

DEPARTMENT OF IMAGING SERVICES
TESTS AND PREPARATION

SCHEDULED TEST	PREPARATION	PROCEDURE / WHAT TO EXPECT	AFTER CARE
LUNG BIOPSY	You may have clear liquids after midnight. Do not eat any food. It is very important that you let the doctor who is requesting the biopsy know if you take any blood thinners.	When you get to the Radiology Department the Radiologist will go over the consent form with you and answer any questions you may have. You will then change into a hospital gown and will lie on a table either on your stomach or back. Your skin will be cleaned with betadine antiseptic and will then be numbed with local anesthetic. A very thin biopsy needle will then be placed through the chest wall into the lung under CT or x-ray guidance. A small amount of material will be removed through the needle so the cells may be studied. Approximately 5% of people cough up a small amount of blood after the biopsy. This resolves itself. You will be in the x-ray procedure room approximately 30-60 minutes.	Immediately after the biopsy is completed you will have a chest x-ray to check for pneumothorax (a small collapse of the lung). Approximately 1 out of 3 patients develop a small collapse of their lung (this is called a pneumothorax), which needs no treatment and resolves on its own. 1 in 20 patients develop a large collapse of the lung, which requires hospitalization, and placement of a chest tube into the space surrounding the lung. If there is a small or no pneumothorax, you are free to go to breakfast and will be given a time 3 to 4 hours later to return to have a second chest x-ray to make sure a pneumothorax hasn't formed or, if you had a small one, hasn't gotten any larger.
COMPUTERIZED TOMOGRAPHY (CT SCAN)	If you are scheduled to get an exam "with contrast or x-ray dye" you should not eat or drink anything for four hours prior to you scheduled exam. Check with your doctor to see if this pertains to your exam. If you are diabetic and take insulin, you must consult with your doctor to adjust your dose. You should not take insulin if you are fasting for this examination. When making an appointment for this test, tell the person scheduling the study that you are diabetic and request an appointment early in the day. If you take Glucophage (Metformin), you may take the medicine before the x-ray examination but cannot resume taking it for at least 48 hours after the study is completed . Also, you must consult with the doctor who ordered the study to find out when it is safe to resume taking Glucophage.	The procedure can take between 10-45 minutes depending on the exact test performed. If you prefer not to change into a patient gown, it is advised that you wear loose fitting, comfortable clothing without metal parts. If you are scheduled for any head exams, earrings, glasses, hearing aids and dentures must be removed prior to your exam. If you are scheduled for an abdominal CT, this means you will be given an equivalent of 36 ounces of barium to drink over 30 to 45 minutes prior to your exam. Upon the exam table you may receive approximately 3 to 4 ounces of bicarbonate water to help visualize the stomach during your exam. An IV line may need to be established so that IV contrast can be given just before imaging begins. The insertion of the IV line may give you some discomfort. The contrast may make you feel warm all through your body. Some	After the exam you can resume your normal activities. If you received IV contrast, increase your normal fluid intake to help flush this material from your system. Unless your doctor objects you should increase your fluid intake over a 24 hour time period. Your doctor will discuss results of your exams with you.

