

ABDOMEN

CPT Code: 74018- Abdomen, Single View

AP ABDOMEN:

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44"

PATIENT POSITION: AP Supine or erect with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, to include nasopharynx to symphysis.

SHIELDING: Gonads on male patients.

ABDOMEN FOR FOREIGN BODY (INGESTION)

CPT Code: 74018- Abdomen, Single View

ROUTINE PROJECTIONS: AP ABDOMEN.

AP ABDOMEN:

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44"

PATIENT POSITION: AP Supine or erect with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, to include nasopharynx to symphysis.

SHIELDING: Gonads on male patients.

ABDOMEN FOR FREE AIR

CPT Code: 74022- Abdomen Series, Complete

ROUTINE PROJECTIONS: AP SUPINE ABDOMEN, DORSAL DECUBITUS (TRANSVERSE) ABDOMEN, LEFT LATERAL DECUBITUS ABDOMEN, PA ERECT CHEST.

AP SUPINE ABDOMEN:

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44"

PATIENT POSITION: AP Supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

DORSAL DECUBITUS (TRANSVERSE) ABDOMEN:

14 x 17 LENGTHWISE

BUCKY SUSPENDED EXPIRATION

44"

PATIENT POSITION: Supine with arms extended above the head. Patient's left side placed against vertical grid device or upright table.

CENTRAL RAY: Horizontal, perpendicular to the film, at a point 3" above the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

LEFT LATERAL DECUBITUS ABDOMEN:

14 x 17 LENGTHWISE

BUCKY SUSPENDED EXPIRATION

72" MUST BE IN POSITION FOR 5 MINUTES

PATIENT POSITION: Recumbent, lying on left side, arms extended above the abdominal field. Patient lying in front of vertical grid device, or upright table.

CENTRAL RAY: Horizontal, perpendicular to the film at a point midway between the xiphoid process and the iliac crest. level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

PA CHEST:

14 X 17 LENGTHWISE

BUCKY SUSPENDED INSPIRATION

72"

PATIENT POSITION: Upright either standing or seated, hands on hips, shoulders rolled forward. Mid-sagittal plane centered to the midline of the film.

CENTRAL RAY: Horizontal, perpendicular to the film at level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

ABDOMEN FOR OBSTRUCTION

CPT Code: 74022- Abdomen Series, Complete

ROUTINE PROJECTIONS: AP SUPINE ABDOMEN, AP UPRIGHT ABDOMEN, PA ERECT CHEST, LEFT LATERAL DECUBITUS ABDOMEN

AP SUPINE ABDOMEN:

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44"

PATIENT POSITION: AP Supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

AP UPRIGHT ABDOMEN:

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44 " IN POSITION FOR 5 MINUTES

PATIENT POSITION: AP upright with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

LEFT LATERAL DECUBITUS ABDOMEN (ONLY TO BE DONE IF UPRIGHT CANNOT BE OBTAINED; DIAPHRAGMS MUST BE ON UPRIGHT)

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44" IN POSITION FOR 5 MINUTES

PATIENT POSITION: Recumbent, lying on left side, arms extended above the abdominal field. Patient lying in front of vertical grid device, or upright table.

CENTRAL RAY: Horizontal, perpendicular to the film at a point midway between the xiphoid process and the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

Must include the side up (right side). Must also include the lower chest and the entire abdominal cavity. Exposure should not require a 'hot' light to visualize the abdominal wall.

PA ERECT CHEST:

14 x 17 LENGTHWISE
BUCKY SUSPENDED INSPIRATION
72" MUST BE IN POSITION FOR 5 MINUTES

PATIENT POSITION: Upright, either standing or seated, hands on hips, shoulders rolled forward. Mid-sagittal plane centered to the midline of the film
CENTRAL RAY: Horizontal, perpendicular to the film at level of T7.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

AC JOINTS

CPT Code: 73050- Acromioclavicular Joints

ROUTINE PROJECTIONS: AP UPRIGHT OF BOTH AC JOINTS WITH AND WITHOUT WEIGHTS.

AP UPRIGHT AC JOINTS:

14 X 17 CROSSWISE
NON BUCKY SUSPENDED EXPIRATION
72"

PATIENT POSTION: AP upright with the mid-sagittal plane centered to the film. Arms by sides. Shoulders in the same transverse plane.
CENTRAL RAY: Horizontal, perpendicular to the film at the level of the AC joints.
COLLIMATION: Collimate to the skin surface, and to the AC joints.
SHIELDING: Gonads on all patients.

ANKLE

CPT Code: 73610- Ankle, Complete

ROUTINE PROJECTIONS: AP ANKLE, INTERNAL OBLIQUE ANKLE, LATERAL ANKLE.

AP ANKLE:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place the patient in the supine position, and adjust the ankle in the AP position. Dorsiflex the foot and ankle.

CENTRAL RAY: Direct the central ray to the ankle joint midway between the malleoli.

COLLIMATION: Collimate laterally to the skin surface, and include as much of the lower leg as possible.

SHIELDING: Gonads on **ALL** patients.

INTERNAL OBLIQUE ANKLE:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: With the foot and ankle dorsiflexed, rotate the leg and foot 45 degrees medially.

CENTRAL RAY: Direct the central ray to the ankle joint midway between the malleoli.

COLLIMATION: Collimate laterally to the skin surface, and include as much of the lower leg as possible.

SHIELDING: Gonads on **ALL** patients.

LATERAL ANKLE:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Adjust the ankle and leg to the lateral position and dorsiflex the foot.

CENTRAL RAY: Directed to the medial malleolus.

COLLIMATION: Include the calcaneus and half of the 5th metatarsal.

SHIELDING: Gonads on **ALL** patients.

BONE AGE STUDY

CPT Code: 77072- Bone Age Study

ROUTINE PROJECTIONS: PA LEFT HAND AND WRIST.

PA LEFT HAND AND WRIST:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place hand on the cassette with the palm facing down. Spread fingers slightly.

CENTRAL RAY: Perpendicular to the film at the level of the mid-shaft of the third metacarpal.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BONE SURVEY

ROUTINE PROJECTIONS: LATERAL SKULL, AP AND LATERAL C, T, AND L SPINES, LATERAL SACRUM AND COCCYX, AP BILATERAL SHOULDERS, AP BILATERAL HUMERI, AP PELVIS, AP BILATERAL FEMURS

LATERAL SKULL:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Lateral position with the affected side closest to the film.

CENTRAL RAY: Perpendicular to the film, directed 2" superior to the EAM.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

AP C-SPINE:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP either supine or upright, with the midsagittal plane centered to the midline of the table. Extend the neck slightly.

CENTRAL RAY: Direct the central ray 15-20 degrees cephalad at the level of C4.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

UPRIGHT LATERAL C-SPINE:

10 x 12 LENGTHWISE
UPRIGHT BUCKY SUSPENDED EXPIRATION
72"

PATIENT POSITION: Upright either standing or seated in a lateral position.
Shoulders lying in the same transverse plane, and depressed with sandbags.
Elevate chin slightly.

CENTRAL RAY: Direct the central ray horizontally to the level of C4 to include C7/T1 and the base of the skull.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

AP T-SPINE:

14 x 17 LENGTHWISE
BUCKY SUSPENDED RESPIRATION
44" USE BOOMERANG ON UPPER SPINE

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table. Place the top of the film 1 ½" above the shoulders.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to the T-Spine.

SHIELDING: Gonads on **ALL** patients.

LATERAL T-SPINE:

14 x 17 LENGTHWISE
BUCKY BREATHING TECHNIQUE
44"

PATIENT POSITION: Place the patient in a lateral position. Adjust the amrs at right angles to the body.

CENTRAL RAY: Perpendicular to the film at the level of T6.

COLLIMATION: Collimate to the T-Spine. *Place lead strip behind patient to absorb scatter.

SHIELDING: Gonads on **ALL** patients.

AP L-SPINE:

14 x 17 LENGTHWISE
BUCKY SUSPENDED RESPIRATION

44"

PATIENT POSITION: AP Supine with mid-sagittal plane centered to the midline of the table. Flex the knees to reduce lumbar lordosis.

CENTRAL RAY: Perpendicular, at the level of the iliac crest.

COLLIMATION: To the ASIS. Must demonstrate SI joints.

SHIELDING: Gonads on male patients.

LATERAL L-SPINE:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED RESPIRATION

44"

PATIENT POSITION: Have the patient turn onto their affected side and adjust the patient in a true lateral position.

CENTRAL RAY: Perpendicular to the film 1" above the crest.

COLLIMATION: Collimate to the lumbar spine. *Place lead strip behind the patient to absorb scatter.*

SHIELDING: None.

LATERAL SACRUM/COCCYX:

10 x 12

LENGTHWISE

BUCKY

SUSPENDED RESPIRATION

44"

PATIENT POSITION: Have the patient turn onto their affected side and adjust the patient in a true lateral position.

CENTRAL RAY: Perpendicular at the level of the ASIS.

COLLIMATION: Collimate to the sacrum/coccyx.

SHIELDING: None.

EXTERNAL ROTATION (AP) SHOULDER:

10 x 12

CROSSWISE

BUCKY

SUSPENDED RESPIRATION

44"

PATIENT POSITION: Externally rotate hand and arm to place the humerus in a true AP position.

CENTRAL RAY: Directed perpendicular to the coracoid process.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

EXTERNAL ROTATION (AP) HUMERUS:

14 x 17 LENGTHWISE
BUCKY EXTREMITY FILM
40"

PATIENT POSITION: Externally rotate hand and arm to place the humerus in a true AP position.

CENTRAL RAY: Directed perpendicular to the mid-shaft of the humerus.

COLLIMATION: Collimate to skin surface.

SHIELDING: Gonads on **ALL** patients.

AP PELVIS:

14 x 17 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: Supine with mid-sagittal plane centered to midline of the table. Invert the feet 15 degrees. Place top of film 1" above the crest.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to skin surface.

SHIELDING: None.

AP FEMUR:

14 x 17 LENGTHWISE
BUCKY *INCLUDE BOTH HIP AND KNEE JOINTS.*
44"

PATIENT POSITION: Supine, with the femur adjusted to a true AP position. Invert the toes 15 degrees to overcome anteversion of the femoral neck.

CENTRAL RAY: Perpendicular to the midpoint of the femur.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on ALL patients as long as hip joint is not obscured.

CALCANEOS

CPT Code: 73650- Os Calcis/Calcaneous

ROUTINE PROJECTIONS: AP FOOT, LATERAL FOOT AND ANKLE, AXIAL CALCANEOS.

AP FOOT:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Supine, with the knee flexed and the sole of the foot resting flat on the cassette.

CENTRAL RAY: Direct the central ray 10 degrees towards the heel at the level of the base of the third metatarsal.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL FOOT AND ANKLE:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Rotate patient's foot and leg towards the affected side until the foot and leg are lateral. Dorsiflex foot so it is perpendicular to the leg.

CENTRAL RAY: Perpendicular to the film at the level of the base of the third metatarsal.

COLLIMATION: Collimate to the skin surface. Include distal tib/fib.

SHIELDING: Gonads on **ALL** patients.

AXIAL CALCANEOS:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Supine, with the leg fully extended. Place tape or a towel around the ball of the foot to assist the patient in extreme dorsiflexion of the ankle.

CENTRAL RAY: Direct the central ray 40 degrees cephalic at the level of the base of the fifth metatarsal.

COLLIMATE: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CALCANEOS (SPUR)

CPT Code: 73650- Os Calcis/Calcaneous

ROUTINE PROJECTIONS: AXIAL CALCANEOS, LATERAL CALCANEOS (MEDIOLATERAL AND LATEROMEDIAL)

AXIAL CALCANEOS:

10 x 12 LENGTHWISE
TABLETOP EXTREMITY FILM
40"

PATIENT POSITION: Supine, with the leg fully extended. Place tape or a towel around the ball of the foot to assist the patient in extreme dorsiflexion of the ankle.

CENTRAL RAY: Direct the central ray 40 degrees cephalic at the level of the base of the fifth metatarsal.

COLLIMATE: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

MEDIOLATERAL CALCANEOS:

10 x 12 CROSSWISE
TABLETOP EXTREMITY FILM
40"

PATIENT POSITION: Rotate the patient's foot and leg towards the lateral side until the foot and leg are in lateral position. The lateral side of the calcaneus should be closest to the film. Dorsiflex the foot so it is perpendicular to the leg.

CENTRAL RAY: Perpendicular to the film at the midpoint of the calcaneus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATEROMEDIAL CALCANEOS:

10 x 12 CROSSWISE
TABLETOP EXTREMITY FILM
40"

PATIENT POSITION: Rotate the patient's foot and leg towards the medial side until the foot and leg are in lateral position. The medial side of the calcaneus should be closest to the film. Dorsiflex the foot so it is perpendicular to the leg.

CENTRAL RAY: Perpendicular to the film at the midpoint of the calcaneus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CERVICAL SPINE ROUTINE/*TRAUMA*

CPT Code: 72050- Cervical Spine, Complete

ROUTINE PROJECTIONS: *X-TABLE LATERAL C-SPINE, UPRIGHT LATERAL C-SPINE, AP C-SPINE, BILATERAL OBLIQUE C-SPINE, OPEN MOUTH ODONTOID, SWIMMERS.

****UNDER NO CIRCUMSTANCES ARE CERVICAL COLLARS TO BE REMOVED BY A TECHNOLOGIST OR ASSISTANT!****

X-TABLE LATERAL C-SPINE: PATIENT SUPINE WITH COLLAR

10 x 12 LENGTHWISE
SCREEN OR GRID SUSPENDED EXPIRATION
72"

PATIENT POSITION: Supine on stretcher, with cervical collar in place. Do NOT adjust the patient's head or neck. Have the patient depress their shoulders as far as possible.

