

MRB AB01AMR

01aAbdomen (with dynamics) + Pelvis (pre/post)

A74183

A72197

Indications: Abdomen and pelvis for malignancy. If there is history of small bowel or mesentery tumor, see "contrast" section for oral contrast**

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

**oral contrast-water 450 mL 60 min, 40 min, 20 min prior to scan and 400 mL on the table (if hx of small bowel or mesenteric tumor)

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Vaginal contrast should be administered to patients with a history of gynecologic malignancy to enable better evaluation of the vagina, cervix, vaginal cuff and parametrial tissues. Vaginal contrast is administered via a catheter while the patient is on the scanning table. 60 mL of surgilube or equivalent aqueous gel should be administered in the presence of a female technologist, LIP, or chaperone. STOP if patient has significant discomfort.

Sequences:

Coronal SSFSE through abdomen and pelvis

Axial SSFSE through abdomen

Axial SSFSE through pelvis

Sagittal T2 TSE with breath hold through pelvis

Sagittal T2 TSE without breath hold through pelvis

Oblique axial T2 TSE, 6mm pelvis

Axial dual echo through abd

Axial dual echo through pelvis

DWI through abdomen

DWI through pelvis

Pre LAVA (3D) fat sat through abd, 4 mm

Pre LAVA (3D) fat sat through pelvis, 4 mm

Dynamic LAVA (3D) fat sat through abdomen, 4 mm

Coronal LAVA 2D, 6 mm through abdomen

Axial post contrast LAVA (3D) fat sat delayed through pelvis

Sagittal post contrast T1 (2D) fat sat through abdomen and pelvis

Coronal post contrast T1 (2D) fat sat through abdomen and pelvis

MRB AB01BMR
01bPelvis (with dynamics) + Abdomen (pre/post)
A72197
A74183

Indications: General follow up for malignancy. If there is history of small bowel or mesentery tumor, see "contrast" section for oral contrast**

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

**oral contrast-water 450 mL 60 min, 40 min, 20 min prior to scan and 400 mL on the table). If there is history of female pelvic malignancy, give vaginal surgilube.

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Vaginal contrast should be administered to patients with a history of gynecologic malignancy to enable better evaluation of the vagina, cervix, vaginal cuff and parametrial tissues. Vaginal contrast is administered via a catheter while the patient is on the scanning table. 60 mL of surgilube or equivalent aqueous gel should be administered in the presence of a female technologist, LIP, or chaperone. STOP if patient has significant discomfort.

Sequences:

Coronal SSFSE through pelvis

Coronal SSFSE through abdomen

Axial SSFSE through abdomen

Axial SSFSE through pelvis

Sagittal T2 TSE with breath hold through pelvis

Sagittal T2 TSE without breath hold through pelvis

Oblique axial T2 TSE

Axial dual echo through abd

Axial dual echo through pelvis

DWI through abdomen

DWI through pelvis

Pre LAVA (3D) fat sat through abd

Pre LAVA (3D) fat sat through pelvis

Axial dynamic LAVA (3D) fat sat through pelvis

Coronal post contrast LAVA (2D) fat sat delayed through abdomen

Coronal post contrast LAVA (2D) fat sat delayed through pelvis

Axial 3D LAVA post contrast through abd, 4mm
Axial 3D LAVA post contrast through pelvis, 4mm
Oblique axial post contrast T1 (2D) fat sat through pelvis, 6mm
Sagittal post contrast T1 (2D) fat sat through abdomen and pelvis, 6mm

Liver Hemangioma Gadavist

Indication: Possible hepatic hemangioma. (Note, for other hepatic lesions, use Eovist protocol) Use in cirrhosis/HCC if bilirubin >3. (If Gadavist not available, may substitute Multihance)

Contrast:

Gadavist 10 ml @2 ml/sec
If GFR < 30 and stable, Gadavist 0.05 mmol/kg
If GFR <15 or < 30 and decreasing, consult faculty
Follow Gadavist with 40 ml saline @2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences (all single breath hold):

Cover top of the liver to the bottom of the kidneys
Cor SSFSE
Ax SSFSE
Ax DE
Ax DWI
Ax LAVA pre
Ax LAVA Dynamic
Cor LAVA
Ax Lipoquant
Ax LAVA Delayed

MRB AB01MR 01Routine Abdomen A74183

Indication: General eval of abdomen, mass, metastatic disease.

