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A Phase II Study of Accelerated 3 Fraction Photon and Proton Partial Breast External Beam Radiotherapy and Partial Breast Brachytherapy for Early Invasive and Noninvasive Breast Cancer

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MAYO CLINIC

Name and Clinic Number

Approval Date: **April 27, 2017**
Not to be used after: **April 26, 2018**

RESEARCH PARTICIPANT CONSENT AND PRIVACY AUTHORIZATION FORM

Study Title: A Phase II Study of Accelerated 3 Fraction Photon and Proton Partial Breast External Beam Radiotherapy and Partial Breast Brachytherapy for Early Invasive and Noninvasive Breast Cancer

IRB#: 14-002566

Principal Investigator: Dr. Robert Mutter and Colleagues

Please read this information carefully. It tells you important things about this research study. A member of our research team will talk to you about taking part in this research study. If you have questions at any time, please ask us.

Take your time to decide. Feel free to discuss the study with your family, friends, and healthcare provider before you make your decision.

To help you decide if you want to take part in this study, you should know:

- Taking part in this study is completely voluntary.
- You can choose not to participate.
- You are free to change your mind at any time if you choose to participate.
- Your decision won't cause any penalties or loss of benefits to which you're otherwise entitled.
- Your decision won't change the access to medical care you get at Mayo Clinic now or in the future if you choose not to participate or discontinue your participation.

For purposes of this form, Mayo Clinic refers to Mayo Clinic in Arizona, Florida and Rochester, Minnesota; Mayo Clinic Health System; and all owned and affiliated clinics, hospitals, and entities.

If you decide to take part in this research study, you will sign this consent form to show that you want to take part. We will give you a copy of this form to keep. A copy of this form will be put in your medical record.

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CONTACT INFORMATION

You can contact …	At …	If you have questions about …
Principal Investigator: Dr. Robert Mutter **Co-Principal Investigators:** Dr. Samir Patel Dr. Laura Vallow **Study Team Contact:** Rochester: Stephanie Gunderson Geri Pumper Arizona: Manuel Vargas Jr. R.N. Florida: Patricia Shwarts, CCRP	**Phone:** (507) 284-8227 (480) 342-1267 (904) 953-1000 **Phone:** (507) 293-0624 (507) 266-8554 (480) 342-4146 (904) 953-2985 **Address:** **Mayo Clinic Rochester** 200 1st Street SW Rochester, MN 55905 **Mayo Clinic Arizona** 13400 East Shea Boulevard Scottsdale, AZ 85259 **Mayo Clinic Florida** 4500 San Pablo Road Jacksonville, FL 32224	▪ Study tests and procedures ▪ Research-related injuries or emergencies ▪ Any research-related concerns or complaints ▪ Withdrawing from the research study ▪ Materials you receive ▪ Research-related appointments
Mayo Clinic Institutional Review Board (IRB)	**Phone:** (507) 266-4000 **Toll-Free:** (866) 273-4681	▪ Rights of a research participant

You can contact …	At …	If you have questions or about …
Research Subject Advocate (The RSA is independent of the Study Team)	**Phone:** (507) 266-9372 **Toll-Free:** (866) 273-4681 **E-mail:** researchsubjectadvocate@mayo.edu	▪ Rights of a research participant ▪ Any research-related concerns or complaints ▪ Use of your Protected Health Information ▪ Stopping your authorization to use your Protected Health Information
Research Billing	**Rochester, MN:** (507) 266-5670 **Arizona:** (800) 603-0558 **Florida:** (904) 953-7058	▪ Billing or insurance related to this research study

Other Information:
A description of this clinical trial will be available on http://www.ClinicalTrials.gov, as required by U.S. Law. This Website will not include information that can identify you. At most, the Website will include a summary of the results. You can search this Website at any time.

1. Why are you being asked to take part in this research study?

You are being asked to take part in this research study because you have been diagnosed with breast cancer and will be having a lumpectomy (surgery) to remove the cancer. You and your doctor have selected partial breast irradiation (PBI) for your treatment, a type of breast radiation therapy given only to the area of the breast where the cancer was removed.

The plan is to have approximately 168 people take part in this study at Mayo Clinic.

2. Why is this research study being done?

This research is being done to determine whether a regimen of 3 daily treatments of radiation given only to the area of the breast where the cancer was removed is safe, effective, and produces fewer side effects compared to results expected with standard treatments consisting of radiation to the whole breast. This study is also being done to learn about the feelings women have about how their breasts look after surgery and radiation therapy with 3 daily treatments.