CENTRAL RAY: Direct the central ray horizontally to the level of C-4 to include C7-T1 and the base of the skull. Place the top of the film at the top of the ear.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

UPRIGHT LATERAL C-SPINE:

- Patient presenting to the Radiology Department sitting or standing with or without cervical collar in place.
- Patient who has had preliminary supine screening lateral film completed and approved.

10 x 12 LENGTHWISE
UPRIGHT BUCKY SUSPENDED EXPIRATION
72"

PATIENT POSITION: Upright either standing or seated in lateral position. Shoulders lying in the same transverse plane, and depressed with sandbags. Elevate the chin slightly.

CENTRAL RAY: Direct the central ray horizontally to the level of C4 to include C7/T1 and the base of the skull.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

AP C-SPINE:

10 x 12 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44"

PATIENT POSITION: AP either supine or upright, with the midsagittal plane centered to the midline of the table. Extend the neck slightly.

CENTRAL RAY: Direct the central ray 15-20 degrees cephalad at the level of C4.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BILATERAL OBLIQUE C-SPINE:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44" (SUPINE)	72" (UPRIGHT)

PATIENT POSITION: Upright if possible. Can be done either AP (LPO/RPO) or PA (LAO/RAO). From either the AP OR PA position, rotate the patient's head and body 45 degrees. Elevate the chin to avoid superimposition.

CENTRAL RAY: For AP Obliques (LPO/RPO), direct central ray 15 degrees cephalic at the level of C4. For PA obliques (LAO/RAO), direct the central ray 15 degrees caudal at the level of C4.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

OPEN MOUTH ODONTOID:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine or erect with the mid-sagittal plan centered to the midline of the table. Have the patient open mouth as wide as possible and adjust the head so a line drawn from the lower edge of the upper incisors to the mastoid tip is perpendicular to the film.

CENTRAL RAY: Perpendicular to the midpoint of the open mouth.

COLLIMATION: Collimate to the open mouth, but leave the collimators open more laterally to allow for inclusion of the lateral masses and lead marker.

SHIELDING: Gonads on **ALL** patients.

SWIMMERS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: Elevate the arm closest to grid, flex the elbow and rest forearm on head. Depress the shoulder away from the film as much as possible.

CENTRAL RAY: Direct the central ray perpendicular to the film at the level of T2. If the shoulder is not well depressed, angle the central ray 5 degrees caudal.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

CHEST – APICES

CPT Code: 71045- Chest, One View

ROUTINE PROJECTIONS: AP APICAL LORDOTIC CHEST.

AP APICAL LORDOTIC:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED INSPIRATION
72"	

PATIENT POSITION: Place the patient in the upright AP position approximately 1 foot in front of the chest stand. With the hands on the hips, assist the patient in leaning back so that the shoulders rest against the chest stand.

CENTRAL RAY: Direct the central ray perpendicular to the level of the mid-sternum

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CHEST – PNEUMOTHORAX / FOREIGN BODY ASPIRATION

CPT Code: 71046- Chest, Two Views

ROUTINE PROJECTIONS: UPRIGHT PA CHEST (INSPIRATION AND EXPIRATION), UPRIGHT LATERAL CHEST.

UPRIGHT PA CHEST:

14 x 17	LENGTHWISE (OR CROSSWISE AS NEEDED)
BUCKY	SUSPENDED INSPIRATION AND EXPIRATION
72"	

PATIENT POSITION: Upright, facing chest stand. Place hands on hips and roll shoulders forward so they are flat against film.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LEFT LATERAL CHEST:

14 x 17 LENGTHWISE
BUCKY SUSPENDED INSPIRATION
72"

PATIENT POSITION: Upright, with left side against chest stand. Extend arms upward over the patient's head.

CENTRAL RAY: Perpendicular to the film, 2" anterior to the mid-axillary plane at the level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CHEST – ROUTINE

CPT Code: 71046- Chest, Two Views

ROUTINE PROJECTIONS: UPRIGHT PA CHEST, UPRIGHT LATERAL CHEST.

UPRIGHT PA CHEST:

14 x 17 LENGTHWISE (OR CROSSWISE AS NEEDED)
BUCKY SUSPENDED INSPIRATION AND EXPIRATION
72"

PATIENT POSITION: Upright, facing chest stand. Place hands on hips and roll shoulders forward so they are flat against film.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients

LEFT LATERAL CHEST:

14 x 17 LENGTHWISE
BUCKY SUSPENDED INSPIRATION
72"

PATIENT POSITION: Upright, with left side against chest stand. Extend arms upward over the patient's head.

CENTRAL RAY: Perpendicular to the film, 2" anterior to the mid-axillary plane at the level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CHEST – LATERAL DECUBITUS

CPT Code: 71047- Chest, Three Views

LATERAL DECUBITUS CHEST (BOTH SIDES ARE TO BE DONE. IF A ROUTINE CHEST HAS NOT BEEN DONE WITHIN THE LAST SEVEN (7) DAYS A PA CHEST MUST BE OBTAINED)

14 x 17 LENGTHWISE
BUCKY SUSPENDED EXPIRATION
44” IN POSITION FOR 5 MINUTES

PATIENT POSITION: Recumbent, lying on side, arms extended above the chest, chin up. Patient lying in front of vertical grid device, or upright table.

CENTRAL RAY: Horizontal, perpendicular to the film at the level of T7, 3-4” below the jugular notch..

COLLIMATION: Collimate to the lung fields.

SHIELDING: Gonads.

CLAVICLE – ROUTINE

CPT Code: 73000- Clavicle

ROUTINE PROJECTIONS: AP CLAVICLE, AP AXIAL CLAVICLE.

AP CLAVICLE:

10 x 12 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44”

PATIENT POSITION: AP, either supine or upright. Arms placed at side and shoulders lying in same transverse plane.

CENTRAL RAY: Perpendicular to the mid-shaft of the clavicle.

COLLIMATION: Collimate to the clavicle.

SHIELDING: Gonads on **ALL** patients.

AP AXIAL CLAVICLE:

10 x 12 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44”

PATIENT POSITION: AP, either supine or upright. Arms placed at side and shoulders lying in same transverse plane.

CENTRAL RAY: Directed 25 degrees cephalic to the inferior border of the mid-shaft of the clavicle.

COLLIMATION: Collimate to the clavicle.
SHIELDING: Gonads on **ALL** patients.

ELBOW – ROUTINE

CPT Code: 73080- Elbow, Complete

ROUTINE PROJECTIONS: AP ELBOW, LATERAL ELBOW, LATERAL OBLIQUE ELBOW, *RADIAL HEAD

AP ELBOW:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Extend the elbow and supinate the hand. Shoulder and elbow in same transverse plane.

CENTRAL RAY: Perpendicular to the elbow joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL OBLIQUE ELBOW:

10 X 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Extend the arm as for an AP projection, rotate the entire arm laterally (externally).

CENTRAL RAY: Perpendicular to the elbow joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL ELBOW:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the AP position, flex the elbow 90 degrees and adjust the forearm and hand to the lateral position. Shoulder and elbow in same transverse plane.

CENTRAL RAY: Perpendicular to the elbow joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

***RADIAL HEAD:**

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Same position as lateral elbow. *See above.*

CENTRAL RAY: Direct the central ray 45 degrees so it is perpendicular to the forearm.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

FACIAL BONES – ROUTINE

CPT Code: 71050- Facial Bones, Complete

ROUTINE PROJECTIONS: TOWNES, CALDWELL, 20 AND 45 DEGREE WATERS, TRANSVERSE OR UPRIGHT LATERAL, SMV (BUCKET HANDLE), LATERAL NASAL BONES.

TOWNES:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table. Tuck chin towards the chest so the OML is perpendicular to the film.

CENTRAL RAY: Direct the central ray 30 degrees caudal to the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CALDWELL:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Rest patient's forehead and nose on the table so the OML is perpendicular to the film.

CENTRAL RAY: Directed 15 degrees caudal exiting at the level of the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

20 AND 45 DEGREES WATERS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Have the patient rest head on tip of extended chin. The head should be adjusted so the orbitomeatal line forms angles of 20 and 45 degrees with the film.

CENTRAL RAY: Directed perpendicular to the film exiting at the acanthion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

TRANSVERSE OR UPRIGHT LATERAL:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Lateral position with the affected side closest to the film.

CENTRAL RAY: Perpendicular to the film, directed at the zygoma.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

*If the patient cannot assume an upright position, then the projection should be transverse with the patient supine.

SMV (BUCKET HANDLE):

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PAITENT POSITION: Extend the patient's head so that the infraorbitomeatal line is as close to parallel to the film as possible.

CENTRAL RAY: Direct the central ray perpendicular to the infraorbitomeatal line, midway between the zygomatic arches.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

10 x 12
BUCKY
40"

LENGTHWISE SUSPENDED RESPIRATION

PATIENT POSITION: Lateral position with the affected side closest to the film.
CENTRAL RAY: Perpendicular to the film, directed ¾" distal to the nasion.
COLLIMATION: Collimate to the nasal bones.
SHIELDING: Gonads on **ALL** patients.

FEMUR

CPT Code: 73552- Femur, 2 views

ROUTINE PROJECTIONS: AP FEMUR, LATERAL FEMUR.

AP FEMUR:

14 x 17
BUCKY
44"

LENGTHWISE
INCLUDE BOTH HIP AND KNEE JOINTS

PATIENT POSITION: Supine, with the femur adjusted to a true AP position. Invert the toes 15 degrees to overcome anteversion of the femoral neck.

CENTRAL RAY: Perpendicular to the midpoint of the femur.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on ALL patients as long as it does not obscure the hip joint.

LATERAL FEMUR:

14 x 17
BUCKY
44"

LENGTHWISE
*INCLUDE BOTH HIP AND KNEE JOINTS”

PATIENT POSITION: Have the patient roll towards the affected side. Rotate the pelvis 15 degrees posteriorly to avoid superimposition.

CENTRAL RAY: Perpendicular to the midpoint of the femur.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on ALL patients as long as it does not obscure the hip joint.

FINGERS

CPT Code: 73140- Fingers, min. 3 views

ROUTINE PROJECTIONS: PA FINGER, OBLIQUE FINGER, LATERAL FINGER

PA FINGER:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place hand on cassette with palm down. Separate fingers slightly.

CENTRAL RAY: Perpendicular to the proximal interphalangeal joint of interest.

COLLIMATE: Include one adjacent digit.

SHIELDING: Gonads on **ALL** patients.

OBLIQUE FINGER:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the lateral position, rotate the hand medially 45 degrees. Separate the fingers slightly to prevent superimposition.

CENTRAL RAY: Perpendicular to the proximal interphalangeal joint of interest.

COLLIMATION: Include one adjacent digit.

SHIELDING: Gonads on **ALL** patients.

LATERAL FINGER:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Extend the digit of interest and close the other fingers into a fist. Keep the extended digit in place with a sponge or other suitable immobilization device.

CENTRAL RAY: Perpendicular to the proximal interphalangeal joint of interest.

COLLIMATION: Collimate to the finger of interest.

SHIELDING: Gonads on **ALL** patients.

FOOT

CPT Code: 73630- Foot, min. 3 views

ROUTINE PROJECTIONS: AP FOOT, MEDIAL OBLIQUE FOOT, LATERAL FOOT

AP FOOT:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: With the patient supine, flex the knee so the foot is resting flat on the cassette.

CENTRAL RAY: Direct the central ray 10 degrees cephalic to the base of the third metatarsal.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

MEDIAL OBLIQUE FOOT:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the AP position, rotate the foot medially 30 degrees.

CENTRAL RAY: Direct the central ray perpendicular to the base of the third metatarsal.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL FOOT:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Adjust the foot and leg to a lateral position. Dorsiflex foot. *Medial side down when possible.

CENTRAL RAY: Perpendicular to the film at the level of the base of the third metatarsal.

COLLIMATION: To the skin surface, to include the distal tib/fib.

SHIELDING: Gonads on **ALL** patients.

FOREARM

CPT Code: 73090- Forearm, AP & Lateral

ROUTINE PROJECTIONS: AP FOREARM, LATERAL OBLIQUE FOREARM, LATERAL FOREARM.

AP FOREARM:

14 x 17	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place entire upper extremity in the same plane. Supinate the hand and adjust the forearm to true AP position.

CENTRAL RAY: Perpendicular to the midpoint of the forearm.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL OBLIQUE FOREARM:

14 x 17	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the AP position, rotate arm 40 degrees laterally.

CENTRAL RAY: Perpendicular to the midpoint of the entire forearm.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL FOREARM:

14 x 17	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the AP position, flex the elbow 90 degrees. Adjust the forearm to a true lateral position by rotating the hand so the thumb side is up and the hand is in a lateral position.

CENTRAL RAY: Perpendicular to the midpoint of the forearm.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

HAND (ARTHRITIS)

CPT Code: 73120- Hand, 2 views

ROUTINE PROJECTIONS: PA HAND, BALL CATCHERS.

PA HANDS:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place hand flat on cassette with palm down. Spread fingers slightly.

CENTRAL RAY: Perpendicular to the third metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BALL CATCHERS:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the lateral position, rotate hand 45 degrees laterally. Spread fingers to prevent superimposition.

CENTRAL RAY: Perpendicular to the third metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

HAND (FOREIGN BODY)

CPT Code: 73120- Hand, 2 views

ROUTINE PROJECTIONS: PA HAND, LATERAL HAND.

PA HAND:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place hand flat on cassette with palm down. Spread fingers slightly.

CENTRAL RAY: Perpendicular to the third metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL HAND:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: Extend fingers with the thumb abducted from the hand. Adjust the hand to a true lateral position.
CENTRAL RAY: Perpendicular to the metacarpophalangeal joints.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

HAND (ROUTINE)

CPT Code: 73130- Hand, Complete- min. 3 views

ROUTINE PROJECTIONS: PA HAND, PA OBLIQUE HAND, AP OBLIQUE HAND (BALL CATCHERS), LATERAL HAND WITH SPREAD FINGERS.