Contrast:

IV- MultiHance at 2 ml/sec:
If GFR >60, give MultiHance 20 ml
If GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences (all single breath hold):

Cover top of the liver to the bottom of the kidneys

Cor SSFSE

Ax SSFSE

Ax DE

Ax DWI

Ax LAVA pre

Ax LAVA Dynamic

Cor LAVA

Ax Lipoquant

Ax LAVA Delayed

ADC:make sure ADC is calculated

FF and R2* maps created and sent to PACS

MRB AB02MR

02Liver Eovist 1.5 T

A74183

Indications:

Cirrhosis, hepatitis, risk for HCC (PBC, hemochromatosis)

Primary liver lesions (HCC, FNH, adenoma)

Cholangiocarcinoma

Metastasis

Contraindications:

Bili > 3, did not work last time, severe iron overload, work up for hemangioma, major reason for exam is evaluation of portal or hepatic veins

Contrast: Eovist

If GFR >60, Eovist 10 mL (Eovist 0.025 mmol/kg) at 1 mL/sec

If GFR 30-60 and stable, Eovist 0.025 mmol/kg

If GFR <30 and decreasing, consult faculty

Follow Eovist with 40 mL saline at 1 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Coronal SSFSE/HASTE

3D dual echo

Axial pre LAVA (3D) with fat sat

Axial dynamic post LAVA (3D) with fat sat
Coronal delayed post LAVA (3D) with fat sat
Axial SSFSE/HASTE
Axial T2 FSE FS, BH
Axial DWI
Lipoquant
Axial delayed post LAVA (3D) with fat sat*
 *repeat LAVA every 5 min until:
 (1) bile ducts are bright AND blood vessels in liver are dark
 OR
 (2) 30 minutes have elapsed since Eovist injection, whichever comes first
ADC
Make sure ADC is calculated.
Make sure FF and R2* maps are made and sent to PACS.

MRB AB03MR
03Liver Eovist 3T
A74183

Indications: Cirrhosis, hepatitis, risk for HCC (PBC, hemochromatosis)
Primary liver lesions (HCC, FNH, adenoma)
Metastasis

Contraindications:

Bili > 3, did not work last time, severe iron overload, work up for hemangioma,
major reason for exam is evaluation of portal or hepatic veins

Contrast: Eovist

If GFR >60, Eovist 10 mL (Eovist 0.025 mmol/kg) at 1 mL/sec

If GFR 30-60 and stable, Eovist 0.025 mmol/kg

If GFR <30 and decreasing, consult faculty

Follow Eovist with 40 mL saline at 1 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Coronal SSFSE/HASTE

3D dual echo

Axial pre LAVA (3D) with fat sat

Axial dynamic post LAVA (3D) with fat sat

Coronal delayed post LAVA (3D) with fat sat

Axial SSFSE/HASTE

Axial DWI

Axial T2 FSE FS, BH

Lipoquant

Axial delayed post LAVA (3D) with fat sat*

*repeat LAVA every 5 min until:

(1) bile ducts are bright AND blood vessels in liver are dark

OR

(2) 30 minutes have elapsed since Eovist injection, whichever comes first

ADC

Make sure ADC is calculated.

Make sure FF and R2* maps are made and sent to PACS.

