. M.-J. Kim, D. G. Mitchell, K. Ito, and E. K. Outwater ; Biliary Dilatation: Differentiation of Benign from Malignant Causes-Value of Adding Conventional MR Imaging to MR Cholangiopancreatography1; Radiology, January 1, 2000; 214(1): 173 – 181.
3. S. Saini; Imaging of the Hepatobiliary Tract . Engl. J. Med., June 26, 1997; 336(26): 1889 – 1894.

5.3 Cancer, Intraabdominal (any cell type)

5.3.1 Initial staging,

5.3.2 Interval follow up.

5.3.3 Restaging during treatment,

5.3.4 Worsening clinical picture

5.4 Cirrhosis

5.4.1 Portal hypertension, preoperative evaluation

5.4.2 Suspicion of hepatocellular carcinoma

5.4.2.1 Screening for Liver Cancer (according to the National Comprehensive Cancer Network, Ultrasound and alph-fetoprotein levels (AFP) should be done every 6-12 months. Further imaging is dependent on the findings of these 2 tests)

5.4.2.1.1 Screening ultrasound detected liver mass/nodule/lesion

5.4.2.1.1.1 < 1 cm on ultrasound, image every 3-6 months for 2 years

5.4.2.1.1.2 1-2 cm, image every 3 months if stable in size

5.4.2.1.1.3 > 2 cm, biopsy and if nondiagnostic, repeat imaging if stable

5.4.2.2 Rising AFP with negative ultrasound

5.4.2.3 CT or MRI did not find a mass and rising AFP, repeat imaging every 3 months until a mass is confirmed

5.4.3 Patient awaiting transplantation

References:

1. Taouli, Bachir, Ehman, Richard L., Reeder, Scott B. Advanced MRI Methods for Assessment of Chronic Liver Disease Am. J. Roentgenol. 2009 193: 14-27
2. Denzer UW, Lüth S .Non-invasive diagnosis and monitoring of liver fibrosis and cirrhosis. Best Pract Res Clin Gastroenterol. 2009;23(3):453-60. Review.

5.5 Crohn's Disease, known

5.5.1 Pt. in a life long monitoring program

5.5.2 Change in clinical status

References:

1. Seung Soo Lee, Ah Young Kim, Suk-Kyun Yang, Jun-Won Chung, So Yeon Kim, Seong Ho Park, and Hyun Kwon Ha
2. Crohn's Disease of the Small Bowel: Comparison of CT Enterography, MR Enterography, and Small-Bowel Follow-Through as Diagnostic Techniques Radiology June 2009 251:751-761; ACR Appropriateness Criteria Crohn Disease Reviewed 2012 Rakesh Sinha, Ratan Verma, Sadhna Verma, and Arumugam Rajesh Review: MR Enterography of Crohn Disease: Part 2, Imaging and Pathologic Findings AJR July 2012 197:80-85

5.6 Cushing's Syndrome

5.6.1 Abnormal Laboratory Tests ONE

5.6.1.1 Dexamethasone suppression

5.6.1.2 Diurnal Rhythm

5.6.1.3 Urine Free Cortisol

5.6.2 Symptoms or signs ONE

5.6.2.1 Acne

5.6.2.2 Buffalo Hump

5.6.2.3 Central obesity

5.6.2.4 Easy bruising, impaired wound healing

5.6.2.5 Glaucoma

5.6.2.6 Hirsutism and virilization may occur with adrenal carcinomas

5.6.2.7 Hypertension

5.6.2.8 Oligomenorrhea or amenorrhea (or impotence in males)

5.6.2.9 Osteoporosis or avascular bone necrosis

5.6.2.10 Purple striae (especially around the thighs, breasts, and abdomen)

References:

1. eMedicine Medicine Specialties > Endocrinology > Adrenal Gland; Cushing Syndrome Author: Gail K Adler, MD, PhD, FAHA, accessed 04/13/10
2. Dilated Biliary tree (bile ducts) on prior imaging (MRCP requested: 74181, 74182, 74183, or S8037)

5.8 Hemochromatosis (ultrasound is also effective)

5.8.1 Elevated iron saturation

5.8.2 Elevated serum ferritin

References:

1. McElroy, Vanessa Hemochromatosis: A Literature Review Journal of Diagnostic Medical Sonography 2009 25: 325-328
2. Alexander R. Hover; Sharon M. McDonnell; Wylie Burke Changing the Clinical Management of Hereditary Hemochromatosis: Translating Screening and Early Case Detection Strategies Into Clinical Practice Arch Intern Med. 2004;164(9):957-961

5.9 Hepatitis B or C

5.9.1 Prior to Transplant

5.9.2 Screening for Liver Cancer (according to the National Comprehensive Cancer Network, Ultrasound and alph-fetoprotein levels (AFP) should be done every 6-12 months. Further imaging is dependent on the findings of these 2 tests)

5.9.2.1 Screening ultrasound detected liver mass/nodule/lesion

5.9.2.1.1 < 1 cm on ultrasound, image every 3-6 months for 2 years

5.9.2.1.2 1-2 cm, image every 3 months if stable in size

5.9.2.1.3 > 2 cm, biopsy and if nondiagnostic, repeat imaging if stable

5.9.2.2 Rising AFP with negative ultrasound

5.9.2.3 CT or MRI did not find a mass and rising AFP, repeat imaging every 3 months until a mass is confirmed

References:

1. Anderson, Lesley A., Pfeiffer, Ruth, Warren, Joan L., Landgren, Ola, Gadalla, Shahinaz, Berndt, Sonja I., Ricker, Winnie, Parsons, Ruth, Wheeler, William, Engels, Eric A. Hematopoietic Malignancies Associated with Viral and Alcoholic Hepatitis Cancer Epidemiol Biomarkers Prev 2008 17: 3069-3075 "In summary, HCV, but not other causes of hepatitis, was associated with the elevated risk of non-Hodgkin lymphoma and acute myeloid leukemia. HCV may induce lymphoproliferative malignancies through chronic immune stimulation."
2. Taouli, Bachir, Ehman, Richard L., Reeder, Scott B. Advanced MRI Methods for Assessment of Chronic Liver Disease Am. J. Roentgenol. 2009 193: 14-27
3. Kidney tumor

5.11 Pancreatitis (MRI requested)

5.11.1 Known

5.11.1.1 Condition unimproved or worsening under therapy

5.11.1.1.1 Blood Pressure falling

5.11.1.1.2 Fever

5.11.1.1.3 Hematocrit falling

5.11.1.1.4 Renal Failure

5.11.1.2 Pseudocyst suspected

5.11.1.2.1 Recurrent or chronic pancreatitis

5.11.1.2.1.1 Back Pain

5.11.1.2.1.2 Mass, back pain, or abdominal tenderness

5.11.1.2.1.3 Post trauma

5.11.1.2.1.4 Tenderness

5.11.1.2.1.5 US findings nondiagnostic

5.11.1.2.1.6 Worsening under treatment

5.11.2 Suspected BOTH

5.11.2.1 Elevated Lipase or Amylase

5.11.2.2 Pain

5.12 Pancreatitis (Known, MRCP requested: 74181, 74182, 74183, or S8037)

5.12.1 Recurrent pancreatitis

5.12.2 Unresponsive or worsening under treatment

5.13 Peutz-Jeghers Syndrome to screen for small bowel tumors

5.13.1 reference: NCCN update March 2014

5.14 Potential liver donor evaluation

References

1. Taouli, Bachir, Ehman, Richard L., Reeder, Scott B. Advanced MRI Methods for Assessment of Chronic Liver Disease Am. J. Roentgenol. 2009 193: 14-27

5.15 Testicular Cancer

5.15.1 Initial staging

5.15.2 Surveillance imaging (SEE ONCOLOGY ROUTINE IMAGING)

References

1. NCCN Practice Guidelines in Oncology Testicular Cancer V2.2009
2. M. L. Harvey , T. R. Geldart , R. Duell , G. M. Mead , and K. Tung Routine computerised tomographic scans of the thorax in surveillance of stage I testicular non-seminomatous germ-cell cancer-a necessary risk? *Ann Oncol* 13: 237-242. [Paper indicates no real value from routine CT follow up, but increased risk of radiation induced malignancy.]
3. Sohaib, S. Aslam, Koh, Dow-Mu, Husband, Janet E. The Role of Imaging in the Diagnosis, Staging, and Management of Testicular Cancer *Am. J. Roentgenol.* 2008 191: 387-395 [Takes a more favorable view of using chest CT. But recognizes the risk.]