PA HAND:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: Place hand flat on cassette with palm down. Spread fingers slightly.
CENTRAL RAY: Perpendicular to the third metacarpophalangeal joint.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

PA OBLIQUE HAND:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: From the lateral position, rotate the hand medially 45 degrees. Separate fingers slightly to prevent superimposition. Use finger sponge for optimal positioning.
CENTRAL RAY: Perpendicular to the third metacarpophalangeal joint.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

AP OBLIQUE HAND (BALL CATCHERS):

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: From the lateral position, rotate the hand 45 degrees laterally. Spread fingers to prevent superimposition.

CENTRAL RAY: Perpendicular to the third metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on ALL patients.

LATERAL HAND WITH SPREAD FINGERS:

10 x 12	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Place the hand in the lateral position, and spread the fingers to prevent superimposition.

CENTRAL RAY: Perpendicular to the base of the 2nd metacarpal MIP.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

HIP (BILATERAL)

CPT Code: 73521- Hips, Bilateral

ROUTINE PROJECTIONS: AP PELVIS, BILATERAL FROG LATERALS.

AP PELVIS:

14 x 17	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Supine with mid-sagittal plane centered to the midline of the table. Invert the feet 15 degrees. Place top of film 1" above the crest.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

FROG LATERAL:

14 x 17	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	*DO OR LATERAL IF FX SUSPECTED*

PATIENT POSITION: From the AP position, draw the feet up towards the pelvis as much as possible. Then abduct the thigh and have the patient place the soles of their feet together.

CENTRAL RAY: Direct the central ray parallel to the femoral shafts, at the level of the symphysis pubis.

COLLIMATION: None.

SHIELDING: None.

HIP (UNILATERAL)

CPT Code: 73502- Hip, Unilateral

ROUTINE PROJECTIONS: AP PELVIS, FROG LATERAL or OR LATERAL (IF FX IS SUSPECTED).

AP PELVIS:

14 x 17

CROSSWISE

BUCKY

SUSPENDED RESPIRATION

44"

PATIENT POSITION: Supine with mid-sagittal plane centered to the midline of the table. Invert the feet 15 degrees. Place top of film 1" above the crest.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

FROG LATERAL:

10 x 12

CROSSWISE

BUCKY

SUSPENDED RESPIRATION

44"

DO OR LATERAL IF FX SUSPECTED

PATIENT POSITION: From the AP position, draw the feet up towards the pelvis as much as possible. Then abduct the thigh and have the patient place the soles of their feet together.

CENTRAL RAY: Direct the central ray parallel to the femoral shaft, at the level of the symphysis pubis.

COLLIMATION: None.

SHIELDING: None.

OR LATERAL:

10 x 12

LENGTHWISE

GRID CASSETTE

SUSPENDED RESPIRATION

44"

PATIENT POSITION: Flex the knee and hip of the unaffected side and position them outside of the central ray. Place the cassette just above the crest and parallel to the femoral neck.

CENTRAL RAY: Perpendicular to the film.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

HUMERUS

CPT Code: 73060- Humerus, 2 views

ROUTINE PROJECTIONS: EXTERNAL ROTATION (AP) HUMERUS, INTERNAL ROTATION (LATERAL) HUMERUS, *TRANSTHORACIC LATERAL HUMERUS (IF FX SUSPECTED)

EXTERNAL ROTATION (AP) HUMERUS:

14 x 17	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Externally rotate hand and arm to place the humerus in a true AP position.

CENTRAL RAY: Perpendicular to the mid-shaft of the humerus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

INTERNAL ROTATION (LATERAL) HUMERUS:

14 x 17	LENGTHWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Internally rotate hand and arm and place the back of hand on the patient's hip.

CENTRAL RAY: Perpendicular to the mid-shaft of the humerus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

***TRANSTHORACIC LATERAL HUMERUS:**

14 x 17	LENGTHWISE
BUCKY	BREATHING TECHNIQUE
44"	

PATIENT POSITION: Place affected arm against vertical grid. Raise the unaffected arm and rest forearm on top of head.

CENTRAL RAY: Perpendicular to the mid-shaft of the humerus.

COLLIMATION: Collimate to skin surface.

SHIELDING: Gonads on **ALL** patients.

Do Transthoracic lateral when patient is unable to abduct their arm.

KNEE

CPT Code: 73564- Knee Complete, 4 views

ROUTINE PROJECTIONS: AP KNEE, MEDIAL AND LATERAL OBLIQUE KNEE, CROSS TABLE LATERAL KNEE. (If physician has ordered a three view knee, the projections are AP, MEDIAL OBLIQUE AND LATERAL)

AP KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: Supine, with the knee and leg in a true AP position.

CENTRAL RAY: Direct the central ray 5 degrees cephalic at a point ½" distal to the apex of the patella.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads to **ALL** patients.

MEDIAL OBLIQUE KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: Rotate the entire leg 45 degrees medially.

CENTRAL RAY: Perpendicular, ½" below the apex of the patella.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL OBLIQUE KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: Rotate the entire leg 45 degrees laterally.

CENTRAL RAY: Perpendicular, ½" below the apex of the patella.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CROSSTABLE LATERAL KNEE:

10 x 12	LENGTHWISE
40"	EXTREMITY FILM

PATIENT POSITION: Supine, with the knee and leg in a true AP position.
Cassette place against the medial surface of the knee.

CENTRAL RAY: Supine, with the knee and leg in a true AP position. Cassette placed against the medial surface of the knee.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LUMBAR SPINE

CPT Code: 72110- Lumbar Spine, min. 4 views

ROUTINE PROJECTIONS: AP L-SPINE, BILATERAL OBLIQUES L-SPINE, LATERAL L-SPINE (HIGH), LATERAL L-SPINE (LOW – L5-S1 SPOT).

***X-TABLE LUMBAR SPINE*:**

PATIENTS PRESENTING TO RADIOLOGY DEPARTMENT SUPINE ON BACKBOARD. PATIENTS NEED TO HAVE PRELIMINARY X-TABLE SUPINE LATERAL SCREENING COMPLETED AND APPROVED BEFORE CONTINUING EXAM.

14 x 17	LENGTHWISE
Screen or grid	SUSPENDED RESPIRATION
44"	

ONCE THIS SCREENING FILM HAS BEEN COMPLETED AND APPROVED, TECHNOLOGIST CAN PROCEED WITH REMAINING LUMBAR SERIES.

AP L-SPINE:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table. Flex knees to reduce lumbar lordosis.

CENTRAL RAY: Perpendicular, at the level of the iliac crest.

COLLIMATION: To the ASIS. Must demonstrate SI joints.

SHIELDING: Gonads on male patients.

BILATERAL OBLIQUES L-SPINE:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: From the AP position, rotate the patient's entire body 45 degrees to assume both the RPO and LPO positions.

CENTRAL RAY: Perpendicular to the film, 1" above the crest.

COLLIMATION: To the ASIS. Must demonstrate SI joints.

SHIELDING: Gonads on male patients.

LATERAL L-SPINE (HIGH):

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Have the patient turn on their affected side and adjust the patient in true lateral position.

CENTRAL RAY: Perpendicular to the film 3" above the crest.

COLLIMATION: Collimate to the lumbar spine. *Place lead strip behind the patient to absorb scatter.

SHIELDING: None.

LATERAL L-SPINE (LOW – L5-S1 SPOT):

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Have the patient maintain the lateral position from the previous projection.

CENTRAL RAY: Directed caudal 5 degrees for male patients and 8 degrees for female patients. Entering a point 3" below the crest.

COLLIMATION: Collimate to the lumbar spine to include the sacrum and the coccyx.

SHIELDING: None

MANDIBLE

CPT Code: 70110- Mandible, 4 or more views

ROUTINE PROJECTIONS: TOWNES, PA MANDIBLE, BILATERAL OBLIQUES OF THE MANDIBLE (OR ORTHOPANTOMOGRAM)

TOWNES:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table. Tuck chin towards chest so the OML is perpendicular to the film.

CENTRAL RAY: Direct the central ray 30 degrees caudal at the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

PA MANDIBLE:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Rest the patient's forehead and nose on the table so the OML is perpendicular to the film.

CENTRAL RAY: Perpendicular to the film exiting at the acantion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BILATERAL OBLIQUES:

10 x 12	CROSSWISE
TABLETOP	EXTREMITY FILM
40"	

PATIENT POSITION: Adjust the head to a lateral position with the chin extended.

CENTRAL RAY: Direct the central ray 25 degrees cephalic to the gonion furthest from the film.

COLLIMATION: Collimate to the mandible.

SHIELDING: Gonads on **ALL** patients.

MASTOIDS

CPT Code: 70130- Mastoids, 3 or more views

ROUTINE PROJECTIONS: TOWNES, BILATERAL LAWS, BILATERAL STENVERS, SMV.

FOR ALL PROJECTIONS OF THE MASTOIDS, TAPE THE AURICLES OF THE EARS FORWARD. USE OF AN EXTENSION CONE OR CLOSE COLLIMATION WILL GREATLY ENHANCE IMAGE QUALITY.

TOWNES:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table. Tuck chin towards chest so the OML is perpendicular to the film.

CENTRAL RAY: Direct the central ray 30 degrees caudal at the level of the external auditory meatus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BILATERAL LAWS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: From a true lateral position, rotate the head 15 degrees towards the film.

CENTRAL RAY: Direct the central ray 15 degrees caudal to a point 2" posterior and 2" superior to the EAM furthest from the film.

COLLIMATION: Smallest possible field size.

SHIELDING: Gonads on **ALL** patients.

BILATERAL STENVERS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: From a PA position, rotate the patient's head 45 degrees so the head is resting on the forehead, nose, and zygoma.

CENTRAL RAY: Direct the central ray 12 degrees cephalic, exiting at a point 1" anterior to the EAM.

COLLIMATION: Smallest possible field size.

SMV:

10 x 12
BUCKY
44"

CROSSWISE
SUSPENDED RESPIRATION

PATIENT POSITION: Extend the patient's head so that the infraorbitomeatal line is as close to parallel to the film as possible.

CENTRAL RAY: Direct the central ray perpendicular to the infraorbitomeatal line, midway between the EAMs.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

NASAL BONES

CPT Code: 70160- Nasal Bones, min. 3 views

ROUTINE PROJECTIONS: 45 DEGREE WATERS, BOTH LATERAL NASAL BONES.

45 DEGREE WATERS:

8 x 10
BUCKY
44"

LENGTHWISE
SUSPENDED RESPIRATION
UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Have the patient rest head on tip of extended chin. The head should be adjusted so the orbitomeatal line forms an angle of 45 degrees with the film.

CENTRAL RAY: Directed perpendicular to the film exiting at the acanthion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BOTH LATERAL NASAL BONES:

8 X 10
BUCKY
40"

LENGTHWISE
SUSPENDED RESPIRATION
EXTREMITY FILM

PATIENT POSITION: Adjust the head to true lateral position.

CENTRAL RAY: Perpendicular to the film, directed $\frac{3}{4}$ " distal to the nasion.

COLLIMATION: Collimate to the nasal bones.

SHIELDING: Gonads on **ALL** patients.

ORBITS FOR TRAUMA

CPT Code: 70200- Orbits Complete, min. 4 views

ROUTINE PROJECTIONS: 23 DEGREE CALDWELL, 45 DEGREE WATERS, CROSS TABLE LATERAL, BILATERAL RHESE.

23 DEGREE CALDWELL:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Rest patient's forehead and nose on the table so the OML is perpendicular to the film.

CENTRAL RAY: Directed 23 degrees caudal exiting at the level of the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

45 DEGREES WATERS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Have the patient rest head on tip of extended chin. The head should be adjusted so the orbitomeatal line forms an angle of 45 degrees with the film.

CENTRAL RAY: Directed perpendicular to the film exiting at the acanthion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BILATERAL RHESE:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Prone with the head resting on the cheek, nose, and chin. Mid-sagittal plane should form an angle of 53 degrees with the film.

CENTRAL RAY: Perpendicular exiting the orbit closest to the film.

COLLIMATION: Collimate to the orbit.

SHIELDING: Gonads on **ALL** patients.

ORBITS FOR FOREIGN BODY/MRI

CPT Code: 70030- Orbits for Foreign Body

ROUTINE PROJECTIONS: 45 DEGREE WATERS, 23 DEGREE CALDWELL

45 DEGREES WATERS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Have the patient rest head on tip of extended chin. The head should be adjusted so the orbitomeatal line forms an angle of 45 degrees with the film.

CENTRAL RAY: Directed perpendicular to the film exiting at the acanthion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

23 DEGREE CALDWELL:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Rest patient's forehead and nose on the table so the OML is perpendicular to the film.

CENTRAL RAY: Directed 23 degrees caudal exiting at the level of the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients

ORBITS (OPTIC FORAMEN)

CPT Code: 70200- Orbits Complete, min. 4 views

ROUTINE PROJECTIONS: BILATERAL RHESE.

BILATERAL RHESE:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Prone with the head resting on the cheek, nose, and chin.

Mid-sagittal plane should form an angle of 53 degrees with the film.

CENTRAL RAY: Perpendicular exiting the orbit closest to the film.

COLLIMATION: Collimate to the orbit.

SHIELDING: Gonads on **ALL** patients.

PARANASAL SINUSES

CPT Code: 70220- Sinuses, Paranasal, min. 3 views

ROUTINE PROJECTIONS: WATERS, CALDWELL, UPRIGHT OR TRANSVERSE LATERAL SINUSES.

ALL SINUS FILMS SHOULD BE PERFORMED UPRIGHT TO DEMONSTRATE AIR/FLUID LEVELS.

WATERS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Have the patient rest head on tip of extended chin. The head should be adjusted so the orbitomeatal line forms an angle of 37 degrees with the film.

CENTRAL RAY: Directed perpendicular to the film exiting at the acanthion.