MRB AB03MRB

03b Liver Eovist 3T Bydder

B_74183

Indications: Cirrhosis, hepatitis, risk for HCC (PBC, hemochromatosis)

Primary liver lesions (HCC, FNH, adenoma)

Metastasis

Contraindications:

Bili > 3, did not work last time, severe iron overload, work up for hemangioma, major reason for exam is evaluation of portal or hepatic veins

Contrast:

Eovist

If GFR >60, Eovist 10 mL (Eovist 0.025 mmol/kg) at 1 mL/sec

If GFR 30-60 and stable, Eovist 0.025 mmol/kg

If GFR <30 and decreasing, consult faculty

Follow Eovist with 40 mL saline at 1 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Coronal SSFSE/HASTE

3D dual echo

Axial pre LAVA (3D) with fat sat

Axial dynamic post LAVA (3D) with fat sat

Coronal delayed post LAVA (3D) with fat sat

Axial SSFSE/HASTE

Axial DWI

Axial T2 FSE FS, BH

Lipoquant

Axial delayed post LAVA (3D) with fat sat*

*repeat LAVA every 5 min until

(1) bile ducts are bright AND blood vessels in liver are dark

OR (2) 30 minutes have elapsed since Eovist injection, whichever comes first
ADC

Liver Ablavar

Indications:

1. ATYPICAL hemangiomas of liver, spleen
2. MR venography of portal vein or hepatic veins or IVC

Contrast:

Ablavar 0.12 mL/kg (0.03 mmol/kg) over a period of time of up to 30 seconds
Follow with 40 mL saline at 1 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Coronal SSFSE/HASTE
3D dual echo
Axial pre LAVA (3D) with fat sat
Axial dynamic post LAVA (3D) with fat sat
Coronal delayed post LAVA (3D) with fat sat
Sagittal LAVA with fat sat
Axial SSFSE/HASTE
Axial DWI
Axial T2 FSE FS, BH
Lipoquant
Coronal delayed LAVA with fat sat
Sagittal delayed LAVA with fat sat
ADC
Make sure ADC is calculated.
Make sure FF and R2* maps are made and sent to PACS.

MRB AB04MR
04MRCP non contrast
A74181

Indications: Evaluate biliary stones or post-op obstruction
NO concern for cancer

Contrast: NONE

Sequences: (expiration preferred)

Coronal SSFSE/HASTE

Axial SSFSE/HASTE thin section

3D dual echo

Oblique coronal SSFSE/HASTE thin section-parallel to posterior right hepatic duct, cover main ducts

Oblique axial SSFSE/HASTE thin section-perpendicular to proximal/superior extrahepatic duct, cover entire extrahepatic duct

Oblique axial SSFSE/HASTE thin section-perpendicular to distal/inferior extrahepatic duct, cover entire extrahepatic duct and duodenum

Oblique coronal 3D MRCP fat sat thin section

Optional rotating thick slabs, 2D functional MRCP in free breathing

MRCP with Eovist

Indications: Bile leak, assess biliary function, detailed eval of biliary strictures
Only if total bili <2

Contrast:

Eovist

If GFR >60, Eovist 10 mL (Eovist 0.025 mmol/kg) at 1 mL/sec

If GFR 30-60 and stable, Eovist 0.025 mmol/kg

If GFR <30 and decreasing, consult faculty

Follow Eovist with 40 mL saline at 1 ml/sec

Sequences: (expiration preferred)

Coronal SSFSE/HASTE

Axial SSFSE/HASTE

3D dual echo

Oblique coronal SSFSE/HASTE thin section-parallel to posterior right hepatic duct, cover main ducts

Oblique axial SSFSE/HASTE thin section-perpendicular to proximal/superior extrahepatic duct, cover entire extrahepatic duct

Oblique axial SSFSE/HASTE thin section-perpendicular to distal/inferior extrahepatic duct, cover entire extrahepatic duct and duodenum

Oblique coronal 3D MRCP fat sat

Optional rotating thick slabs, 2D functional MRCP in free breathing

Axial LAVA pre

Axial LAVA dynamic post

Coronal LAVA post

ADC map

Axial delayed post LAVA (3D) with fat sat*

*repeat LAVA every 5 min until

(1) bile ducts are bright AND blood vessels in liver are dark

OR (2) 30 minutes have elapsed since Eovist injection, whichever comes first
Then call MD to check images:
Additional images at 2 hours for bile leak, may need additional up to 8 hours

