

Massachusetts General Hospital
Imaging Services
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MASSACHUSETTS
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A PATIENT GUIDE TO ULTRASOUND



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You have been scheduled for a

_____ ultrasound exam

on _____

at _____ am / pm

Please arrive at _____

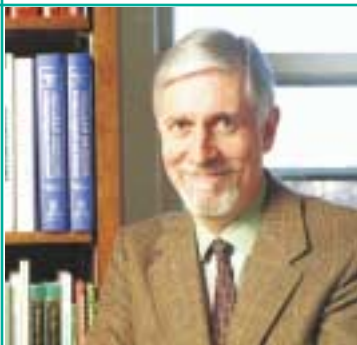
If you have any questions or concerns

please notify:

at:

Special instructions:

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

Welcome

On behalf of the entire staff, it is my pleasure to welcome you to Mass 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.

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The Radiology Department at Mass General 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.

We hope that this patient brochure will answer many of your questions about ultrasound. Please also feel free to contact us directly by calling (617) 726-3074.



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

WHAT IS ULTRASOUND?

Ultrasound is defined as sound with a frequency greater than 20,000 Hertz, above the range audible to the human ear. An ultrasound exam, or sonogram, is a safe and generally non-invasive procedure that utilizes high-frequency sound waves to image an internal body structure. Health care professionals rely on Ultrasound for a wide variety of uses, like monitoring the growth of a developing fetus and diagnosing such complicated medical conditions as blood clotting, cancer, and heart disease.

HOW DOES ULTRASOUND WORK?

A small, microphone-like device called a transducer is positioned on the skin over the area of interest. The transducer emits sound waves, which pass harmlessly through the



skin into the body. These sound waves respond differently to the various tissues within the body, producing an array of echoes. These echoes are reflected back into receptors located inside the transducer, where they

are converted to electrical signals and displayed on a television monitor in real-time. These moving images may be viewed immediately or recorded for further study.

WHAT DIFFERENT TYPES OF ULTRASOUND ARE THERE?

Doppler ultrasound is used to detect internal movement, such as blood flow or beating of the heart.

Transvaginal and transrectal ultrasound are specialized tests that can provide better images than traditional ultrasound or other diagnostic methods.

For certain types of exams — like pelvic or prostate ultrasound — smaller, specially designed transducers may be inserted into the vagina or rectum.



WHAT IS ULTRASOUND USED FOR?

Abdomen

Ultrasound can be used to detect gallstones, check the health of the liver, kidneys, pancreas, and spleen, and monitor the success of a kidney transplant.

Blood vessels

Ultrasound exams can reveal enlargements in vessels, blood clots or narrowing of arteries leading to the brain, which could result in stroke.

Pelvis

Ultrasound is used image the uterus, ovaries and other structures within the pelvis. It may assist in determining the source of pain or bleeding in the female pelvis.

Cancer

Ultrasound can locate lumps in organs and tissues, and can often distinguish the difference between fluid-filled cysts and cancerous tumors. It is frequently used to guide a needle biopsy (removal of tissue using a needle instead of surgery), and can be used to help detect prostate cancer and monitor treatment.

ULTRASOUND DURING PREGNANCY

Ultrasound is regarded as the Gold Standard diagnostic exam for monitoring pregnancy.

HOW DO I PREPARE FOR AN ULTRASOUND EXAM?

Some ultrasound studies require special preparation. If you are having a pelvic ultrasound, you should have been instructed to drink 5 to 6 glasses of water approximately one hour prior to your scheduled appointment time so your bladder will be full for the exam.

After the initial exam, your sonographer will instruct you to empty your bladder so that we may conduct a second transvaginal exam. This exam allows us to better image pelvic structures.

If you are having an abdominal ultrasound, you should have been instructed not to eat or drink anything 8 hours prior to your exam.

Other ultrasound exams such as thyroid, scrotal, renal, and vascular studies do not require any preparation.

WHAT HAPPENS DURING THE EXAM?

A standard ultrasound is a safe and simple procedure. You will be greeted by a sonographer — a health care professional specially trained in the use of ultrasound. The sonographer will apply a gel to the skin over the area being examined. The gel maximizes contact between the transducer and the skin, thereby producing high quality images.

The sonographer then passes the transducer over the targeted area and obtains the desired diagnostic data. Depending on the type of exam, you may have to lie still, change positions, hold your breath, or perform simple breathing exercises.

When finished, the sonographer washes off the gel and the exam is over.

After you leave, your ultrasound will be viewed and interpreted by a Mass General Hospital radiologist, a doctor specially trained in interpreting diagnostic images. The radiologist will contact your doctor with the results of your exam. Your doctor is the only person qualified to discuss your exam results with you.

COMMONLY ASKED QUESTIONS

Is Ultrasound safe?

Yes, ultrasound is a very safe imaging modality. Diagnostic ultrasound has been in use since the 1950's. To date there have been no adverse effects to patients or operators caused by exposure to diagnostic ultrasound.

How long does it take?

Most exams take approximately 30 minutes. Some specialty exams take 45 to 60 minutes.

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MGH Chelsea HealthCare Center

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Chelsea, MA 02150

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MassGeneral West Imaging

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Waltham, MA 02451

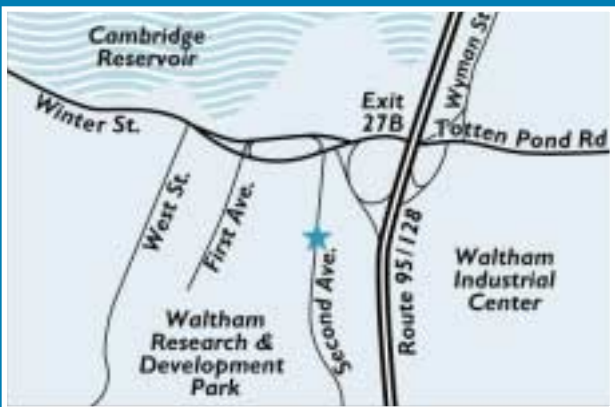
1 (800) 697-8296



Massachusetts General Hospital



Chelsea HealthCare Center



MassGeneral West Imaging