COLLIMATION: Collimate to the sinuses.

SHIELDING: Gonads on **ALL** patients.

CALDWELL:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Rest patient's forehead and nose on the table so the OML is perpendicular to the film.

CENTRAL RAY: Directed 15 degrees caudal exiting at the level of the nasion.
COLLIMATION: Collimate to the sinuses.
SHIELDING: Gonads on **ALL** patients

UPRIGHT LATERAL SINUSES:

8 X 10 LENGTHWISE
BUCKY SUSPENDED RESPIRATION
40"

PATIENT POSITION: Adjust the head to true lateral position.
CENTRAL RAY: Direct the central ray perpendicular to the film 1" posterior to the outer canthus.
COLLIMATION: Collimate to the sinuses.
SHIELDING: Gonads on **ALL** patients.

PELVIS (ROUTINE)

CPT Code: 72170- Pelvis, 1-2 views

ROUTINE PROJECTIONS: AP PELVIS

AP PELVIS:

14 x 17 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table. Invert feet 15 degrees. Place top of film 1" above the crest.
CENTRAL RAY: Perpendicular to the midpoint of the film.
COLLIMATION: Collimate to the skin surface.
SHIELDING: None.

RIBS (ROUTINE)

CPT Code: 71101- Ribs, Unilateral w/Chest or 71111- Ribs, Bilateral w/Chest

ROUTINE PROJECTIONS: UPRIGHT PA CHEST, AP/PA UPPER RIBS,
AP/PA OBLIQUE UPPER RIBS, AP LOWER RIBS

UPRIGHT CHEST:

14 x 17 LENGTHWISE
BUCKY SUSPENDED RESPIRATION
72"

PATIENT POSITION: Upright either standing or seated, hands on hips and shoulders rolled forward. Mid-sagittal plane centered to the midline of the film.

CENTRAL RAY: Horizontal, perpendicular to the film at level of T7.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

AP/PA UPPER RIBS:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

**ANTERIOR INJURY WOULD INDICATE A PA PROJECTION OF THE RIBS.
**POSTERIOR INJURY WOULD INDICATE AN AP PROJECTION OF THE RIBS.
**IF THE PATIENT'S CONDITION DOES NOT PERMIT FOR A PA PROJECTION, THEN AN AP PROJECTION OF THE RIBS IS ACCEPTABLE.

PATIENT POSITION: AP or PA position as indicated above. Tube centered over affected side. Place top of film 1 ½" above the shoulders.
CENTRAL RAY: Perpendicular to the midpoint of the film.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

AP/PA OBLIQUE UPPER RIBS:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED INSPIRATION
44"	

**AP OBLIQUES DEMONSTRATE THE SIDE DOWN.
** PA OBLIQUES DEMONSTRATE THE SIDE UP.
** DO PA OBLIQUES ONLY WHEN THE INJURY IS ANTERIOR.
** DO AP OBLIQUES WHEN THE INJURY IS POSTERIOR OR WHEN THE PATIENT'S CONDITION DOES NOT ALLOW FOR PA OBLIQUES.

PATIENT POSITION: From the AP or PA position, rotate the patient 45 degrees toward the designated side. Abduct the arms to prevent superimposition. Tube centered over the affected side. Place top of film 1 ½" above the shoulders.
CENTRAL RAY: Perpendicular to the midpoint of the film.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

AP LOWER RIBS:

14 x 17	CROSSWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table. Place the bottom of the film at the top of the crest.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

SACROILIAC (SI) JOINTS

CPT Code: 72200- Sacroiliac Joints, less than 3 views

ROUTINE PROJECTIONS: AP SI JOINTS, PA SI JOINTS.

AP SI JOINTS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Directed 30 degrees cephalad for male patients and 35 degrees cephalad for female patients. Centered at a point 1" inferior to the ASIS.

COLLIMATION: None.

SHIELDING: None.

PA SI JOINTS:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: PA prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the ASIS.

COLLIMATION: None.

SHIELDING: None.

SACRUM/COCCYX (ROUTINE)

CPT Code: 72220- Sacrum & Coccyx, min. 2 views

ROUTINE PROJECTIONS: AP SACRUM, AP COCCYX, LATERAL SACRUM/COCCYX.

AP SACRUM:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Directed 15 degrees cephalic at a point midway between the symphysis and ASIS.

COLLIMATION: None.

SHIELDING: None.

AP COCCYX:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Directed 10 degree caudal centered 2" superior to the symphysis.

COLLIMATION: None.

SHIELDING: None.

LATERAL SACRUM/COCCYX:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Have the patient turn onto their affected side and adjust the patient to the true lateral position.

CENTRAL RAY: Perpendicular at the level of the ASIS.

COLLIMATION: Collimate to the sacrum/coccyx.

SHIELDING: None.

SCAPULA

CPT Code: 73010- Scapula

ROUTINE PROJECTIONS: AP SCAPULA, LATERAL SCAPULA.

AP SCAPULA:

10 x 12 LENGTHWISE
BUCKY SHALLOW RESPIRATION
44"

PATIENT POSITION: Erect or supine with the affected scapula centered to the midline of the table. Abduct the arm to a right angle to the body and flex the elbow.

CENTRAL RAY: Perpendicular to the midscapular area.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL SCAPULA:

10 x 12 LENGTHWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: Adjust the patient in an oblique position with the affected scapula centered to the table. The elbow is flexed and the hand is placed on the anterior or posterior chest to prevent the humerus from superimposing the scapula.

CENTRAL RAY: Perpendicular to the medial border of the scapula.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients

SCOLIOSIS SERIES

CPT Code: 72081- Scoliosis Study, Standing

ROUTINE PROJECTIONS: PA ERECT SPINE

Single PA lengthwise 14 x 17 radiograph (upright whenever possible) including entire thoracolumbar spine and iliac crests to include lateral iliac crests in children young enough, otherwise:

Lengthwise 14 x 17 PA upright radiographs in suspended respiration of the thoracic spine (lower cervical spine to upper-to-mid lumbar spine (collimating to skin surface to minimize exposure to female breasts in particular)

AND

Lengthwise 14 x 17 PA lumbar radiography including mid-to-lower thoracic spine to mid-to-lower sacrum, including iliac crests.

FILMS MUST OVERLAP

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
72"	

PATIENT POSITION: Erect.
CENTRAL RAY: Perpendicular to midpoint of film.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Breasts on females.

SELLA TURCICA

CPT Code: 70240- Sella Turcica

ROUTINE PROJECTIONS: LATERAL SELLA TURCICA, PA AXIAL SELLA TURCICA (HAAS METHOD).

LATERAL SELLA TURCICA:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Adjust the head in a true lateral position so that the mid-sagittal plane is parallel with and the interpupillary line is perpendicular to the plane of the film.
CENTRAL RAY: Perpendicular to the film at a point $\frac{3}{4}$ " anterior and $\frac{3}{4}$ " superior to the EAM.
COLLIMATION: Collimate closely to the sella turcica to increase radiographic detail.
SHIELDING: Gonads on **ALL** patients.

PA AXIAL SELLA TURCICA (HAAS METHOD):

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Prone with the midsagittal plane centered to the midline of the table. Rest patient's forehead and nose on the table so the OML is perpendicular to the film.
CENTRAL RAY: Direct the central ray 25 degrees cephalad at a point $1\frac{1}{2}$ " above the nasion.
COLLIMATION: Collimate closely to the sella turcica to increase radiographic detail.
SHIELDING: Gonads on **ALL** patients.

SHOULDER (ROUTINE)

CPT Code: 73030- Shoulder, Complete

ROUTINE PROJECTIONS: EXTERNAL ROTATION (AP) SHOULDER, INTERNAL ROTATION (LATERAL) SHOULDER, INFEROSUPERIOR AXIAL SHOULDER.

TRANSTHORACIC LATERAL SHOULDER IF SUSPECT FX.

EXTERNAL ROTATION (AP) SHOULDER:

10 x 12 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: Externally rotate hand and arm to place the humerus in a true AP position.

CENTRAL RAY: Directed perpendicular to the coracoid process.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

INTERNAL ROTATION (LATERAL) SHOULDER:

10 x 12 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: Internally rotate hand and arm and place the back of the hand on the patient's hip.

CENTRAL RAY: Directed perpendicular to the coracoid process.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

INFEROSUPERIOR AXIAL SHOULDER:

10 x 12 CROSSWISE
TABLETOP SUSPENDED RESPIRATION
44"

PATIENT POSITION: With the patient supine, abduct the arms as much as possible. Have the patient turn their head away from the affected side and place the cassette above the shoulder.

CENTRAL RAY: Directed horizontally through the axillary region to the glenohumeral articulation.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

***TRANSTHORACIC LATERAL SHOULDER:**

10 x 12 LENGTHWISE
BUCKY BREATHING TECHNIQUE
44"

PATIENT POSITION: Place the affected arm against wall bucky. Raise the unaffected arm and rest forearm on top of head.

CENTRAL RAY: Perpendicular to the head of the humerus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

****Do transthoracic lateral when patient unable to abduct arm.****

SKULL

CPT Code: 70260- Skull, min. 4 views

ROUTINE PROJECTIONS: TOWNES, PA SKULL (CALDWELL), BOTH SKULL LATERALS.

TOWNES:

10 x 12 LENGTHWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table. Tuck chin towards the chest so the OML is perpendicular to the film.

CENTRAL RAY: Direct the central ray 30 degrees caudal, 1" above the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

PA SKULL (CALDWELL):

10 x 12 LENGTHWISE
BUCKY SUSPENDED RESPIRATION
44" UPRIGHT WHEN POSSIBLE

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Rest patient's forehead and nose on the table so the OML is perpendicular to the film.

CENTRAL RAY: Directed 15 degrees caudal exiting at the level of the nasion.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL SKULL:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Lateral position with the affected side closest to the film.
CENTRAL RAY: Perpendicular to the film, directed 2" superior to the EAM.
COLLIMATION: None.
SHIELDING: Gonads on **ALL** patients.

SOFT TISSUE NECK (FOREIGN BODY)

CPT Code: 70360- Neck, Soft Tissue

ROUTINE PROJECTIONS: LATERAL NECK, LATERAL NECK
SWALLOWING.

LATERAL NECK:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION/SWALLOWING
72"	

PATIENT POSITION: Seated or upright lateral position. Shoulder lying in the same transverse plane, and depressed with sandbags. Elevate chin slightly.
CENTRAL RAY: Direct the central ray horizontally to the level of C4 to include C7/T1 and the top of the ear. Center anterior to include nasopharynx.
COLLIMATION: Collimate to the skin surface to include the adenoids.
SHIELDING: Gonads on **ALL** patients.

*TAKE ONE EXPOSURE ON SUSPENDED RESPIRATION AND ONE
EXPOSURE WITH THE PATIENT SWALLOWING.*

SOFT TISSUE NECK (EPIGLOTTITIS)

CPT Code: 70360- Neck, Soft Tissue

ROUTINE PROJECTIONS: LATERAL NECK.

LATERAL NECK:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
72"	

PATIENT POSITION: Seated or upright lateral position. Shoulder lying in the same transverse plane, and depressed with sandbags. Elevate chin slightly.

CENTRAL RAY: Direct the central ray horizontally to the level of C4 to include C7/T1 and the top of the ear. Center anterior to include nasopharynx.
COLLIMATION: Collimate to the skin surface to include the adenoids.
SHIELDING: Gonads on **ALL** patients.

STERNOCLAVICULAR (SC) JOINTS

CPT Code: 71130- Sternoclavicular Joints 3+ Views

ROUTINE PROJECTIONS: PA STERNOCLAVICULAR JOINTS,
BILATERAL ANTERIOR OBLIQUES

PA STERNOCLAVICULAR JOINTS:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Patient prone with arms resting above the head. If necessary, can be upright position.

CENTRAL RAY: Center at T2-T3 at midline

COLLIMATION: Collimate laterally to include the medial third of both clavicles, inferior to include sternoclavicular joints and upper part of the manubrium sternum, and superior to include the entire sternoclavicular joint.

SHIELDING: Gonads on **ALL** patients.

BILATERAL ANTERIOR OBLIQUES:

10 x 12	CROSSWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Position prone with 10 to 15-degree anterior oblique rotation; using wedge as necessary.

CENTRAL RAY: Centered at T2-T3 level 2-5 cm lateral from the midline toward the raised side.

COLLIMATION: Collimate laterally to include the medial third of both clavicles, inferior to include sternoclavicular joints and upper part of the manubrium sternum, and superior to include the entire sternoclavicular joint.

SHIELDING: Gonads on **ALL** patients.

STERNUM (ROUTINE)

CPT Code: 71120- Sternum

ROUTINE PROJECTIONS: PA ERECT CHEST, LATERAL STERNUM.

PA ERECT CHEST:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED INSPIRATION
72"	

PATIENT POSITION: Upright, either standing or seated, hands on hips, shoulders rolled forward. Mid-sagittal plane centered to the midline of the film

CENTRAL RAY: Horizontal, perpendicular to the film at level of T7.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL STERNUM:

10 x 12	LENGTHWISE
BUCKY	SUSPENDED INSPIRATION
44"	

PATIENT POSITION: Upright, either standing or seated, with the patient in a lateral position. Rotate the shoulders posteriorly. Position the film so that the upper border is 1 1/2" above the manubrial notch.

CENTRAL RAY: Horizontally to the midpoint of the film.

COLLIMATION: Collimate to the sternum.

SHIELDING: Gonads on **ALL** patients.

T-SPINE (ROUTINE)

CPT Code: 72072- Thoracic Spine, Complete

ROUTINE PROJECTIONS: AP T-SPINE, LATERAL T-SPINE, SWIMMERS.

AP T-SPINE:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table. Place the top of the film 1 1/2" above the shoulders.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to the T-Spine.

SHIELDING: Gonads on **ALL** patients.