MRCP with Gadavist

Indications: Cholangiocarcinoma

Contrast:

Gadavist 10 ml @2 ml/sec
If GFR < 30 and stable, Gadavist 0.05 mmol/kg
If GFR <15 or < 30 and decreasing, consult faculty
Follow Gadavist with 40 ml saline @2 ml/sec

Sequences: (expiration preferred)

Coronal SSFSE/HASTE
Axial SSFSE/HASTE
3D dual echo
Oblique coronal SSFSE/HASTE thin section-parallel to posterior right hepatic duct, cover main ducts
Oblique axial SSFSE/HASTE thin section-perpendicular to proximal/superior extrahepatic duct, cover entire extrahepatic duct
Oblique axial SSFSE/HASTE thin section-perpendicular to distal/inferior extrahepatic duct, cover entire extrahepatic duct and duodenum
Oblique coronal 3D MRCP fat sat
Optional rotating thick slabs, 2D functional MRCP in free breathing
Axial LAVA pre
Axial LAVA dynamic post
Coronal LAVA post
ADC map

MRB ab07mr 07Adrenals Non Contrast A74181

Indications: adrenal lesion
Determine prior to exam if contrast is to be given, requires separate protocol

Contrast: none

Sequences:

Coronal SSFE: 8 mm

Axial SSFSE: 8 mm, top of liver to bottom of kidneys
Axial SSFSE: 4 mm, through adrenals
3D axial dual echo: 4 mm, through adrenals
Axial lipoquant: 4 mm, through adrenals

MRB AB08MR
08Adrenals With Contrast
A74183

Indications: adrenal lesion

Contrast:

MultiHance at 2 ml/sec as follows:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Coronal SSFSE 8 mm

Axial SSFSE 8 mm, top of liver to bottom of kidneys

Axial SSFSE 4 mm through adrenals

3D axial DE through adrenals, 4mm

Axial LAVA (3D) pre fat sat, 4 mm through adrenals

Axial LAVA (3D) dynamic post fat sat, 4 mm through adrenals

Coronal LAVA (3D) delayed fat sat, 4mm through adrenals

MRB AB09MR
09MRA Renal Artery
A74183 + MRA

Indications: Renal artery stenosis
Renovascular hypertension

Contrast: MultiHance

MultiHance at 2 ml/sec as follows:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Cor SSFSE

Ax DE

Ax SSFSE

Inhance (3D uses resp trigger)

Coronal Pre contrast 3D MRA fat sat

Coronal 3D MRA with contrast, dynamic 3 runs
Subtraction x3

Coronal 3D T1 GRE fat sat delayed- ureteral enhancement and excretion
Coronal MIP fat sat for each side

Coronal MIP for each side

MRB AB10AMR

10Pancreas

A74183

Indications: Pancreatic mass, pancreatic cancer, mets from pancreatic cancer

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Give water 400 mL on the table

Sequences:

Coronal HASTE/SSFSE

Axial HASTE/SSFSE through liver and pancreas

Oblique axial HASTE/SSFSE, 4 mm, parallel to main pancreatic duct

Oblique coronal HASTE/SSFSE, 4 mm, through CBD and distal pancreatic duct
(same plane as in MRCP)

Oblique coronal 3D MRCP fat sat, Perpendicular to proximal (superior) extrahepatic duct, cover the central intrahepatic and the extrahepatic bile ducts (i.e. the left duct and bifurcation of left duct, right duct and bifurcation of right duct)

3D dual echo through liver and pancreas

DWI through liver and pancreas
Axial pre LAVA (3D) fat sat 3mm
Axial dynamic post LAVA (3D) fat sat, 3 mm
Coronal delayed post LAVA (3D) fat sat, 4 mm
Axial delayed post LAVA (3D) fat sat, 3 mm

