Soft-Tissue Masses

Soft-tissue masses are lumps or bumps caused by the growth of cells. Most soft-tissue masses are harmless, although some may be cancerous. Doctors use imaging tests to help diagnose soft-tissue masses.

Superficial (close to the surface) soft-tissue masses are often able to be seen or felt by touch. Initial imaging tests using x-ray or ultrasound (US) (https://www.radiologyinfo.org/en/info/genus) are usually appropriate. For nonsuperficial masses located deeper in the body, or for masses that are in areas of the body that are difficult to evaluate, x-ray is usually appropriate as the initial imaging test. US may also be appropriate.

If your doctor is unable to diagnose the soft-tissue mass from an initial x-ray or US, further testing using MRI (https://www.radiologyinfo.org/en/info/bodymr) without and with intravenous (IV) contrast or MRI without IV contrast is usually appropriate. CT (http://www.radiologyinfo.orgbodyct) without contrast may also be appropriate. In the specific scenario of bleeding (hemorrhage) from the mass, MRI without and with IV contrast or CT without and with contrast is usually appropriate. CT angiography with contrast, MR angiography (https://www.radiologyinfo.org/en/info/angiomr) with contrast, CT with contrast, CT without contrast, and a nuclear medicine test called FDG-PET/CT (https://www.radiologyinfo.org/en/info/pet) , short for fluorodeoxyglucose-positron emission tomography/CT, may also be appropriate.

For individuals who are unable to have an MRI due to a noncompatible device or have a metal within the body (which can limit MRI evaluation), CT without and with contrast and CT with contrast are usually appropriate. CT without contrast and FDG-PET/CT may also be appropriate.

— By Selin Ege Yalcindag, BS and Khushboo Jhala, MD, MBA. This information originally appeared in the *Journal of the American College of Radiology*.

Disclaimer

This information is copied from the RadiologyInfo Web site (http://www.radiologyinfo.org) which is dedicated to providing the highest quality information. To ensure that, each section is reviewed by a physician with expertise in the area presented. All information contained in the Web site is further reviewed by an ACR (American College of Radiology) - RSNA (Radiological Society of North America) committee, comprising physicians with expertise in several radiologic areas.

However, it is not possible to assure that this Web site contains complete, up-to-date information on any particular subject. Therefore, ACR and RSNA make no representations or warranties about the suitability of this information for use for any particular purpose. All information is provided "as is" without express or implied warranty.

Please visit the RadiologyInfo Web site at **http://www.radiologyinfo.org** to view or download the latest information.

Note: Images may be shown for illustrative purposes. Do not attempt to draw conclusions or make diagnoses by comparing these images to other medical images, particularly your own. Only qualified physicians should interpret images; the radiologist is the physician expert trained in medical imaging.

Copyright

This material is copyrighted by either the Radiological Society of North America (RSNA), 820 Jorie Boulevard, Oak Brook, IL 60523-2251 or the American College of Radiology (ACR), 1891 Preston White Drive, Reston, VA 20191-4397. Commercial reproduction or multiple distribution by any traditional or electronically based reproduction/publication method is prohibited.

Copyright ® 2026 Radiological Society of North America, Inc.