What are Microcalcifications?

Microcalcifications (small calcium deposits), also called calcifications, are the smallest particles visible on a mammogram. Almost all women have some microcalcifications caused by the normal aging process. Old cysts, injuries, infections or inflammations such as mastitis may cause breast cells to die. When they die, tiny particles are left behind like ashes after a fire. Those tiny particles are microcalcifications. Most microcalcifications found during mammography are from benign (non-cancerous) causes. However, microcalcifications can also be a sign of cancer (malignancy). Because of the potential for a malignancy, radiologists closely study the characteristics of any microcalcifications found on mammography pictures.

Can Calcium in My Diet Cause Microcalcifications?

Dietary calcium has no relationship with microcalcifications, and does not cause microcalcifications found in the breast on a mammogram. If you are taking calcium supplements or eating a diet high in calcium to prevent bone loss, you should continue.

Why Can’t I Wear Deodorant for the Mammogram?

Any deodorant, powder or perfume on or near your breasts when you go for your mammogram may cause spots or shadows resembling microcalcifications to appear on the image. It’s important for radiologists to get a clear picture in order to give the most accurate report.

What Characteristics Do Radiologists Look For?

The first thing radiologists look for on a mammogram is the pattern of microcalcifications on the picture. They are particularly looking for any:

- Clustering microcalcifications—four or more close together
- Branching microcalcifications—following the path of a breast duct

If the radiologist sees one of these patterns, he or she then looks closely at the shape of the microcalcifications. Microcalcifications associated with a malignancy have irregularly shaped edges with various shapes in the clustered pattern. Often there will be a pattern of density (thickness of tissue) surrounding the microcalcifications in the breast tissue that may show up on the mammogram. Sometimes the microcalcifications will take the shape of a duct that will alert the radiologist to a possibility of intraductal disease that may be benign or malignant.

What Happens if Microcalcifications are Found?

Your radiologist may ask for additional mammography pictures with special close-up views—compression or magnification—to get the best possible diagnostic picture if microcalcifications are found.

After looking closely for evidence that would give the slightest suspicion of problems, the radiologist will make a recommendation regarding treatment. If the findings do not have the characteristics of malignancy, the microcalcifications and findings will be noted on the report. If the microcalcifications are questionable but not suspicious, the physician may choose to wait for several months and re-examine them with mammography to see if there are any changes in the area. If the microcalcifications show any characteristics of malignancy, biopsy will be recommended.
What Further Tests May My Healthcare Provider Recommend?

If the microcalcifications are characteristic of a malignancy, a healthcare provider will most often perform a minimally-invasive biopsy using a special needle. The needle will remove either cores of tissue or a larger specimen containing the microcalcifications. Your healthcare provider may also use stereotactic or ultrasound guidance to biopsy the microcalcifications. Both of these procedures are performed on an out-patient basis. Occasionally the location of microcalcifications in the breast requires that they be marked in radiology under mammography with guides prior to removal in surgery.

How Important is Mammography?

Mammography allows us to find many cancers long before they can be felt. Cancer that is still in the ducts is considered curable with proper treatment. Mammography and its ability to find microcalcifications is the main reason many cancers are found in the earliest stages.

Remember, most microcalcifications found on mammography are not associated with cancer. When a microcalcification finding is mentioned in your mammography report, it is essential that you understand the condition to avoid any unnecessary anxiety.

Talk with your healthcare provider about any findings and follow up with any recommended screenings or tests.

One of the greatest tools against breast cancer is an informed woman practicing regular breast self-exam, going for regular clinical exams by a healthcare provider and having mammograms on a regular basis. Your radiologist and healthcare provider will work together with you to protect your good breast health.

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