Secretin

Patient Preparation:

Drink 300 ml of blueberry or pineapple juice 30 minutes before
Drink 300 ml of blueberry or pineapple juice immediately before
Place IV

Contrast:

Gadavist 10 ml @2 ml/sec
If GFR < 30 and stable, Gadavist 0.05 mmol/kg
If GFR <15 or < 30 and decreasing, consult faculty
Follow Gadavist with 40 ml saline @2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Localizaers
ASSET calibration
Coronal SSFSE 6mm
Axial SSFSE 6mm
Axial dual echo
Thick coronal oblique 6-cm slab T2w, parallel to pancreatic duct --- make sure entire pancreas and duodenum are covered. Call MD to check

Give IV test dose of secretin 0.2 micrograms
Infuse secretin 0.2 micrograms/kg over 1 minute
Repeat thick coronal oblique 6-cm slab T2w, parallel to pancreatic duct every 30 seconds for 10 minutes
Repeat coronal SSFSE 6mm ONCE
Repeat axial SSFSE 6mm ONCE
3D MRCP free breathing
3D MRCP BH
Then proceed images covering top of the liver to bottom of kidneys, including entire pancreas and duodenum

Cor SSFSE
Ax SSFSE
Ax DE
Ax DWI
Ax LAVA pre
Ax LAVA Dynamic
Cor LAVA
Ax Lipoquant
Ax LAVA Delayed

MRB AB11MR
11Renal Mass
A74183

Indications: Evaluate for renal mass; hematuria

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Cor SSFSE

Ax SSFSE

Ax DE

Ax DWI

Ax LAVA pre

Ax LAVA Dynamic

Cor LAVA

Ax LAVA Delayed

Subtractions

Urogram

Prior to imaging, pt must drink 300 cc of water

Prior to imaging, administer 100 cc normal saline IV

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Localizer x2—1st diaphragm to iliac; 2nd kidneys to pelvis, 3plane GRE

Cor SSFSE abdomen, BH, diaphragm to iliac bifurcation

Axial SSFSE FS abdomen, BH

Axial SSFSE FS pelvis, BH

Axial Dual echo abdomen, BH, diaphragm to iliac bifurcation

Sagittal FIESTA for localization of ureters (no BH)-2nd loc

Axial LAVA pre abdomen, BH, diaphragm to iliac bifurcation-1st loc

Coronal Pre mask, BH, from above kidneys to iliac bifurcation-2nd loc

Contrast

Axial LAVA post x3 abdomen, BH, diaphragm to iliac bifurcation-1st loc

Coronal T1 GRE FS post abdomen, BH, diaphragm to iliac bifurcation-1st loc

Axial T1 GRE FS post, BH, thin slices (3mm)/cover kidneys-1st loc

Coronal 3D post 5 min delay abd, BH, above kidneys to iliac bifurcation-2nd loc

Coronal SSFSE abdomen, BH, thin slices (3mm), cover kidneys-1st loc

Axial SSFSE abdomen, BH, diaphragm to iliac bifurcation-1st loc

Coronal FIESTA abdomen, BH, diaphragm to iliac bifurcation-1st loc-1st loc

Axial 3D LAVA post abd, BH, thin-2.5mm, diaphragm to iliac bifurcation-2nd loc

Coronal 3D post 10 min delay, BH, thin-1.25 mm, above kidneys to iliac bifurcation-2nd loc

Coronal 3D LAVA post, BH, thin-2.5 mm, above kidneys to iliac bifurcation

Axial 3D LAVA post pelvis, BH, thin-2.5mm

MRB ab18mr**18Pregnant Female with Appendicitis****A74181****Indications:** evaluate for appendicitis**Contrast:** None**Sequences:**

Cor SSFSE

Ax SSFSE
Cor FIESTA
Ax FIESTA
Ax SSFSE FS
Ax DE
Ax DWI

MRB MRB001
01...LEG RUN OFF STUDY
A73725-BILAT

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

1) Axial 2D TOF renal to feet (use superior sat for venous or inferior sat for arterial)