LATERAL T-SPINE: ROUTINE/TRAUMA **

****PATIENT PRESENTING TO THE RADIOLOGY DEPARTMENT SUPINE
ON STRETCHER WITH OR WITHOUT BACKBOARD – DO T-SPINE
TRAUMA LATERAL****

14 x 17 LENGTHWISE
BUCKY SUSPENDED RESPIRATION*
44”

***USE BUCKY & BREATHING TECHNIQUE FOR ROUTINE THORACIC
STUDIES.***

PATIENT POSITION: Place the patient in a lateral position. Adjust the arms at
right angles to the body.

CENTRAL RAY: Perpendicular to the film at the level of T6.

COLLIMATION: Collimate to the T-Spine. *Place lead strip behind patient to
absorb scatter.

SHIELDING: Gonads on **ALL** patients.

SWIMMERS:

PATIENT POSITION: Elevate the arm closest to the grid device, flex the elbow
and rest the forearm on the head. Depress the shoulder away from the film as
much as possible.

CENTRAL RAY: Perpendicular to the film at the level of T2. If the shoulder is
not well depressed, angle the central ray 5 degrees caudal.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

THUMB

CPT Code: 73140- Fingers, min. 2 views

ROUTINE PROJECTIONS: PA/AP THUMB, OBLIQUE THUMB, LATERAL
THUMB.

PA THUMB:

10 x 12 CROSSWISE
TABLETOP EXTREMITY FILM
40”

PATIENT POSITION: Place thumb on cassette in either AP or PA position.

CENTRAL RAY: Perpendicular to the first metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

OBLIQUE THUMB:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: Placing the patient's hand in a PA position will result in the thumb being obliqued.

CENTRAL RAY: Perpendicular to the first metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface, but include one adjacent digit.

SHIELDING: Gonads on **ALL** patients.

LATERAL THUMB:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: Extend the thumb of interest and close the other fingers into a fist. Adjust the thumb to a lateral position.

CENTRAL RAY: Perpendicular to the first metacarpophalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LOWER LEG (TIB/FIB) ROUTINE

CPT Code: 73590- Tibia & Fibula, 2 views

ROUTINE PROJECTIONS: AP LOWER LEG, LATERAL LOWER LEG.

AP LOWER LEG:

14 x 17
TABLETOP
40"

LENGTHWISE
EXTREMITY FILM

PATIENT POSITION: Have patient AP, supine, and invert foot slightly to assist in assuming true AP position.

CENTRAL RAY: Perpendicular to the midshaft of the lower leg.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

Must include both knee and ankle joints.

****If necessary, place the lower leg diagonally on the cassette and use two films for the AP and lateral projections.****

LATERAL LOWER LEG:

14 x 17
TABLETOP
40"

LENGTHWISE
EXTREMITY FILM

PATIENT POSITION: From the supine position, turn the patient's leg laterally so that the patella is perpendicular with the film.

CENTRAL RAY: Perpendicular to the midshaft of the lower leg.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

Must include both knee and ankle joints.

****If necessary, place the lower leg diagonally on the cassette and use two films for the AP and lateral projections.****

TMJ's

CPT Code: 70330- TM Joints, Bilateral

ROUTINE PROJECTIONS: BILATERAL AXIAL TRANSCRANIAL
OPEN/CLOSED MOUTH.

BILATERAL AXIAL TRANSCRANIAL:

8 x 10
BUCKY
44"

CROSSWISE
SUSPENDED RESPIRATION

PATIENT POSITION: Position the patient in a true lateral position with the side being demonstrated closest to the film.

CENTRAL RAY: Direct the central ray 25-30 degrees caudal exiting the TMJ closest to the film.

COLLIMATION: Collimate to the TMJs.

SHIELDING: Gonads on **ALL** patients.

***Both the right and left sides must be radiographed with both open and closed mouth images.**

TOES (ROUTINE)

CPT Code: 73660- Toes, min. 2 views

ROUTINE PROJECTIONS: AP TOES, INTERNAL OBLIQUE TOES,
EXTERNAL OBLIQUE TOES, LATERAL OF AFFECTED TOE.

AP TOES:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: With the patient supine, flex the knee so foot is resting flat on the cassette.

CENTRAL RAY: Perpendicular to the film at the level of the third metatarsophangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

INTERNAL OBLIQUE TOES:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: From the supine position, rotate the foot 30 degrees internally.

CENTRAL RAY: Perpendicular to the film at the level of the third metatarsophangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

EXTERNAL OBLIQUE TOES:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: From the supine position, rotate the foot 30 degrees externally.

CENTRAL RAY: Perpendicular to the film at the level of the third metatarsophangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL TOES:

10 x 12
TABLETOP
40"

CROSSWISE
EXTREMITY FILM

PATIENT POSITION: Have the patient lie in the lateral recumbent position. Isolate the affected tow and separate the others with tape or gauze.

CENTRAL RAY: Perpendicular to the film at the level of the proximal interphalangeal joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

WRIST (ROUTINE)

CPT Code: 73110- Wrist Complete, min. 3 views

ROUTINE PROJECTIONS: PA WRIST WITH ULNAR DEVIATION, EXTERNAL OBLIQUE WRIST, INTERNAL OBLIQUE WRIST, LATERAL WRIST.

PA WRIST WITH ULNAR DEVIATION:

10 x 12

LENGTHWISE

TABLETOP

EXTREMITY FILM

40"

PATIENT POSITION: Have the patient rest their forearm on the table and adjust the hand and the forearm to lie in the same plane. Turn the hand outward to obtain ulnar flexion.

CENTRAL RAY: Direct the central ray perpendicular to the midcarpal area.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

EXTERNAL OBLIQUE WRIST:

10 x 12

LENGTHWISE

TABLETOP

EXTREMITY FILM

40"

PATIENT POSITION: From the lateral position, rotate the hand and wrist 45 degrees laterally.

CENTRAL RAY: Direct the central ray perpendicular to the film, midway between the medial and lateral borders of the midcarpal area.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

INTERNAL OBLIQUE WRIST:

10 x 12

LENGTHWISE

TABLETOP

EXTREMITY FILM

40"

PATIENT POSITION: From the lateral position, rotate the hand and wrist 45 degrees medially.

CENTRAL RAY: Direct the central ray perpendicular to the film, midway between the medial and lateral borders of the midcarpal area.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL WRIST:

10 x 12

TABLETOP

40"

LENGTHWISE

EXTREMITY FILM

PATIENT POSITION: Have the patient flex his elbow 90 degrees and place the entire arm in the same transverse plane. Adjust the forearm and the hand so the wrist is in true lateral position.

CENTRAL RAY: Direct the central ray perpendicular to the midcarpal area.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

DIAGNOSTIC PROCEDURE GUIDE

PEDIATRIC GUIDE

UGI AND/OR SMALL BOWEL SERIES

INFANT – withhold last feeding

TODDLER – NPO 4 hours prior to feeding

CHILD (3-5) – NPO after midnight

BE

The prep depends on the diagnosis

ADULT GUIDE

UGI

NPO after midnight

Study length averages about 30 minutes

An upper GI, Barium swallow and small bowel may be scheduled together (in any combination).

Abdominal ultrasounds should be scheduled prior to an upper GI

A UGI cannot be scheduled on the same day as a Barium enema. The BE should be scheduled first and the GI seven days later.

SMALL BOWEL SERIES

NPO after midnight

Study length averages from around 45 minutes to 4-5 hours, this depends on the patient's digestive system, there is no way we are able to give exact length of time.

A small bowel and upper GI, Barium swallow may be scheduled together (in any combination).

Abdominal ultrasounds should be scheduled prior to an upper small bowel series.

A small bowel series cannot be scheduled on the same day as a Barium enema. The BE should be scheduled first and the GI seven days later.

BARIUM ENEMAS

There is an extensive prep for this study it can be faxed or emailed to the patient if needed.

Study length is at least an hour.

OTHER SCHEDULED EXAMS

Metastatic skeletal survey/bone survey – study length is about an hour.

IVP usually scheduled with tomograms, there is an extensive prep for this study it can be faxed or emailed to the patient if needed. Study length is at least an hour.

HSG the ordering physician **MUST** perform the procedure. The test is done for infertility or post essure procedure.

Gastrografin studies are scheduled as a barium enema

Sniff test/chest fluoro study length is about 15 minutes

Arthrograms may be of any joint, must be schedule in CT or MRI also, our study must be done first.

EXAMS WE DO NOT SCHEDULE (done elsewhere)

Hida scan ext. 1-2130

Cystogram ext. 1-2000

Hystersonography ext. 1-3250 usually for polyps with a saline solution.

Modified barium swallow/swallow function test done at MWH ext 1-2000

VCUG done at MWH ext 1-2000

XRAY HOURS

MIF 7 AM until 9:30 PM

Saturday 7 AM until 11:45 AM

MILH 8 AM until 8 PM

MINS 7 AM until 4 PM

WEIGHT LIMITS

Routine studies 450 pounds
Fluoro studies 350 pounds

SET-UP CHECKLIST FOR FLUORO OF THE GI TRACT

- BUCKY LOCKED AT FOOT END OF TABLE.
- FOOTBOARD SECURED TO TABLE.
- SUFFICIENT NUMBER OF FILMS AVAILABLE FOR OVERHEADS.
- FLUORO FOOT PEDAL IN POSITION.
- LEAD APRONS AND THYROID SHEILDS AVAILABLE.
- LEAD GLOVES AVAILABLE.
- COMPRESSION PADDLE AVAILABLE.
- CONTROL PANEL PROPERLY SET FOR FLUORO.
- FLUORO TIMER SET FOR FIVE (5) MINUTES.
- APPROPRIATE FLUORO KVP SET.
- SELECT THE PATIENT FROM THE RIS. MODIFY EXAM INFORMATION TO THE STUDY GOING TO BE PERFORMED.
- PROPER MIXTURES OF BARIUM AND RELATED SUPPLIES.
- OLD REPORTS AVAILABLE

MIXING BARIUM

To mix barium for upper GI studies:

1200 density

32 ounces of EZpaque

32 ounces of water

1400 density

48 ounces of EZpaque

8 ounces of water

Make sure to mix well, the barium will fall to the bottom of the container.

SUPPLIES AND ROOM SET UP FOR:

UPPER GI SERIES

UPPER GI WITH SMALL BOWEL

BARIUM SWALLOW

Place these supplies on the counter:

1200 and 1400 barium pitchers

HD barium

Barium tablets

2 large cups

3 small cups

Straw

EZ gas (fizzies)

60 cc syringe

Pour 4 ounces of barium (weight depending on study 1400 for all studies except small bowel) and add straw. Mix HD bottle with 60cc of water and shake well, place with empty cup. Add a small amount of water to the small cup and open the EZ gas packet so it is ready to use. For barium swallows, have a barium tablet in a small cup and a small cup of water.

Take a preliminary film on upper GI and small bowel patients. Move the tube to the parked position. Stand the table erect. Move the image intensifier and the foot pedal to the side of the table.

Follow the radiologist prompts, they will tell what they need. The fizzies will usually be given first, followed by the HD barium. The table will be turned flat and numerous images will be obtained. During this part of the exam the thinner barium will be given. The radiologist will tell when they would like to administer the tablet.

Following the GI, additional barium will be given to small bowel patients. The radiologist will give instructions on what filming protocol they would like.

UPPER GI SERIES

CPT Code: 74241- Upper GI w/KUB

FLUORO KVP – 110

DIGITAL FLUORO SET AND PATIENT INFORMATION TYPED IN.

PATIENT POSITION FOR FLUORO – UPRIGHT

**BARIUM MIXTURE/OTHER SUPPLIES – 8 OZ. BARIUM 1200 OR 1400
(DEPENDING ON RADIOLOGIST)**

GENERAL DESCRIPTION OF EXAM AFTER SET-UP IS COMPLETE:

- The exam is started with the patient standing erect against the fluoro table.
- The radiologist will instruct the patient to take the cup containing the barium in the left hand and to swallow the barium as he instructs.
- The radiologist will obtain upright views of the esophagus while the patient is drinking and the table will be lowered to the horizontal position.
- The radiologist will then obtain a series of views of the stomach.
- The technologist should assist the patient in attaining positions as requested by the radiologist.
- Subsequently several films of the duodenal bulb and gastric antrum will be obtained. It is necessary to have the lead glove and compression paddle available for these films.
- The technologist may be instructed by the radiologist to perform overhead radiographs when fluoroscopy is completed.

UPPER GI SERIES OVERHEAD IMAGES

ROUTINE PROJECTIONS: RAO STOMACH, RIGHT LATERAL STOMACH, PA ABDOMEN, AP ABDOMEN.

RAO STOMACH:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: From the PA position, have the patient rotate 45 degrees towards their right side.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

RIGHT LATERAL STOMACH:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: Place the patient in a lateral position with their right side against the table.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

PA ABDOMEN:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: PA prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film 3-4" above the iliac crest.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

AP ABDOMEN:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION

44”

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film 3-4” above the iliac crest.

Location of the stomach is dependent on the patient’s body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

AIR CONTRAST UGI

CPT Code: 74247- UGI w/air contrast & KUB

FLUORO KVP – 110

DIGITAL FLUORO SET AND PATIENT INFORMATION TYPED IN.

PATIENT POSITION FOR FLUORO – UPRIGHT

BARIUM MIXTURE/OTHER SUPPLIES – 2 OZ. HD BARIUM (SHAKEN THOROUGHLY), 1 PACKAGE EFFERVESCENT GRANULES WITH SMALL AMOUNT OF WATER, 3 OZ. 1200 OR 1400 BARIUM (DEPENDING ON RADIOLOGIST).

