

*Massachusetts  
General Hospital  
Imaging Services*



**A PATIENT GUIDE  
TO THE CT SCAN**

MASS GENERAL IMAGING



**MASSACHUSETTS  
GENERAL HOSPITAL**

*Massachusetts General Hospital Imaging Services is one of the first imaging facilities in the country to use the GE LightSpeed™ scanner for the Computerized Tomography test (CT or CAT scan).*



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# 1896

The Radiology Department at Massachusetts General Hospital is world-renowned, with roots dating back to 1896 and the making of one of the first x-rays in the United States. With a staff of more than 70 board-certified radiologists, and an exceptionally high volume of studies, the department has gained distinction for its subspecialty expertise in all aspects of radiology.

Massachusetts General Hospital Imaging Services is one of the first imaging facilities in the country to use the GE LightSpeed™ scanner for the Computerized Tomography test (CT or CAT scan). This cutting-edge technology produces highly detailed diagnostic information, which is valuable to your doctor in planning your care. And, because the GE LightSpeed™ is so fast, you will be finished with your test in about half the time of conventional scanners.

This patient information brochure describes your CT scan, letting you know what to expect every step of the way. A radiologic technologist will also explain your test to you before your CT scan begins. At all times, you should feel comfortable asking questions of any member of our staff.



*James H. Thrall, MD  
Radiologist-in-Chief,  
Department of Radiology  
Massachusetts General Hospital*

*James H. Thrall, MD  
Radiologist-in-Chief,  
Department of Radiology  
Massachusetts General Hospital*



**O**n behalf of the entire staff, it is my pleasure to welcome you to Massachusetts General Hospital Imaging Services. Our Radiology Department provides a full-range of diagnostic testing services, utilizing state-of-the-art equipment. No matter what kind of imaging test you are having done, you can rest assured knowing you are receiving some of the finest imaging services available anywhere.

W E L C O M E

## ALL ABOUT YOUR CT TEST

**CT SCAN DEFINED.** “CT” scan, or sometimes called “CAT” scan, stands for Computerized Axial Tomography, a valuable, painless, diagnostic test that allows radiologists (doctors who specialize in the use of imaging for diagnosing diseases) to see inside some areas of the body which cannot be seen using conventional x-rays. This imaging method produces a series of pictures that are then reconstructed by a computer into cross-sectional views. This technology has advanced so markedly over the past few years that it has greatly altered treatment courses. Since physicians can now see parts of the body they were never able to see before, they can detect many conditions in earlier stages, greatly optimizing patient outcomes.

Mass General Imaging Services uses the GE LightSpeed™ scanner to take pictures of your body. This state-of-the-art scanner provides pictures of exceptionally high resolution. This means your results have an excellent image quality, which gives your physician important information in diagnosing your medical condition and planning a course of treatment.



**OUR STAFF.** You will find our staff prompt, courteous and highly trained. Our receptionist will help you fill out the required paperwork about your medical history, medications (both

prescription and non-prescription), allergies and insurance. All of our technologists who operate the CT scanner are certified nationally by the American Registry of Radiologic Technologists and are licensed by the Commonwealth of Massachusetts. Radiologists from the highly respected Massachusetts General Hospital Department of Radiology promptly interpret the results of your scan. There is a physician at Mass General Imaging at all times.

**SAFETY.** All of our equipment is maintained in top condition, meeting not only the standards set by the federal government, but also those set by Mass General Hospital’s health physicists.

CT scanners use x-rays which can harm a developing fetus. If you are pregnant, or even think you might be, it is important to tell your doctor and the CT technologist before you undergo the test.



### WHAT TO DO TO PREPARE FOR YOUR TEST

**MEDICATIONS.** It is important for you to keep to your regular medication schedule. Please take all the medications that have been prescribed to you by your doctor. Just let our staff know what medications you have taken prior to your test.

Depending on your medical condition and the type of test that your physician has ordered, you may be requested to drink a bottle of barium sulfate at bedtime the night before your test. Your physician will tell you if this is necessary.

**FOOD AND DRINK.** You should not eat solid foods for two hours prior to your test. You may, however, drink plenty of fluids, such as water, broth, clear soups, juice or black decaffeinated coffee or tea. We encourage you to drink plenty of fluids before your arrival to our center.

**DIABETIC CONDITIONS.** If you are an insulin-dependent diabetic, please continue to take your insulin as prescribed, but remember to drink extra fruit juices to make up for the fasting of solid foods for the 2-3 hour period that your stomach is empty. Patients who take the supplement called Glucophage (Metformin) should take their prescribed dose as normally done but discontinue the next dose for 48 hours after the CT exam. If you need a substitute medication, please consult your doctor.

**WHEN TO ARRIVE.** If you are having a CT scan of your abdomen or pelvis, you need to arrive one hour before your scheduled appointment. This is to ensure that the barium fluid you will be asked to drink completely coats your gastrointestinal tract. The barium helps to highlight body areas for the CT scan. If you are having a scan other than the abdomen, you should arrive at your appointed time.

**WHAT TO BRING.** Please bring your insurance cards and any insurance forms with you. If you need pre-approval from your primary care physician, please be sure to bring the approval number.

**CLOTHING.** If you are having a head scan, dress in comfortable clothing. For all other exams, you most likely will change into a hospital gown. However, if you prefer, you may come dressed in your own loose, comfortable clothing, such as a sweat top and bottom. Just make sure there are no metal snaps or zippers. Our changing area is private, and there is a secure locker for your clothes. It is best, however, if you leave your valuables at home. If you are wearing jewelry, dentures, glasses, hearing aids or any metal objects which might interfere with the CT scan, we will ask you to remove them.