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	<p>Medications can be taken prior to your exam. Pills should be taken with only a small amount of water. A list of the medications you take should be brought with you.</p> <p>If you are allergic to x-ray contrast material (dye) you should be pre-medicated on Prednisone for 24 hours prior to your exam. <i>A must in any patient with a prior history of anaplyactoid contrast reaction and strongly advised in patients with prior history of "minor" contrast reactions. If this pertains to you, you should notify your doctor for more information.</i></p> <p>You will be asked to complete a questionnaire providing us with some information regarding your medical history. This information helps to structure your exam. If you have any heart, asthma, kidney problems, cancer, sickle cell disease, or if you are or could possibly be pregnant, please let the technologist know before your exam.</p>	<p>patients experience a metallic taste during the injection. These sensations last until the injection is completed.</p> <p>Patients under the age of 18 years need to be accompanied by an adult (parent or guardian) if scheduled for a CT exam.</p> <p>We strongly advise that CT patients not bring children along without another responsible supervising adult. We cannot provide supervision for the children.</p>	
ESOPHOGRAM	<p>If you are a woman of childbearing age and there is a chance you may be pregnant, please consult your physician before scheduling this exam. Medications can be taken prior to your test. Pills should be taken with just a small amount of water, early in the morning.</p> <p>If you take insulin, you must consult your doctor about adjusting your dose. You should not take insulin if you are fasting for your exam. However, you should bring your insulin with you so you can take it after the exam. Also, when making an appointment, tell the scheduler if you are diabetic and request an appointment time early in the day.</p> <p>The presence of food or fluid materials would interfere with the accuracy of the examination. It is therefore necessary to avoid all intake of food or liquid from the hour of 9:00 P.M. of the day preceding your appointment.</p> <p>A parent or guardian must accompany patients less than 18 years old. Please do not bring children with you to the appointment. Be sure that your doctors office has sent an x-ray request form to the department or that you bring one with you.</p>	<p>You will be asked to change into a hospital gown since zippers and snaps will interfere with making the images. Women must remove bras. You should also remove any jewelry that may be in the area of neck. The test will take between 40 to 60 minutes.</p> <p>A small intravenous injection is usually administered first in order to obtain relaxation of stomach and duodenum. You will then be asked to swallow granules or powder in order to produce gas within the stomach. Next you will be asked to begin swallowing the liquid barium. During the course of the examination, you will be helped to turn into various positions to coat and visualize all areas of the upper gastrointestinal tract. A number of x-ray images will be obtained.</p> <p>The radiologist's report of the results will be sent to your doctor. Your doctor will discuss the results of the test with you.</p>	<p>Resume your normal diet. Increase fluid intake and drink plenty of water. For most patients with normal bowel habits, the passage of barium in the form of "white stools" will present no problem. Patients with a history of constipation may use a mild laxative.</p>
SMALL BOWEL ENEMA (ENTEROCLYSIS)	<p>If you are a woman of childbearing age and there is a chance you may be pregnant, please consult your physician before scheduling this exam. Medications can be taken prior to your test. Pills should be taken with just a small amount of water, early in the morning.</p> <p>If you take insulin, you must consult your doctor about</p>	<p>The Examination: You may be given two tablets of Metoclopramide (Reglan) before the examination begins; the purpose is to help the flow of barium through the whole of the small bowel.</p> <p>You will be asked to sit on the side of the x-ray table. The radiologist will spray your throat in order to render its surface</p>	<p>You should resume your normal diet and drink plenty of fluids.</p>