GENERAL DESCRIPTION OF EXAM AFTER SET-UP IS COMPLETE:

- The exam is started with the patient standing erect against the fluoro table.
- The effervescent granules/water administered to the patient and then the patient drinks at the request of the Radiologist approximately 3 oz. of the liquid HD barium.
- The radiologist will obtain upright views of the esophagus while the patient is drinking and the table will be lowered to the horizontal position.
- The radiologist will then obtain a series of views of the stomach.
- The technologist should assist the patient in attaining positions as requested by the radiologist.
- The patient will then be placed in the prone position and will drink approximately 1oz. of the barium while the radiologist obtains another film of the barium filled esophagus and the esophagogastric junction. The radiologist may elect to place a pillow under the abdomen for these film.s

- Subsequently, several films of the duodenal bulb and gastric antrum will be obtained for both single and double contrast views. It is necessary to have the lead glove and compression paddle available for these films.
- The technologist may be instructed by the radiologist to perform overhead radiographs when fluoroscopy is completed.

AIR CONTRAST UPPER GI SERIES IMAGES

ROUTINE PROJECTIONS: LPO STOMACH, RAO STOMACH, RIGHT LATERAL STOMACH, PA ABDOMEN.

LPO STOMACH:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: From the AP supine position, have the patient rotate 45 degrees towards their left side.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

RAO STOMACH:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: From the PA position, have the patient rotate 45 degrees towards their right side.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

RIGHT LATERAL STOMACH:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: Place the patient in a lateral position with their right side against the table.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on **ALL** patients.

PA ABDOMEN:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED EXHALATION
44"	

PATIENT POSITION: PA prone with the mid-sagittal plane centered to the midline of the table.
CENTRAL RAY: Perpendicular to the film 3-4" above the iliac crest.
Location of the stomach is dependent on the patient's body habitus.
COLLIMATION: Collimate to the skin surface.
SHIELDING: Gonads on male patients.

BARIUM SWALLOW

CPT Code: 74220- Esophagus, Barium Swallow

NO COMPRESSION CONE.

DIGITAL FLUORO SET UP WITH PATIENT INFO TYPED IN, RAPID SEQUENCE FRAMES SET TO THREE (3).

PATIENT POSITION FOR FLUORO – UPRIGHT.

BARIUM MIXTURE/OTHER SUPPLIES – 8 OZ. 1200 OR 1400 BARIUM DEPENDING ON RADIOLOGIST.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- The radiologist will instruct the patient to take the cup containing the barium in the left hand and to swallow the barium and he/she instructs.
- The radiologist will then take digital films of the barium filled esophagus.
- The technologist may be instructed by the radiologist to perform the following overhead radiographs.

BARIUM SWALLOW IMAGES

ROUTINE PROJECTIONS: AP ESOPHAGUS, LATERAL ESOPHAGUS, RAO ESOPHAGUS (PER RADIOLOGIST).

AP ESOPHAGUS:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION

44”

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the esophagus.

SHIELDING: Gonads on **ALL** patients.

LATERAL ESOPHAGUS:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED RESPIRATION

44”

PATIENT POSITION: Lying on left side in a true lateral position. Arms in front of the patient outside of the lung field.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the esophagus.

SHIELDING: Gonads on **ALL** patients.

****RAO ESOPHAGUS:**

14 x 17

LENGTHWISE

BUCKY

SUSPENDED RESPIRATION

44”

PATIENT POSITION: From the prone position, oblique the patient 35-40 degrees with the right side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the esophagus.

SHIELDING: Gonads on **ALL** patients.

**** THIS PROJECTION IS TO BE PERFORMED AT THE DISCRETION OF THE RADIOLOGIST.****

AIR CONTRAST BARIUM SWALLOW

CPT Code: 74220- Esophagus, Barium Swallow

FLUORO KVP – 110.

SPOT FILM FORMAT.

DIGITAL FLUORO SET UP WITH PATIENT INFO TYPED IN, RAPID SEQUENCE FRAMES SET TO THREE (3).

PATIENT POSITION FOR FLUORO – UPRIGHT.

BARIUM MIXTURE/OTHER SUPPLIES – 1 CUP HD BARIUM (SHAKE THOROUGHLY), 1 PACKET EFFERVESCENT GRANULES WITH SMALL AMOUNT OF WATER TO MIX, THREE (3) TO FOUR (4) OZ OF 1200 OR 1400 BARIUM DEPENDING ON THE RADIOLOGIST.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- The radiologist will instruct the patient to drink the effervescent granules mixed with water.
- The patient will then be asked to swallow several mouthfuls of the HD barium.
- The radiologist will then take spot and/or digital films of the barium and air filled esophagus.
- The technologist may be instructed by the radiologist to perform the following overhead radiographs.

AIR CONTRAST BARIUM SWALLOW IMAGES

ROUTINE PROJECTIONS: AP ESOPHAGUS, LATERAL ESOPHAGUS, RAO ESOPHAGUS (PER RADIOLOGIST).

AP ESOPHAGUS:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the esophagus.

SHIELDING: Gonads on **ALL** patients.

LATERAL ESOPHAGUS:

14 x 17	LENGTHWISE
BUCKY	SUSPENDED RESPIRATION
44"	

PATIENT POSITION: Lying on left side in a true lateral position. Arms in front of the patient outside of the lung field.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the esophagus.

SHIELDING: Gonads on **ALL** patients.

****RAO ESOPHAGUS:**

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED RESPIRATION

PATIENT POSITION: From the prone position, oblique the patient 35-40 degrees with the right side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of T7.

COLLIMATION: Collimate to the esophagus.

SHIELDING: Gonads on **ALL** patients.

**** THIS PROJECTION IS TO BE PERFORMED AT THE DISCRETION OF THE RADIOLOGIST.***

SMALL BOWEL SERIES

CPT Code: 74250- Small Bowel Series

FLUORO KVP - 110

DIGITAL FLUORO SET UP WITH PATIENT INFO TYPED IN, RAPID SEQUENCE FRAMES SET TO THREE (3).

PATIENT POSITION FOR FLUORO – AP SUPINE.

BARIUM MIXTURE/OTHER SUPPLIES – TWO (2) 8OZ. CUPS BARIUM 1200 WT.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- After reviewing the preliminary radiograph(s) of the abdomen, the radiologist will instruct the technologist to give the patient 16 ounces barium to drink.
- The timing for the small bowel series should begin when the patient is finished drinking the barium with as little delay as possible.
- Small bowel films should be taken as instructed by the radiologist.
- When the barium has progressed through the entire small bowel, set up the room for fluoro.
- Under fluoroscopy, the radiologist will take spot films of the terminal ileum. The technologist should have the compression paddle and lead gloves available.

SMALL BOWEL SERIES IMAGES

ROUTINE PROJECTIONS: PA ABDOMEN.

PA ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED RESPIRATION

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

SMALL BOWEL SERIES WITH UGI

CPT Code: 74245- UGI w/Small Bowel Series

FLUORO KVP - 110

DIGITAL FLUORO SET UP WITH PATIENT INFORMATION TYPED IN.

PATIENT POSITION FOR FLUORO – UPRIGHT.

BARIUM MIXTURE/OTHER SUPPLIES – THREE (3) 8OZ. CUPS

BARIUM 1200 WT.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- The exam is started with the patient standing erect against the fluoro table.
- The radiologist will instruct the patient to take the cup containing the barium in the left hand and to swallow the barium as he instructs.
- The radiologist will obtain upright views of the esophagus while the patient is drinking and the table will be lowered to the horizontal position.
- The radiologist will then obtain a series of views of the stomach.
- The technologist should assist the patient in attaining positions as requested by the radiologist.
- Subsequently several films of the duodenal bulb and gastric antrum will be obtained. It is necessary to have the lead glove and compression paddle available for these films.
- The technologist will be instructed by the radiologist to perform overhead radiographs when fluoroscopy is completed.
- After completing routine overhead radiographs for the UGI series, the patient should be given the two (2) additional cups of barium. The timing of the small

bowel series should begin when the patient is finished drinking the two additional cups with as little delay as possible.

- Small bowel films should be taken as instructed by the radiologist.
- When the barium has progressed through the entire small bowel, set up room for fluoro.
- Under fluoroscopy, the radiologist will take spot films of the terminal ileum. The technologist should have the compression paddle and lead gloves available.

SMALL BOWEL SERIES (WITH UPPER GI) IMAGES

ROUTINE PROJECTIONS: RAO STOMACH, RIGHT LATERAL STOMACH, PA ABDOMEN, AP ABDOMEN.

RAO STOMACH:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXHALATION

PATIENT POSITION: From the PA position, have the patient rotate 45 degrees towards their right side.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

RIGHT LATERAL STOMACH:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXHALATION

PATIENT POSITION: Place the patient in a lateral position with their right side against the table.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

PA ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXHALATION

PATIENT POSITION: PA prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film 3-4" above the iliac crest.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

AP ABDOMEN:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXHALATION

44"

PATIENT POSITION: AP supine with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film 3-4" above the iliac crest.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on male patients.

SMALL BOWEL SERIES WITH AIR CONTRAST UGI

CPT Code: 74249- UGI w/ air contrast w/Small Bowel Series

FLUORO KVP – 110

DIGITAL FLUORO SET AND PATIENT INFORMATION TYPED IN.

PATIENT POSITION FOR FLUORO – UPRIGHT

BARIUM MIXTURE/OTHER SUPPLIES – 2 OZ. HD BARIUM (SHAKEN THOROUGHLY), 1 PACKAGE EFFERVESCENT GRANULES WITH SMALL AMOUNT OF WATER, 3 OZ. 1200 OR 1400 BARIUM (DEPENDING ON RADIOLOGIST).

GENERAL DESCRIPTION OF EXAM AFTER SET-UP IS COMPLETE:

- The exam is started with the patient standing erect against the fluoro table.
- The effervescent granules/water administered to the patient and then the patient drinks at the request of the radiologist approximately 2 oz. of the liquid HD barium in a slightly RAO position.
- The radiologist will obtain upright views while the patient is drinking and the table will be lowered to the horizontal position.
- The radiologist will then obtain a series of views of the stomach.

- The technologist should assist the patient in attaining positions as requested by the radiologist.
- The patient will then be placed in the prone position and will drink approximately 3oz. of the 1200 wt. barium while the radiologist obtains films of the barium filled esophagus. The radiologist may elect to place a pillow under the abdomen for these films.
- Subsequently, several films of the duodenal bulb and gastric antrum will be obtained for both single and double contrast views. It is necessary to have the lead glove and compression paddle available for these films.
- The technologist will be instructed by the radiologist to perform overhead radiographs when fluoroscopy is completed.
- After completing routine overhead radiographs for UGI series (if requested by the radiologist), the patient should be given the two (2) additional cups of barium.
- The timing for the small bowel series should begin when the patient is finished drinking the two additional cups.
- Small bowel films should be taken as instructed by the radiologist.
- When the barium has progressed through the entire small bowel, set up the room for fluoro.
- Under fluoroscopy, the radiologist will take spot films of the terminal ileum. The technologist should have the compression paddle and lead gloves available.

SMALL BOWEL SERIES WITH AIR CONTRAST UGI IMAGES

ROUTINE PROJECTIONS: LPO STOMACH, RAO STOMACH, RIGHT LATERAL STOMACH, PA ABDOMEN.

LPO STOMACH:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXHALATION

PATIENT POSITION: From the AP supine position, have the patient rotate 45 degrees towards their left side.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

RAO STOMACH:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXHALATION

PATIENT POSITION: From the PA position, have the patient rotate 45 degrees towards their right side.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

RIGHT LATERAL STOMACH:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXHALATION

44"

PATIENT POSITION: Place the patient in a lateral position with their right side against the table.

CENTRAL RAY: Directed to the midpoint of the film.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

PA ABDOMEN:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXHALATION

44"

PATIENT POSITION: PA prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

Location of the stomach is dependent on the patient's body habitus.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

BARIUM ENEMA (STANDARD)

CPT Code: 74270- Barium Enema w/KUB

FLUORO KVP – 110

DIGITAL FLUORO SET WITH PATIENT INFORMATION TYPED IN.

**BARIUM MIXTURE/OTHER SUPPLIES: ENEMA BAG, ENEMA TIP
WITH RETENTION BALLOON, BARIUM MIXTURE, KY JELLY.**

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- The patient should fill out the questionnaire pertaining to their prep.
- Technologist inserts enema tip and retention cuff inflated under fluoroscopic control by radiologist.
 - The radiologist is notified as soon as everything is ready for examination.
 - As requested by the radiologist, the control clip is released and the flow of barium is started.
 - The technologist will control the flow of barium as instructed by the radiologist.
 - The technologist should also assist the patient in rotating to various positions as indicated by the radiologist.
 - The radiologist will take spot films of the colon.
 - Upon completion of the fluoroscopic part of the examination, the radiologist will instruct the technologist to begin taking the routine overhead radiographs.
 - Upon satisfactory completion of the overhead radiographs, the patient is escorted to the restroom and instructed to expel as much of the enema as possible.
 - A post evacuation radiograph may be obtained at the radiologist's discretion.

BARIUM ENEMA (STANDARD) IMAGES

ROUTINE PROJECTIONS: AP ABDOMEN (PRELIM), AP ABDOMEN HIGH/LOW, AP SIGMOID, RPO/LPO ABDOMEN, PA ABDOMEN, LEFT LATERAL RECTUM, PA ABDOMEN (POST EVAC).

AP ABDOMEN (PRELIM):

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP ABDOMEN HIGH/LOW:

14 x 17

CROSSWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: HIGH – Centered high enough to include the diaphragm.

LOW – Centered low enough to include the rectum.

THESE TWO FILMS SHOULD OVERLAP.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP SIGMOID:

14 x 17

LENGTHWISE

BUCKY
44"

SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Direct the central ray 30-40 degrees cephalic entering just inferior to the symphysis.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

RPO ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's right side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest. Be certain to include the left (splenic) flexure size of the film.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

LPO ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's left side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest. Be certain to include the right (hepatic) flexure size of the film.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

PA ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

LEFT LATERAL RECTUM:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: Lying on left side in a true lateral position.