#### WHAT HAPPENS DURING THE TEST

**INTRAVENOUS PREPARATION.** Many of our patients receive a contrast agent intravenously (IV—in a vein in the arm or hand) during their CT test. If your doctor or the radiologist has determined that this procedure will enhance your CT scan results, the technologist will place an IV in your arm or hand prior to your going into the test. (Please see the section on “Contrast Medium”.)

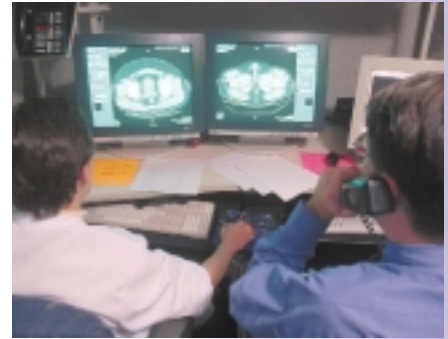
**SCANNING.** Your technologist will bring you into the CT scan room where you will lie down on the patient table. The technologist positions your body so that the area you are having scanned is in the middle of the large doughnut-shaped scanner ring which holds the x-ray tube and an electronic detector. The technologist leaves the room, but is in full view and communication with you through the observation window in the adjoining room. The scanner does not touch you, nor do you feel the x-rays. It does make some noise



and the table you are lying on may move slightly to make adjustments for a better view. It is important for you to lie very still and, at some points, you may be asked to briefly hold your breath as the picture is taken. During the scan, a thin beam of x-rays is focused on a specific part of your body. The x-ray tube moves very rapidly around this area, enabling multiple images to be made from different angles to create a cross-sectional picture. The x-ray beam information goes to the electronic detector and then into a computer which analyzes the information and constructs an image for the radiologist to interpret.

**LENGTH OF TEST.** Each CT scan is individualized and tailored to each patient's needs. In general, the actual image-taking itself with the GE LightSpeed™ lasts only about one minute. Many exams require a contrast injection into a vein in the arm or hand. (Please see the section on "Contrast Medium".) If your scan requires a contrast medium injection, the technologist will monitor the injection in the room with you. Most examinations only last approximately 15 minutes in total. When finished, you may then get dressed and leave as instructed by the technologist.

**CONTRAST MEDIUM.** Contrast mediums, or contrast agents, (sometimes called dyes) highlight your organs and blood vessels and help the radiologist to see them better. In the past, most contrast agents contained higher levels of iodine. The new contrast agents available today have lower iodine content, which greatly reduces the chance of an allergic reaction and most of the discomforts associated with the injection. The advantage of the GE LightSpeed™ scanner is that it maximizes the efficiency of the contrast medium, which tends to dilute fairly quickly into your bloodstream. Since our scanner is so quick, it is able to take all its pictures while the contrast medium is still in a high concentration, which produces better images.



#### WHAT HAPPENS AFTER THE TEST

**AFTER THE SCAN.** You have no restrictions after having a CT scan and can go about your normal activities. To help eliminate the contrast medium from your body, drink plenty of water or decaffeinated or non-alcoholic beverages.

**RESULTS.** Rapid results are essential not only for your peace-of-mind, but also so that your physician can begin planning your treatment immediately. After completion of the test, the images are read by a Mass General radiologist within 24 hours, with faster results available in urgent situations. Because of our high-tech capabilities, results are quickly forwarded to your physician, who will discuss them with you.

## APPOINTMENT PARTICULARS

Massachusetts General Hospital offers CT scanning at three convenient, state-of-the-art locations—our main campus in Boston and at our out-patient imaging centers in Chelsea and Waltham. Patients generally can get an appointment within a few days, with same-day scans often available in Chelsea and Waltham.

**MASSACHUSETTS GENERAL HOSPITAL'S MAIN CAMPUS** is located at 55 Fruit Street in Boston. To schedule an appointment in Boston, your physician may call **617.724.XRAY (9729)** to make an appointment for you. We are open 24 hours a day, seven days a week, and you may park in either of the two garages located in front of Massachusetts General Hospital's main entrance. If you would like further information, you may call us at **617.724.9729**.

**MASS GENERAL IMAGING-CHELSEA** is located at 80 Everett Avenue. To schedule an appointment in Chelsea your physician may call **617.887.3500**. Office hours are Monday through Friday, from 7:00 am to 11:00 pm and Saturday and Sunday from 8:00 am to 7:00 pm. There is free on-site parking.

**MASS GENERAL WEST IMAGING** is located in the Mass General West facility, Suite 120, at 40 Second Avenue in Waltham, exit 27B (Winter Street) off Route 95/128. To schedule an appointment, please call **800.697.8296**. Office hours are seven days a week, including evenings. There is free parking in our adjoining garage. A complimentary shuttle running directly between the main campus and Mass General West is available to patients between the hours of 9:00 am to 5:00 pm Monday through Friday. To arrange for the shuttle transportation, call **800.697.8296**.

## FOR FURTHER INFORMATION

If you would like further information, please visit our website at [www.massgeneralimaging.org](http://www.massgeneralimaging.org)

**Massachusetts General Hospital**

Imaging Services

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Boston, MA 02114

617.724.9729

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