2) 3D contrast-enhanced MRA renal to feet

Aorta

Contrast:

Ablavar 0.12 mL/kg (0.03 mmol/kg) over a period of time of up to 30 seconds

Follow with 40 mL saline at 1 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Cor SSFSE

Ax SSFSE

Inhance (3D uses resp trigger)

Axial non gated fiesta

Coronal nongated feista

Gated ax fiesta

Gated candy cane fiesta

3D gated fiesta
Gated Fast CINE
Post contrast TRICKS MRA

MRB PL06AMR
06aMR Enterography with Detailed Perianal
A74183 - EO-PA

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Additional contrast:

Oral Volumen 450 mL 60 min, 40 min, 20 min prior

400 mL water on the table

Glucagon: 0.6 mg subcutaneous injection immediately prior to the study

0.4 mg IV before contrast

Consider vaginal surgilube

Sequences:

Cor SSFSE

Ax DE

Cor FIESTA

Ax SSFSE

Cor SSFSE FS

Ax SSFSE FS

Ax FIESTA

Ax T2 non BH (Radiologist to determine slice location)

Perianal: Sag SSFSE

Optional - Perianal: Sag SSFSE FS

Perianal: Sag T2 non BH

Perianal small FOV 4mm Ax T2 non BH

Perianal small FOV Cor T1 non BH

Perianal small FOV 4mm Ax T2 FS non BH

Perianal small FOV Cor T2 non BH

Perianal small FOV 4mm Oblique T2 non BH (short axis to rectum/anus)

Optional - Oblique STIR

Optional - whole abdomen pelvis Sag SSFSE

Cor LAVA pre
Cor LAVA dynamic (Radiologist to review before contrast coverage is whole abdomen pelvis)
Ax T1 FS post whole abdomen pelvis
Cor T1 FS post BH (perianal)
Ax T1 FS post BH (perianal)
Sag T1 FS post BH (perianal)

MRB PL06BMR
06bPerianal Fistula/Abscess
A72197

Contrast:

IV- MultiHance at 2 ml/sec:
If GFR >60, give MultiHance 20 ml
If GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD
Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Cor SSFSE
Ax SSFSE
Sag SSFSE
Sag SSFSE FS
Sag T2 non BH
Ax T2 non BH
Cor T1 non BH
Ax DE
Ax T2 FS non BH
Cor T2 non BH
Oblique T2 non BH (short axis to rectum/anus)
Optional - Oblique STIR
LAVA pre
LAVA dynamic (Radiologist to review before contrast)
Cor T1 FS post BH
Ax T1 FS post BH
Sag T1 FS post BH

Non BH sequences should be small FOV

MRB PL06CMR
06cRectal Mass
A72197

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

*Radiologist review before contrast

Sequences:

Ax SSFSE

Sag SSFSE

Sag T2 non BH

Ax T2 non BH

Ax T1 non BH

Ax DE

Cor T2 non BH

Oblique T2 non BH (short axis to rectum/anus)

Ax diffusion B-1000

optional - oblique coronal T2

LAVA pre - check whether need straight axial or oblique axial LAVA

Dynamic Cor T1 FS post BH Ax T1 FS post BH Sag T1 FS post BH

Non BH sequences should be small FOV

MRB PL06MR
06MR ENTEROGRAPHY
A74183 – ENTER

Indication: Inflammatory bowel disease

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Additional contrast:

Oral Volumen 450 mL 60 min, 40 min, 20 min prior

400 mL water on the table

Glucagon: 0.6 mg subcutaneous injection immediately prior to the study

0.4 mg IV before contrast

Sequences:

Cor SSFSE

Ax DE

Cor FIESTA

Ax SSFSE

Cor SSFSE FS

Ax SSFSE FS

Ax FIESTA

Ax T2 non BH (Radiologist to determine slice location)

