

**MEDICAL BREAKTHROUGHS**  
**RESEARCH SUMMARY**

TOPIC: MAMMOGRAMS AND THE COVID VACCINE: WHAT WOMEN NEED TO  
KNOW  
REPORT: MB #4879

**VACCINE BACKGROUND:** SARS-CoV-2, or COVID-19, is an infectious airborne virus within the family of coronaviruses. As of 2021, two mRNA and one Viral Vector vaccines have been developed to combat the spread. The first of the mRNA vaccines is named BNT162b2 and was developed by Pfizer and BioNTech and involves two rounds of injections 21 days apart into the muscle of the upper arm. The second mRNA vaccine is named mRNA-1273 and was developed by ModernaTX, it involves two injections 28 days apart and is also injected in the muscle of the upper arm. The final option is the viral vector vaccine named JNJ-78436735 developed by Janssen Pharmaceuticals Companies of Johnson & Johnson involving one injection also into the muscle of the upper arm.

(Source: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines.html>)

**SIDE EFFECTS:** Now, physicians are learning that the two mRNA vaccines developed by Pfizer and Moderna can cause lymph nodes of the affected arm to swell. These lumps form as a response to the vaccine and indicate that the body making antibodies to fight a perceived intruder. Physicians report that the lumps only form on the side that the shot was received. However, this swelling is not happening to everyone as each individual has a unique immune response. The U.S. Centers for Disease Control & Prevention reports that 11.6 percent of vaccine recipients experienced swollen lymph nodes after one COVID-19 dose, and 16 percent after the second. Swelling typically appeared within two to four days after vaccination.

**MAMMOGRAMS:** During a routine mammogram, doctors scan not only the breast but the area under the arm. Swollen lymph nodes or lumps are red flags during these procedures as well as during patient self-exams. Lumps in this area of the body are often indicators of tumor or cancerous growth in the body. Doctors say it is exceedingly important to inform doctors if they received one of the mRNA COVID vaccines, which arm the shots were injected into, and the date of the injections. This information is critical in determining cancer risk and diagnostic procedures. Radiology-breast imaging specialist Holly Marshall, MD, the division chief of breast imaging at UH Cleveland Medical Center says, "Sometimes with other vaccines, occasionally we will see swollen lymph nodes, but it was unexpected how many swollen lymph nodes our breast radiologists have been seeing on screening mammograms of patients who have been vaccinated."

(Source: <https://www.uhhospitals.org/Healthy-at-UH/articles/2021/02/surprising-side-effect-of-covid-19-vaccine-swollen-lymph-nodes>)

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**If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at [mthomas@ivanhoe.com](mailto:mthomas@ivanhoe.com)**