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	<p>adjusting your dose. You should not take insulin if you are fasting for your exam. However you should bring your insulin with you so you can take it after the exam. Also, when making an appointment, tell the scheduler if you are diabetic and request an appointment time early in the day.</p> <p>The presence of food material in the small bowel and in the right side of the colon will render the examination less accurate. Four Dulcolax® (bisacodyl) tablets are necessary for the preparation and can be purchased at any pharmacy</p> <p>On the day before the examination, ONLY clear liquids may be taken (water, apple juice, cranberry juice, bouillon soup, tea or coffee without milk or sugar, Jell-O). Be sure to drink a sufficient quantity of fluid.</p> <p>At 5:00 PM four bisacodyl tablets (Dulcolax® tablets) should be taken with a glass of water.</p> <p>After 10:00 P.M. NOTHING should be taken by mouth.</p> <p>On the day of the examination: NO food or fluids are allowed.</p> <p>You will be asked to change into a hospital gown. Patients less than 18 years old must be accompanied by a parent or guardian. Please do not bring children with you to the appointment. Be sure that your doctors office has sent an x-ray request form to the department or that you bring one with you.</p>	<p>insensitive. You will be helped to swallow a soft plastic tube, its diameter slightly larger than spaghetti noodle, You will then lie down on the x-ray table and the tube will be passed through the stomach into the upper portion of your small bowel. To do this, it will be necessary to turn you to one side or the other and apply manual pressure to the outside of the abdomen.</p> <p>The radiographer will introduce barium through the tube and this will be followed by a water-like solution to propel the barium through the whole small gut. A total quantity of one to two liters of fluid will be introduced, and you may experience a feeling of fullness. A number of x-ray images will be taken. At the end of the examination, usually some 15 minutes after the tube has been, the tube will be removed and the radiographer will take one or two further pictures.</p> <p>After the Examination: You will feel an urge to go the bathroom and you will pass much of the fluid that had been introduced. Occasionally it will be necessary for you to return to the x-ray room for a few additional images.</p> <p>The radiologist's report of the results will be sent to your doctor. Your doctor will discuss the results of the test with you.</p>	
SMALL BOWEL SERIES, LONG GI	<p>If you are a woman of childbearing age and there is a chance you may be pregnant, please consult your physician before scheduling this exam. Medications can be taken prior to your test. Pills should be taken with just a small amount of water, early in the morning.</p> <p>If you take insulin, you must consult your doctor about adjusting your dose. You should not take insulin if you are fasting for your exam. However you should bring your insulin with you so you can take it after the exam. Also, when making an appointment, tell the scheduler if you are diabetic and request an appointment time early in the day.</p> <p>NO FOOD OR LIQUIDS are to be taken past 9:00 PM the night before the examination.</p> <p>You will be asked to change into a hospital gown. A parent or guardian must accompany patients less than 18 years</p>	<p>The examination will be tailored to the symptoms that you are experiencing. The test may include the study of the esophagus, stomach, and duodenum. You will be asked to drink at least two cups of barium suspension. The radiologist will obtain fluoroscopic images.</p> <p>X-ray images of the abdomen will be taken at 15-30 minute intervals to study the progress of barium through the small bowel. It may take as little as one hour or as long as four hours for the whole of the small bowel to be shown in this way. It is not possible to predict exactly how long the examination will take in an individual patient.</p> <p>You may observe other patients who have arrived in the X-ray Department after you, completing their examinations and leaving the department while yours is still in progress. While this may be disconcerting, please understand that there is no way of shortening the time of your own examination without compromising its quality</p>	<p>Resume normal diet and drink plenty of water. For most patients with normal bowel habits, the passage of barium in the form of "white stools" will present no problem. Patients with a history of constipation may use a mild laxative such as Milk of Magnesia.</p>

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	<p>old. Please do not bring children with you to the appointment. Be sure that your doctors office has sent an x-ray request form to the department or that you bring one with you.</p>	<p>or accuracy.</p> <p>In circumstances where the area of junction between small bowel and colon is of special interest, it may be necessary in the later stages of the examination to introduce a soft tube into your rectum to inflate the colon with air. This procedure is called a per-oral pneumocolon. If your doctor has already requested a per-oral pneumocolon, please take (4) DULCOLAX® (bisacodyl) tablets with one glass of water 10:00 PM the evening before the examination.</p> <p>By turning you from side to side on the x-ray table the air can be made to flow into the small bowel/colon area and an accurate study of this region becomes possible. It may also be necessary to give you a further intravenous injection of a medication to obtain temporary relaxation of the bowel.</p> <p>The radiologist's report of the results will be sent to your doctor. Your doctor will discuss the results of the test with you.</p>	