Optional - Sag SSFSE

Cor LAVA pre

Cor LAVA Dynamic (Radiologist to review before contrast)

Ax T1 FS post

MRB PL14MR

14Routine female pelvis with contrast

A72197

Indications: Eval mass

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Vaginal contrast should be administered to patients to enable better evaluation of the vagina, cervix, vaginal cuff and parametrial tissues. Vaginal contrast is

administered via a catheter while the patient is on the scanning table. 60 mL of surgilube or equivalent aqueous gel should be administered in the presence of a female technologist, LIP, or chaperone. STOP if patient has significant discomfort.

Sequences:

Coronal HASTE/SSFSE
Axial HASTE/SSFSE
Angled Sagittal to uterus T2 FSE BH
Angled Sagittal T2 FSE non-BH
Angled Axial T2 FSE non-BH
Angled axial dual echo T1 GE (BH)
Angled axial FS T1 GE (BH)
Axial DWI through pelvis B1000
Pre LAVA fat sat --plane per MD protocol or MD on service
Dynamic post LAVA/VIBE fat sat --plane as above
Axial delayed T1 post with fat sat
Coronal delayed T1 post with fat sat
Sagittal delayed T1 post with fat sat

MRB PL15MR

**15Female Pelvis non con
A72195**

Indications: uterine anomaly

Contrast: no IVC

Vaginal contrast should be administered to patients to enable better evaluation of the vagina, cervix, vaginal cuff and parametrial tissues. Vaginal contrast is administered via a catheter while the patient is on the scanning table. 60 mL of surgilube or equivalent aqueous gel should be administered in the presence of a female technologist, LIP, or chaperone. STOP if patient has significant discomfort.

Sequences:

Coronal HASTE/SSFSE
Axial HASTE/SSFSE
Sagittal T2 with breath hold
Oblique axial dual echo
Oblique axial T2
Axial DWI through pelvis at B=0, 500, and 1000
Axial T1 fat sat

MRB PL16MR
16Uterine Artery Embolization (UAE)
A72197

Indications: fibroids pre UAE for Dr. Roberts

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Vaginal contrast should be administered to patients to enable better evaluation of the vagina, cervix, vaginal cuff and parametrial tissues. Vaginal contrast is administered via a catheter while the patient is on the scanning table. 60 mL of surgilube or equivalent aqueous gel should be administered in the presence of a female technologist, LIP, or chaperone. STOP if patient has significant discomfort.

Sequences:

Cor SSFSE

Ax SSFSE

Angled Sag to uterus T2 FSE BH

Angled Ax T2 FSE BH

Angled Ax DE Oblq to uterus (BH)

Ax DWI 1000

Cor MRA pre+post x3

Post gad 3-plane FS T1 GE

MRB PL17MR
7Urethral Diverticulum
A72195

Indications: urethral diverticulum

Contrast: noncon, with possible Multihance, to be determined if necessary after noncon

Vaginal contrast should be administered to patients to enable better evaluation of the vagina, cervix, vaginal cuff and parametrial tissues. Vaginal contrast is administered via a catheter while the patient is on the scanning table. 60 mL of

surgilube or equivalent aqueous gel should be administered in the presence of a female technologist, LIP, or chaperone. STOP if patient has significant discomfort.

Sequences:

Cor SSFSE

Sag T2

Cor T1

Cor T2

Ax T2

Ax T1

After obtaining the non-contrast images, call the radiologist to see if IV gadolinium is necessary. If deemed so, then obtain T1 post-contrast images through the urethra with a small field of view in the axial, coronal and sagittal planes.