CENTRAL RAY: Perpendicular to the film, 5-7 inches above the symphysis.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

PA ABDOMEN (POST EVAC):

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

AIR CONTRAST BARIUM ENEMA

**CPT Code: 74280- Barium Enema, w/air contrast & KUB
FLUORO KVP – 90**

DIGITAL FLUORO SET WITH PATIENT INFORMATION TYPED IN.

**BARIUM MIXTURE/OTHER SUPPLIES: ENEMA BAG, ENEMA TIP
WITH RETENTION BALLOON, BARIUM MIXTURE, AIR BULB, KY
JELLY.**

**GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS
COMPLETE:**

- Technologist inserts enema tip and retention cuff inflated under fluoroscopic control by radiologist.
- The radiologist is notified as soon as everything is ready for examination.

- As requested by the radiologist, the control clip is released and the flow of barium is started.
- The technologist will control the flow of barium as instructed by the radiologist.
- The technologist should also assist the patient in rotating to various positions as indicated by the radiologist.
- When the barium has adequately coated the walls of the colon, the radiologist will instruct the technologist to lower the enema bag to the floor, leaving clamp open.
- When a sufficient amount of barium has been drained from the colon, the radiologist will instruct the technologist to clamp the enema bag and place it on the table.
- The radiologist will then begin to inject air into the colon under fluoroscopy.
- When a sufficient amount of air has been instilled into the colon the radiologist will begin to take spot films.
- Upon completion of the fluoroscopic part of the examination, the radiologist will instruct the technologist to begin taking the routine overhead radiographs.
- Upon satisfactory completion of the overhead radiographs, the patient is escorted to the restroom and instructed to expel as much of the enema as possible.
- A post evacuation radiograph may be obtained at the radiologist's discretion.
-

MIXING BARIUM

Pre-filled enema bags

Add 750 cc of warm water, shake well.

Do not mix until the preliminary film has been approved by the radiologist.

BARIUM ENEMA WITH AIR IMAGES

ROUTINE PROJECTIONS: AP ABDOMEN (PRELIM), RIGHT AND LEFT LATERAL DECUBITUS ABDOMEN, AP ABDOMEN HIGH/LOW, RPO/LPO ABDOMEN, LPO SIGMOID, PA ABDOMEN, PA SIGMOID, AP UPRIGHT ABDOMEN, VENTRAL DECUBITUS ABDOMEN.

AP ABDOMEN (PRELIM):

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

RIGHT AND LEFT LATERAL DECUBITUS ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: Recumbent, lying on left and right sides, arms extended above abdominal field. Patient lying in front of vertical grid device.

CENTRAL RAY: Horizontal, perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the size of the field.

SHIELDING: None.

AP ABDOMEN HIGH/LOW:

14 x 17
BUCKY
44"

CROSSWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: HIGH – Centered high enough to include the diaphragm.

LOW – Centered low enough to include the rectum.

THESE TWO FILMS SHOULD OVERLAP.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

RPO ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's right side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest. Be certain to include the left (splenic) flexure size of the film.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

LPO ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's left side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest. Be certain to include the right (hepatic) flexure size of the film.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

LPO SIGMOID:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's left side closest to the film.

CENTRAL RAY: Direct the central ray 30-40 degrees cephalic entering at the level of the ASIS.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

PA ABDOMEN:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

PA SIGMOID:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Direct the central ray 30-40 degrees caudal, entering at the level of the iliac crest.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

AP UPRIGHT ABDOMEN (if requested by radiologist):

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP upright with back flat against table, and the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Horizontal, perpendicular to the film at the level of the iliac crest. Be certain to include the entire transverse colon.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

VENTRAL DECUBITUS RECTUM:

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table. Arms extended above the head.

CENTRAL RAY: Horizontal, perpendicular to the film, centered 5-7 inches above the symphysis.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

****ENEMA TIP MUST BE REMOVED PRIOR TO THE EXPOSURE.****

BARIUM ENEMA WITH COLOSTOMY

CPT Code: 74270- Barium Enema w/KUB

*Prior to preparing for this exam, ask the patient:

- What type of surgery was performed?
- Is the colostomy temporary or permanent? Is the rectum intact?

From the answers to these questions, the radiologist will determine if the exam is to be standard or air contrast.

FLUORO KVP 110

DIGITAL FLUORO SET UP AND PATIENT INFORMATION TYPED IN

PATIENT POSITION FOR FLUORO – AP SUPINE

BARIUM SUPPLIES – BARIUM MIXTURE, KY JELLY, ENEMA TIP

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE.

- The radiologist is notified as soon as everything is ready for examination.
- With assistance from the radiologist the technologist inserts enema tip into stoma and inflates retention cuff.
- As requested by the radiologist, the control clip is released and the flow of barium is started.
- The technologist will control the flow of barium as instructed by the radiologist.
- The technologist should also assist the patient in rotating to various positions as indicated by the radiologist.
- The radiologist will take spot films of the colon.
- Upon completion of the fluoroscopic part of the examination the radiologist will instruct the technologist to begin taking the routine overhead projections.
- Upon satisfactory completion of the overhead radiographs, the enema bag should be dropped to the floor and as much barium as possible should be drained back into the enema bag.
- Upon satisfactory evacuation, the stoma should be irrigated and cleansed, and a fresh dressing applied.
- A postevacuation radiograph is then obtained, and if satisfactory, the exam is usually complete.

BARIUM ENEMA WITH COLOSTOMY

ROUTINE PROJECTIONS: AP ABDOMEN (PRELIM), AP ABDOMEN HIGH/LOW, RPO/LPO ABDOMEN, PA ABDOMEN (POST EVAC).

AP ABDOMEN (PRELIM):

14 x 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP ABDOMEN HIGH/LOW:

14 x 17
BUCKY
44"

CROSSWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: HIGH – Centered high enough to include the diaphragm.

LOW – Centered low enough to include the rectum.

THESE TWO FILMS SHOULD OVERLAP.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

RPO ABDOMEN:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's right side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest. Be certain to include the left (splenic) flexure size of the film.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

LPO ABDOMEN:

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: From the AP position, oblique the patient 35-45 degrees with the patient's left side closest to the film.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest. Be certain to include the right (hepatic) flexure size of the film.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

PA ABDOMEN (POST EVACUATION):

14 x 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: Prone with the mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the size of the film.

SHIELDING: None.

STANDARD SHOULDER ARTHROGRAM

**23350- Injection for Shoulder Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70**

DIGITAL FLUORO WITH PATIENT INFORMATION TYPED IN

PATIENT POSITION FOR FLUORO – SUPINE

**CONTRAST SUPPLIES: ARTHROGRAM TRAY, STERILE GLOVES, 2%
LIDOCAINE, SPINAL NEEDLES (20G AND 22G), ALCOHOL PREPS,
LEAD GLOVES, MASKS, APRONS, AND EXTENSION TUBING.**

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE

- No routine preliminary films are required.
- If preliminary films are required, the procedure for a routine shoulder should be followed.
- The radiologist will scrub the injection site with sterilizing solution.
- The technologist should assist the radiologist in drawing up the lidocaine
- The radiologist will drape the area and make the injections.
- Following the injection of contrast, the radiologist will fluoroscope the patient's shoulder.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to exercise the patient's shoulder and perform overhead radiographs if necessary.

SHOULDER ARTHROGRAM

EXTERNAL ROTATION (AP) SHOULDER:

10 x 12 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: Externally rotate hand and arm to place the humerus in a true AP position.

CENTRAL RAY: Directed perpendicular to the coracoid process.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

INTERNAL ROTATION (LATERAL) SHOULDER:

10 x 12 CROSSWISE
BUCKY SUSPENDED RESPIRATION
44"

PATIENT POSITION: Internally rotate hand and arm and place the back of the hand on the patient's hip.

CENTRAL RAY: Directed perpendicular to the coracoid process.

COLLIMATION: None.

SHIELDING: Gonads on **ALL** patients.

INFEROSUPERIOR AXIAL SHOULDER:

10 x 12 CROSSWISE
TABLETOP SUSPENDED RESPIRATION
44"

PATIENT POSITION: With the patient supine, abduct the arms as much as possible. Have the patient turn their head away from the affected side and place the cassette above the shoulder.

CENTRAL RAY: Directed horizontally through the axillary region to the glenohumeral articulation.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

MRI SHOULDER ARTHROGRAM

**23350- Injection for Shoulder Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70**

DIGITAL FLUORO WITH PATIENT INFORMATION TYPED IN

PATIENT POSITION FOR FLUORO – SUPINE

EXAM SUPPLIES: ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, SPINAL NEEDLES (20G AND 22G), ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS, EXTENSION TUBING.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE

- No routine preliminary films are.
- If preliminary films are required, the procedure for a routine shoulder should be followed.
- The radiologist will scrub the injection site with the sterilizing solution.
- The technologist should assist the radiologist in drawing up the lidocaine.
- The radiologist will drape the area and make the injections.
- Following the injection of contrast, the radiologist will fluoroscope and image the patient's shoulder.
- The patient will be immediately escorted to the MRI department.

CT SHOULDER ARTHROGRAM

**23350- Injection for Shoulder Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70**

DIGITAL FLUORO WITH PATIENT INFORMATION TYPED IN

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST SUPPLIES: 50mL OMNIPAQUE 300, ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, SPINAL NEEDLES (20G AND 22G), ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS, EXTENSION TUBING.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE

- No routine preliminary films are required.
- If preliminary films are required, the procedure for a routine shoulder should be followed.
- The radiologist will scrub the injection site with the sterilizing solution.

- The technologist should assist the radiologist in drawing up the lidocaine, and/or Omnipaque. The mixture to use is 10mL lidocaine and 10mL omnipaque.
- The radiologist will drape the area and make the injections.
- Following the injection of contrast, the radiologist will fluoroscope and image the patient's shoulder.
- The patient will be immediately escorted to the CT department.

STANDARD HIP ARTHROGRAM

**27093- Injection for Hip Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70**

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- NO routine preliminary films are required.
- If preliminary films are required, the procedure for a routine hip should be followed.
- The radiologist will scrub the injection site with sterilizing scrub.
- The technologist should assist the radiologist in drawing up the lidocaine.
- The radiologist will drape the area and make all injections.
- Following the injection of the contrast, the radiologist will exercise the patient's knee for several minutes to disperse the contrast.
- The radiologist will then fluoroscope the patient's knee.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if needed.

HIP ARTHROGRAM

HIP (UNILATERAL)

ROUTINE PROJECTIONS: AP PELVIS, FROG LATERAL or OR LATERAL (IF FX IS SUSPECTED).

AP PELVIS:

14 x 17
BUCKY
44"

CROSSWISE
SUSPENDED RESPIRATION

PATIENT POSITION: Supine with mid-sagittal plane centered to the midline of the table. Invert the feet 15 degrees. Place top of film 1" above the crest.

CENTRAL RAY: Perpendicular to the midpoint of the film.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

FROG LATERAL:

10 x 12
BUCKY
44"

CROSSWISE
SUSPENDED RESPIRATION
DO OR LATERAL IF FX SUSPECTED

PATIENT POSITION: From the AP position, draw the feet up towards the pelvis as much as possible. Then abduct the thigh and have the patient place the soles of their feet together.

CENTRAL RAY: Direct the central ray parallel to the femoral shaft, at the level of the symphysis pubis.

COLLIMATION: None.

SHIELDING: None.

OR LATERAL:

10 x 12
GRID CASSETTE
44"

LENGTHWISE
SUSPENDED RESPIRATION

PATIENT POSITION: Flex the knee and hip of the unaffected side and position them outside of the central ray. Place the cassette just above the crest and parallel to the femoral neck.

CENTRAL RAY: Perpendicular to the film.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

CT HIP ARTHROGRAM

27093- Injection for Hip Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: 50mL OMNIPAQUE 300, ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- NO routine preliminary films are required.
- If preliminary films are required, the procedure for a routine hip should be followed.
- The radiologist will scrub the injection site with sterilizing scrub.
- The technologist should assist the radiologist in drawing up the lidocaine and Omnipaque. (10mL omnipaque and 10mL lidocaine)
- The radiologist will drape the area and make all injections.
- Following the injection of the contrast, the radiologist will exercise the patient's knee for several minutes to disperse the contrast.
- The radiologist will then fluoroscope and image the patient's knee.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if needed.
- The patient will be immediately escorted to the CT department.

MRI HIP ARTHROGRAM

27093- Injection for Hip Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- NO routine preliminary films are required.
- If preliminary films are required, the procedure for a routine hip should be followed.
- The radiologist will scrub the injection site with sterilizing scrub.
- The technologist should assist the radiologist in drawing up the lidocaine.
- The radiologist will drape the area and make all injections.
- Following the injection of the contrast, the radiologist will exercise the patient's knee for several minutes to disperse the contrast.
- The radiologist will then fluoroscope and image the patient's knee.

- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if needed.
- The patient will be immediately escorted to the MRI department.

STANDARD KNEE ARTHROGRAM

27370- Injection for Hip Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- NO routine preliminary films are required.
- If preliminary films are required, the procedure for a routine knee should be followed.
- The radiologist will scrub the injection site with sterilizing scrub.
- The technologist should assist the radiologist in drawing up the lidocaine.
- The radiologist will drape the area and make all injections.
- Following the injection of the contrast, the radiologist will exercise the patient's knee for several minutes to disperse the contrast.
- The radiologist will then fluoroscope the patient's knee.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if needed.

KNEE ARTHROGRAM

ROUTINE PROJECTIONS: PA KNEE, POSTEROMEDIAL OBLIQUE KNEE, POSTEROLATERAL OBLIQUE KNEE, LATERAL KNEE, LATERAL KNEE WITH 90 DEGREE FLEXION.

PA KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: Prone, with the knee and leg in a true PA position.