UPPER GI SERIES	<p>If you are a woman of childbearing age and there is a chance you may be pregnant, please consult your physician before scheduling this exam. Medications can be taken prior to your test. Pills should be taken with just a small amount of water, early in the morning.</p> <p>If you take insulin, you must consult your doctor about adjusting your dose. You should not take insulin if you are fasting for your exam. However, you should bring your insulin with you so you can take it after the exam. Also, when making an appointment, tell the scheduler if you are diabetic and request an appointment time early in the day.</p> <p>The presence of food or fluid materials would interfere with the accuracy of the examination. It is therefore necessary to avoid all intake of food or liquid from the hour of 9:00 P.M. of the day preceding your appointment.</p> <p>A parent or guardian must accompany patients less than 18 years old. Please do not bring children with you to the appointment. Be sure that your doctors office has sent an x-ray request form to the department or that you bring one with you.</p>	<p>You will be asked to change into a hospital gown since zippers and snaps will interfere with making the images. Women must remove bras. You should also remove any jewelry that may be in the area of neck or abdomen. The test will take between 40 to 60 minutes.</p> <p>A small intravenous injection is usually administered first in order to obtain relaxation of stomach and duodenum. You will then be asked to swallow granules or powder in order to produce gas within the stomach. Next you will be asked to begin swallowing the liquid barium. During the course of the examination, you will be helped to turn into various positions to coat and visualize all areas of the upper gastrointestinal tract. A number of x-ray images will be obtained.</p> <p>The radiologist's report of the results will be sent to your doctor. Your doctor will discuss the results of the test with you.</p>	<p>Resume your normal diet. Increase fluid intake and drink plenty of water. For most patients with normal bowel habits, the passage of barium in the form of "white stools" will present no problem. Patients with a history of constipation may use a mild laxative.</p>
CYSTOGRAM, VOIDING CYSTOURETHROGRAM or INCONTINENCE CYSTOGRAM	<p>No preparation is necessary. You should empty your bladder before the examination. A parent or a guardian must accompany patients less than 18 years of age. If possible, please do not bring children with you. Be sure that your Doctor's office has sent an x-ray request form to the Radiology Department or that you bring one with you.</p>	<p>If you are or could possibly be pregnant, please inform the x-ray technologist. A technologist will escort you into an x-ray examination room, review your questionnaire, ask you to sign consent to have the test performed, and take one or two x-ray films of your abdomen and pelvis. After a Radiologist has reviewed these films, he or she will catheterize your bladder (unless you already</p>	<p>Resume your normal activities. You may feel some irritation in your urethra or bladder after having been catheterized. This is not uncommon or abnormal. You may also see a bit of blood in your</p>

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		<p>have a catheter in place) and fill it with x-ray contrast material, also known as x-ray dye. Several x-ray films of your bladder and urethra will be taken. Depending upon the indication for the study and the x-ray findings, the urethral catheter may be removed at the end of this study.</p>	<p>urine for a day or two. This will disappear if it is related to the x-ray study. If not, call your doctor.</p>
HYSTEROSALPINGOGRAM	<p>The test should be scheduled within 10 days of the beginning of your last menstrual cycle. No other preparation is necessary for this test.</p>	<p>A gynecologist will insert a vaginal speculum. X-ray contrast material, also known as x-ray dye, will be injected into your uterus and several x-ray films will be taken by a radiologist.</p> <p>The radiologist's report of the results will be sent to your OB/GYN doctor who will discuss the results of the test with you.</p>	<p>Do not use a tampon for 24 hours. Resume normal activity. A small amount of vaginal spotting or menstrual-type cramps may occur.</p>