IF NEEDED - Contrast: IV- MultiHance hand inject
I If GFR >60, give MultiHance 20 ml
f GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

MRB PL19MR

19Pregnant Female Evaluate Placenta

A72197

Indications: Placental invasion, placenta position

Contrast:

Noncon first. If necessary per MD monitoring the case,

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Radiologist MUST be present during this exam

Cor SSFSE

Ax SSFSE

Sag SSFSE

Ax 2D FIESTA
Sag 2D FIESTA
Oblq DE
Oblq T1
LAVA pre
LAVA dynamic
Ax T1 FS post

MRB PL20MR
20Male Pelvis: Scrotum contrast
A72197

Indication: Evaluate scrotal pathology, scrotal infection suspected

Contrast:

IV- MultiHance at 2 ml/sec:
If GFR >60, give MultiHance 20 ml
If GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD
Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

Cor T1
Cor T2
Ax T1
Ax T2
Cor T1 FS post
Ax T1 FS post
Sag T1 FS post

MRB PL21MR
21Male Pelvis: Cancer not prostate or scrotum
A72197

Indications: Evaluate cancer not from prostate or scrotum

Contrast:

IV- MultiHance at 2 ml/sec:
I If GFR >60, give MultiHance 20 ml

f GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD
Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences: See Protocol Book

**MRB PL22MR
22PROSTATE WITH ENDORECTAL COIL W/WO CONTRAST
A72197**

Contrast:

IV- MultiHance at 2 ml/sec:
If GFR >60, give MultiHance 20 ml
If GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD
Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

LOC
AXIAL SSFSE
SAG T1 Right sidewall
SAG T1 Left sidewall
SAG T2 (HR)
COR OBL T2 (HR)
COR OBL T1 (HR)
AX OBL T2 (HR)
AX OBL T1 (HR)
TRICKS pre no injection
TRICKS-post gd
****DEFLATE COIL AND REMOVE****
loc
Asset Cal
DWI B=1000 NEX=12
DWI B=1000 NEX=12 (3mm below first DWI)
Multishell diffusion (B500, 1500 and 4000 with directions of 6, 6 and 15 respectively)
+C COR FGRE FS
+C SAG FGRE FS

+C AX T2 (HR)

MRB PL23MR
23PROSTATE WITHOUT ENDORECTAL COIL W/WO CONTRAST
A72197

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg

If GFR < 30, give MultiHance 0.05 mmol/kg; call MD

Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

LOC

SAG T2 (HR)

COR OBL T1 (HR)

SAG T1 RIGHT SIDEWALL

SAG T1 LEFT SIDEWALL

COR OBL T2 (HR)

AX OBL T2 (HR)

AX OBL T1 (HR)

DWI B=1000 NEX=12

Multishell diffusion (B500, 1500 and 4000 with directions of 6, 6 and 15 respectively)

TRICKS-INJECT AFTER 21 SEC

+C COR FGRE FS

+C SAG FGRE FS

+C AX T2 (HR)

MRB PL24MR
24PROSTATECTOMY NO ENDORECTAL COIL
A72197

Contrast:

IV- MultiHance at 2 ml/sec:

If GFR >60, give MultiHance 20 ml

If GFR 30-60, give MultiHance 0.1 mmol/kg
If GFR < 30, give MultiHance 0.05 mmol/kg; call MD
Follow MultiHance with 40 ml saline at 2 ml/sec

Place IV for administration of IV contrast. Remove IV prior to discharge if the patient is an outpatient.

Sequences:

LOC
COR FSEXL (BC)
SAG FSEXL (BC)
SAG T2 (HR)
COR T1 (HR)
COR T2 (HR)
SAG T1 (HR) SIDE WALL RIGHT
SAG T1 (HR) SIDE WALL LEFT
AX T2 (HR)
AX T1 (HR)
TRICKS INJECT AFTER 21 SEC

**MRB PL25MR
25PROSTATE FOR RADIATION SEEDS
C_72195-PROST**

Indication: verify radiation seed placement

**CPT is 72195 for 1 hour.
Exam only at CMR**

Sequences:

Sag T2 high res
Cor Oblq T1/T2 high res
Sag T1 Rt & Lt sidewall
Ax Oblq T1/T2 high res
Axial with various flip angles
Axial DWI
Axial T2