CENTRAL RAY: Direct perpendicular to the film at a point ½" distal to the apex of the patella.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

POSTEROLATERAL OBLIQUE KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: From the prone position, invert the foot and rotate the entire leg 45 degrees medially.

CENTRAL RAY: Perpendicular, ½" below the apex of the patella.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

POSTEROLATERAL OBLIQUE KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: From the prone position, invert the foot and rotate the entire leg 45 degrees laterally.

CENTRAL RAY: Perpendicular, ½" below the apex of the patella.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL KNEE:

8 x 10	LENGTHWISE
BUCKY	44"

PATIENT POSITION: Turn the patient towards the affected side and adjust the knee in a true lateral position. Keep the knee extended.

CENTRAL RAY: Perpendicular to the knee joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL KNEE WITH 90 DEGREE FLEXION:

8 x 10
BUCKY

LENGTHWISE
44"

PATIENT POSITION: Turn the patient towards the affected side and adjust the knee in a true lateral position. Flex the knee 90 degree.

CENTRAL RAY: Perpendicular to the knee joint.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

CT KNEE ARTHROGRAM

27370- Injection for Hip Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: 50mL OMNIPAQUE 300,
ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, ALCOHOL
PREPS, MASKS, LEAD GLOVES AND APRONS.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- NO routine preliminary films are required.
- If preliminary films are required, the procedure for a routine knee should be followed.
- The radiologist will scrub the injection site with sterilizing scrub.
- The technologist should assist the radiologist in drawing up the lidocaine and Omnipaque. (10mL omnipaque and 10mL lidocaine)
- The radiologist will drape the area and make all injections.
- Following the injection of the contrast, the radiologist will exercise the patient's knee for several minutes to disperse the contrast.
- The radiologist will then fluoroscope and image the patient's knee.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if needed.
- The patient will be immediately escorted to the CT department.

MRI KNEE ARTHROGRAM

27370- Injection for Hip Arthrogram, 77002- Fluoroscopic Guidance
FLUORO KVP – 70

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: ARTHROGRAM TRAY, STERILE GLOVES, 2% LIDOCAINE, ALCOHOL PREPS, MASKS, LEAD GLOVES AND APRONS.

GENERAL DESCRIPTION OF PROCEDURE AFTER SET-UP IS COMPLETE:

- NO routine preliminary films are required.
- If preliminary films are required, the procedure for a routine knee should be followed.
- The radiologist will scrub the injection site with Betadine scrub.
- The technologist should assist the radiologist in drawing up the lidocaine.
- The radiologist will drape the area and make all injections.
- Following the injection of the contrast, the radiologist will exercise the patient's knee for several minutes to disperse the contrast.
- The radiologist will then fluoroscope and image the patient's knee.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if needed.
- The patient will be immediately escorted to the MRI department.

IVP (WITH/WITHOUT TOMOGRAMS)

CPT Code: 74400- IVP

SUPPLIES REQUIRED FOR IVP EXAMINATION:

Gloves
Tourniquet
Tegaderm
Alcohol prep wipes
20g and 22g IV needle
(2) 16g needles
Benadryl and other emergency drugs
Omnipaque 300 or Visipaque 320* (*depends on the lab work)
2) 60ml syringes
IV connector Tape
2x2 gauze
(2) 1 Oml Saline Flush
Coflex colored bandage
Emesis basin
Compression band (only if needed)

GENERAL CONSIDERATIONS FOR IVP EXAMINATIONS

1. Set up the room before calling in the patient.
2. Verify patient's name, date of the birth, and the procedure.
3. Obtain thorough patient history to include symptoms of urinary problems and prep for examination.
4. Be certain to ask the patient all the questions on the history sheet and the allergy form and document the information on the appropriate form..
5. If the patient answers "yes" to diabetes ask the patient what type of medication he/she is taking and if the medication contains metformin or glucophage.
6. If the patient indicates that the medication contains metformin or

- glucophage, then review the form that states not to take it for 48 hours after the exam. Ask the patient to sign the form and make a copy for your records before giving the paperwork to the patient.
7. If the patient answers "yes" to any of the questions on the bottom portion of the history sheet, you will need to obtain lab work (BUN/Creatnine).
 8. There are four ways to get obtain lab work (in the following order):
 - a. EPIC
 - b. Check for recent contrast studies
 - c. Call the doctor's office who ordered the exam
 - d. Check Lab Corps database

LAB WORK HAS TO BE WITHIN THE LAST 30 DAYS
 9. If the patient has no labs, then an ISTAT needs to be ordered. You will need to get a script faxed over from the ordering doctor.
 10. Explain to the patient the procedure for the exam. It is important to ask the patient to empty their bladder before starting the exam.
 11. Inform the patient that you will be taking preliminary KUB films to show to the doctor.
 12. Present the complete history and the scout films to the radiologist.
 13. Ask a technologist to start an IV and if no labs to perform an ISTAT.
 14. Once you receive the BUN and Creatnine, you will need to use the GFR calculator to get the MDRD GFR value which will indicate if you are going to use 100 ml Omni 300 or Visi 320 (GFR calculator is located on ISITE).
 15. See attached form for the GFR values
 16. The radiologist will instruct the technologist as to the type and amount of contrast to be administered and what level tomograms to obtain.

**To find levels for tomograms, measure the patient and divide by three.
(21cm....would be levels 7, 8, and 9)
 17. Briefly and efficiently explain to the patient about what they might expect during the contrast injection:
 - a. Some might feel very little or nothing at all
 - b. Feel warm all over
 - c. Metallic taste in their mouth
 - d. Coolness at the IV site
 - e. Feel a sensation of urinating
 18. If the patient is having any of the following symptoms below inform the radiologist immediately:
 - a. Burning or stinging sensation at or around the IV site
 - b. Shortness of breath
 - c. Tightness in the chest
 - d. Itching or hives
 19. Contrast needs to be injected as quickly as possible to make sure there is no contrast in the kidney for the immediate film or tomography.
 20. **Routine projections as follow:**

IVP (40yrs and younger)

0 min AP Kidneys

5 min AP Kidneys

10 min AP Kidneys & Bladder

10 min RPO/LPO

20 min AP and PA

Post Void Erect

IVP w/Tomography (40yrs and older)

0 min (3) tomo films (**levels assigned by Radiologist)

5 min AP Kidneys

10 min AP Kidneys & Bladder

10 min RPO/LPO

20min AP and PA

Post Void Erect

21. After taking the 20 min PA film show all the films to the radiologist in order to take the post void erect film.
22. Once the radiologist looks at the films and gives you confirmation to post void the patient, remove the IV from the patient's arm.
23. Take a full upright abdominal post void film and review the last film before letting the patient leave.

SUPPLIES REQUIRED FOR IVP EXAMINATION:

100cc Omnipaque 300 or 100cc Hypaque 60 2x2 gauze

Emesis basin

IV sterile start kit

Alcohol prep wipes

(2) 10cc saline flushes

Tape

(2) 60cc syringes

20 and 22 gauge IV needles

Benadryl and other emergency drugs

INTRAVENOUS PYELOGRAM (ADULT)**CPT Code: 74400- IVP**

**For all patients over 40, the IVP/Nephrotomogram protocol should be followed:

ROUTINE PROJECTIONS: AP ABDOMEN (PRELIMINARY), AP KIDNEYS (IMMEDIATE), AP KIDNEYS (5 MINUTE), AP KIDNEYS AND BLADDER (10 MINUTE), AP AND PA ABDOMEN (20 MINUTE), AP UPRIGHT ABDOMEN (POST VOID).

AP ABDOMEN (PRELIMINARY):

14 X 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP KIDNEYS (1 MINUTE):

14 X 17
BUCKY
44"

CROSSWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at a point midway between the iliac crest and the xiphoid process of the sternum.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

AP KIDNEYS (5 MINUTE):

14 X 17
BUCKY
44"

CROSSWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at a point midway between the iliac crest and the xiphoid process of the sternum.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

AP KIDNEYS & BLADDER (10 MINUTE):

14 X 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BILATERAL OBLIQUE KIDNEYS & BLADDER (10 MINUTE):

14 X 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: From the AP position, oblique the patient 30 degrees towards both the right and left sides, for two separate exposures.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

****Must include both kidneys on each film.****

AP ABDOMEN (20 MINUTE):

14 X 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

PA ABDOMEN (20 MINUTE):

14 X 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: Prone with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP UPRIGHT ABDOMEN (POST VOID):

14 X 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: AP upright with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

INTRAVENOUS PYELOGRAM (ADULT) WITH NEPHROTOMOGRAM

ROUTINE PROJECTIONS: AP ABDOMEN (PRELIMINARY), AP KIDNEYS (PRELIMINARY TOMOGRAPHIC SCOUT), AP KIDNEYS (0 MINUTE TOMOGRAPHIC CUTS X 3), AP KIDNEYS (5 MINUTE), AP KIDNEYS AND BLADDER (10 MINUTE), AP AND PA ABDOMEN (20 MINUTES), AP UPRIGHT ABDOMEN (POST VOID).

AP ABDOMEN (PRELIMINARY):

14 X 17

LENGTHWISE

BUCKY

SUSPENDED EXPIRATION

44"

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.
SHIELDING: None.

AP KIDNEYS (1 MINUTE):

14 X 17	CROSSWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at a point midway between the iliac crest and the xiphoid process of the sternum.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

AP KIDNEYS (5 MINUTE):

14 X 17	CROSSWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at a point midway between the iliac crest and the xiphoid process of the sternum.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

AP KIDNEYS & BLADDER (10 MINUTE):

14 X 17	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

BILATERAL OBLIQUE KIDNEYS & BLADDER (10 MINUTE):

14 X 17	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: From the AP position, oblique the patient 30 degrees towards both the right and left sides, for two separate exposures.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

****Must include both kidneys on each film.****

AP ABDOMEN (20 MINUTE):

14 X 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

PA ABDOMEN (20 MINUTE):

14 X 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: Prone with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP UPRIGHT ABDOMEN (POST VOID):

14 X 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP upright with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

INTRAVENOUS PYELOGRAM (CHILDREN FIVE YEARS OF AGE OR LESS)

ROUTINE PROJECTIONS: AP ABDOMEN (PRELIMINARY), AP ABDOMEN (1 MINUTE), PA ABDOMEN (5 MINUTE), LATERAL ABDOMEN (ONLY IF PATIENT IS LESS THAN 1 YEAR OLD), AP UPRIGHT ABDOMEN (POST VOID).

AP ABDOMEN (PRELIMINARY):

SIZE OF FILM DETERMINED BY PATIENT

14 X 17
BUCKY
44"

LENGTHWISE
SUSPENDED EXPIRATION

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None

Inject contrast as indicated by radiologist.

*The amount of contrast used (Omnipaque 300 OR Hypaque 60) is determined by the weight of the child, NOT the age.

3 cc's of contrast per kilogram. 1 kg. = 2.2 lbs.

4.5lbs – 6cc
6 lbs – 9cc
9 lbs – 12cc
11 lbs – 15cc
13 lbs – 18cc
15 lbs – 20cc
17 lbs – 22cc

20lbs – 24cc
26lbs – 28cc
33lbs – 30cc
40lbs – 36cc
44lbs – 40cc
45lbs – 50cc

AP KIDNEYS (1 MINUTE):

SIZE OF FILM DETERMINED BY PATIENT

14 X 17	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP supine with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

PA ABDOMEN (5 MINUTE):

SIZE OF FILM DETERMINED BY PATIENT

14 X 17	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: Prone with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at a level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: Gonads on **ALL** patients.

LATERAL ABDOMEN (ONLY IF PATIENT IS LESS THAN 1 YEAR OLD):

SIZE OF FILM DETERMINED BY PATIENT

14 X 17	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: Lateral recumbent on their left side.

CENTRAL RAY: Perpendicular to the film 1" above the crest, and 1" anterior to the spine.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

AP UPRIGHT ABDOMEN (POST VOID):

14 X 17	LENGTHWISE
BUCKY	SUSPENDED EXPIRATION
44"	

PATIENT POSITION: AP upright with mid-sagittal plane centered to the midline of the table.

CENTRAL RAY: Perpendicular to the film, at the level of the iliac crest.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.

HYSTEROSALPINGOGRAM

CPT Code: 74740- HSG

FLUORO KVP – 80

DIGITAL FLUORO WITH PATIENT INFORMATION TYPED IN

PATIENT POSITION FOR FLUORO – SUPINE

CONTRAST AND OTHER SUPPLIES: OMNIPAQUE, HSG TRAY, STERILE GLOVES, LAMP, STOOL, SHEETS, TOWELS AND WASHCLOTHES, BLUE PADS, BETADINE, SANITARY NAPKINS.

GENERAL DESCRIPTION OF PROCEDURE:

- The patient is instructed to completely empty their bladder prior to the preliminary radiograph.
- The technologist will take a preliminary AP radiograph of the bladder.
- A blue pad is placed under the patient and the patient is positioned towards the foot end of the table.
- The bucky should be position at the extreme head end of the table.
- The attending doctor will prepare syringes with contrast.
- After the attending doctor cleanses the perineal area, a vaginal speculum with a uterine cannula will be positioned against the external cervix.
- When the attending doctor is ready to inject the contrast, the radiologist should be called into the room.
- With the radiologist present to fluoro, the attending doctor will inject the contrast with the radiologist taking films as necessary.
- Following the completion of fluoroscopy, the radiologist will instruct the technologist to perform overhead radiographs if necessary.

HYSTEROSALPINGOGRAM

ROUTINE PROJECTIONS: AP BLADDER (PRELIMINARY)

AP BLADDER (PRELIMINARY):

10 x 12
BUCKY
44"

LENGTHWISE
SUSPENDED RESPIRATION

PATIENT POSITION: AP supine with the mid-sagittal plane centered to midline of the table.

CENTRAL RAY: Perpendicular to the film, 2" above the pubic symphysis.

COLLIMATION: Collimate to the skin surface.

SHIELDING: None.