IVP or IVU (INTRAVENOUS UROGRAM)	<p>Medications can be taken prior to your test. Pills should be taken with only a small amount of water.</p> <p>If are diabetic and take insulin, you must consult your doctor to adjust your dose. You should not take insulin if you are fasting for this examination. When making an appointment for this test, tell the person scheduling the study that you are diabetic and request an appointment early in the day.</p> <p>If you are allergic to shellfish, iodine or x-ray contrast material (x-ray dye), you need to be pre-medicated for 24 hours prior to your examination. <i>If this pertains to you, you should notify your doctor.</i></p> <p>To examine the kidneys satisfactorily, it is important to clean the colon of waste matter or fecal contents, which might prevent the kidneys from being seen well. For this purpose a 10 oz of Magnesium Citrate and 4 Dulcolax tablets must be purchased from a pharmacy, including the pharmacy of the Hospital of the University of Pennsylvania.</p> <p><i>On the day before your examination</i> ONLY clear liquids may be taken (water, apple juice, grape drink, bouillon soup, jello, tea or coffee without milk or cream). Be sure to drink a sufficient amount of fluid.</p> <p>At 5:00 PM drink the entire contents of the bottle of magnesium citrate CHILLED.</p> <p>At 10:00 PM take four (4) Dulcolax tablets with at least one full glass of water. Do not crush or chew the tablets; swallow them whole.</p> <p>Do not eat or drink anything after midnight.</p>	<p>A parent or guardian must accompany Patients less than 18 years old. If possible, please do not bring children with you. Be sure that your doctor's office has sent an x-ray request form to the Radiology Department or that you bring one with you.</p> <p>You will be asked to change into a hospital gown and given a questionnaire to fill out. If you have asthma, diabetes, heart or kidney problems, sickle cell disease, or if you are or could possibly be pregnant, please let the x-ray Technologist know.</p> <p>A technologist will escort you into an x-ray examination room, review your questionnaire, and take 2 or 3 x-ray films of your abdomen. After a Radiologist has reviewed these films, you will receive an injection of an x-ray contrast material (x-ray dye) into one of your veins. This material will be absorbed by your blood and will allow your urinary tract to be visualized.</p> <p>A series of x-ray films will be taken over the next 20 or 30 minutes to examine your kidneys, ureters and urinary bladder.</p> <p>The Radiologist's report of the results of the examination will be sent to the doctor who referred you for this test. Your doctor will discuss the results with you.</p>	<p>Resume your normal diet and drink plenty of water to flush the contrast material out of your system.</p> <p>If you are diabetic and take Glucophage (an oral hypoglycemic medication), you may take the medicine before the x-ray examination but cannot resume taking it for at least 48 hours after the study is completed. Also, you must call the doctor who ordered the study to find out when it is safe to resume taking Glucophage.</p>

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	<p>If you have an afternoon appointment, you may drink one full glass of a clear liquid early A.M. the day of your study.</p>		
<p>ANGIOGRAM/VENOGRAM</p>	<p>Angio - You must not eat any solid food after 12 AM (midnight) the night before your test.</p> <p>Veno – You may have a liquid breakfast.</p> <p>Medications can be taken prior to your test. If you take Heart or Blood Pressure medicine you SHOULD take them. If you take insulin or blood sugar medication, you must consult your doctor about adjusting your dose the morning of the test. A list of your medications should be brought with you.</p> <p>Allergies to shellfish, iodine or x-ray dye, patients need to be pre-medicated for 24 hours prior to the exam. Notify your doctor if this pertains to you.</p> <p>You will also be asked a brief health history. If you have any heart, asthma, kidney problems, sickle cell disease, or if you are or could possibly be pregnant, please let the technologist know.</p>	<p>The procedure can take from 30 minutes to more than an hour depending on the exact test performed. You will be asked to change into a hospital gown for the procedure. This is to protect your clothing and because zippers and snaps can interfere with the study.</p> <p>A nurse will start an IV in your hand or arm. This is to give you fluid, medication, sedation, or contrast (dye) during the procedure as ordered by the doctor.</p> <p>During the procedure the area the doctor will be studying will be cleaned with Chlorhexadrine and covered with sterile towels. The doctor will insert a small catheter into your artery or vein and inject some contrast (dye). X-rays will be taken of the artery or vein at this time. You may feel warmth, tingling, or flushing when you are given the contrast (dye). Some patients feel the need to urinate at this time. These feelings go away quickly.</p> <p>When the X-ray pictures are being taken, it is very important to remain very still and not move. Medications can be given to help you be more comfortable and relaxed during the test. Nurses, technologists, and doctors are always near by to help you with any needs you may have.</p>	<p>After the procedure, a doctor will take out the small catheter and pressure will be held to the site until any bleeding stops. It is very important for you to lay still at this time. After the catheter is out, you may have to lay flat for 4 to 6 hours if the catheter was in a large artery or vein in your leg. During this time, you should not bend where the catheter was administered.</p> <p>If you are staying in the hospital, the Radiology nurses will monitor you for a short while, then you will be taken to your room.</p> <p>You will be given a written instruction sheet to take home with you. The Doctors or Nurses will review these instructions with you. Also, you should drink plenty of fluids after the test to help your body flush the contrast (dye) out of your system, unless your doctor has limited your fluid intake.</p>
<p>PELVIC ULTRASOUND (Female)</p>	<p>Patients should drink 32 ounces of fluid approximately 1 hour prior to the exam. Please do not empty your bladder during this time!! Medications can be taken prior to the examination.</p>	<p>The procedure will take approximately 45 minutes but examination times can vary. After you are in the ultrasound examination room, you will be asked to change into a gown. We will then ask for a brief history including the date of your last menstrual period, use of hormone replacement or birth control, previous pregnancies and any surgeries of the pelvis.</p> <p>You will then be placed on a stretcher and a water-based gel will be spread over your pelvic area. This gel helps to provide us with quality images. A plastic device called a transducer will be placed over your pelvic area and moved back and forth to obtain the images necessary to answer your physician's questions.</p> <p>Sometimes an adequate study cannot be obtained just by scanning over your pelvic area. If this is the case, another type of pelvic ultrasound may be offered to you. It is called a transvaginal ultrasound examination and entails the following: you must empty your bladder; you will then be placed on a stretcher with stirrups similar to those in your gynecologist's office. We have a transducer</p>	<p>After the test, you may resume all normal activities. Your attending physician will discuss the results of your ultrasound examination with you.</p>

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		specifically designed for this study. These transducers are sterilized between patients and covered with a non-latex sheath during the ultrasound examination. Most patients find the transvaginal ultrasound similar to a pelvic examination done in your gynecologist's office.	
PREGNANCY ULTRASOUND	<p>If you are in your first three months of pregnancy, please drink 3-4 glasses of clear liquids, such as water, juice, and etc. one hour before your scheduled examination. PLEASE DO NOT EMPTY YOUR BLADDER!!</p> <p>If you are in your fourth to ninth month of pregnancy, please drink 1-2 glasses of clear liquids one hour before your scheduled examination. PLEASE DO NOT EMPTY YOUR BLADDER!!</p>	This procedure usually takes approximately 45 minutes. Please note that examination times may vary. After you are in the examination room, you will be asked to change into a gown and provide a brief history. You will then be placed on a stretcher. In order to obtain quality images, we will need to place a water-based gel on your abdomen. A plastic device called a transducer will be placed over the abdominal area and moved back and forth to obtain images necessary to answer your physician's questions.	After the test, you may resume all normal activities. Your attending physician will discuss the results of your ultrasound examination with you.
ABDOMINAL ULTRASOUND	You may not have any carbonated drinks or foods containing fat at least 8 hours prior to the exam. Acceptable food items: juice, water, coffee or tea without cream, and Jello. Medications can be taken prior to the exam. If you take insulin, you <u>must</u> consult with your physician.	The procedure usually takes approximately 45 minutes. Test times may vary due to specific physician requests. After you are in the ultrasound examination room, you will be asked to change into a gown and provide a brief history. You will then placed on a stretcher. In order to obtain quality images, we will need to place a water-based gel on your abdomen A plastic device called a transducer will be placed over the abdominal area and moved back and forth to obtain the images necessary to answer your physician's questions.	After the test, you may resume all normal activities. Your attending physician will discuss the results of your ultrasound examination with you.