There are three different methods of delivering radiation that are being used in this study: 3 Dimensional (3D)-Conformal PBI, proton PBI, and brachytherapy (bray-key-THAIR-uh-pee, defined as the use of implants of radioactive material at the treatment site) PBI. Currently, there is no evidence that any of the 3 methods of delivering radiation to the area where the cancer was removed are better than the other.

You and your physician will decide on which method you will receive. If you can receive more than 1 type of treatment, you and your doctor will choose which type is best for you while taking into consideration the best radiation and the best option financially for you.

3. How long will you be in this research study?

You will be on the study for five years. The duration of the radiation therapy will be 3-5 days. Follow-up visits will be scheduled 12 weeks post radiation; 12 months post radiation, and then yearly up to 5 years from the end of radiation therapy.

4. What will happen to you while you are in this research study?

If you agree to be in this study, you will need to have the following exams, tests, and procedures. These may be part of regular cancer care and may be done even if you do not join this study.

- History and physical exam, including a breast assessment/exam
- Mammogram if one has not been done in the last 6 months
- Questionnaires

- Digital Photograph
- Radiation Toxicity Assessment
- Serum pregnancy test (if you are of child-bearing potential)
- Blood specimen collection

If you consent to be on this study, Rochester and Arizona patients will also be required to consent to participate in a Mayo Clinic Department of Radiation Oncology registry and collect the involved blood specimen prior to the start of radiation therapy. We hope these samples will help us learn more about why some patients develop side effects from radiotherapy and will be used for future research purposes.

During the study:

- If you undergo brachytherapy, a brachytherapy catheter (small, thin tube) device will be placed at the time of your lumpectomy surgery in the area of where the tumor had been. The size and number of tubes in the device will depend on the size of your breast and the size of the area where the tumor had been. 1-3 days after your surgery, you will undergo a CT scan of the breast to be used by your doctor to plan your radiation treatment. On the day of your first treatment (generally the next business day after the radiation planning CT scan) the ends of the tubes extending from the side of your breast will be connected to a special machine. The radiation therapy dose is delivered by a radioactive seed as it travels through each tube. The seed will be removed at the end of each treatment which lasts approximately 5 minutes. The tubes will stay in your breast until the 3 daily radiation therapy treatments are done. Radiation does not stay in your body between treatments or after the final treatment.
- If you undergo 3D-conformal or proton PBI you will undergo a lumpectomy surgery to remove the tumor. After enough time has passed for your breast to have healed (generally at least 2 weeks), you will undergo a CT scan of the breast to be used by your doctor for radiation treatment planning. 3D-conformal and proton PBI uses a beam to deliver the radiation therapy dose. It is pointed to the place in your breast where the cancer was removed. Your treatments will start 2-10 weeks after your surgery. Each treatment lasts for about 10 minutes and will be given over three consecutive business days. Radiation does not stay in your body between treatments or after the final treatment.
- For research purposes, a portion of the tissue removed during your lumpectomy will be used in the study.

Last day of Radiation Therapy:

- Obtain a history and physical exam, including a breast assessment/exam
- Questionnaires
- Digital Photograph

- Radiation Toxicity Assessment
- Blood specimen collection

An additional research blood sample will be drawn for study purposes.

Follow up Post Radiation Therapy for all therapy choices:
The following tests and assessments will be performed during the follow up visits at about 3 months after the completion of your treatments, and again about every year after finishing radiation for up to 5 years after the completion of your treatments.

- Obtain a history and physical exam, including a breast assessment/exam
- Questionnaires
- Digital Photograph
- Radiation Toxicity Assessment
- Recurrent tumor sample (if applicable)

Quality of Life/Cosmesis Study
You will be asked to fill out questionnaires that will take about 10 minutes to complete. This questionnaire will allow us to gather information from you about things like how your breast looks and feels after treatment, how satisfied you are with the appearance of your breast after your surgery and radiation therapy, and how you are able to carry out your day-to-day activities.

We hope that you will answer all of the questions, but if any questions make you uncomfortable, you may skip those questions and not give an answer. The questionnaires may be correlated with outcomes found in this study.

Your study doctor will also fill out questionnaires that ask for a medical opinion of the appearance of your breasts before and after completion of your therapy. They will be completed at the study visits that include a breast assessment/exam.

Digital Photograph
Photographs of your breasts will also be taken during these same visits. The photographs will only include your breasts. Your face will not be in the photos and your name and other personal information will not be given out. These photos will be checked only by the doctors in charge of this study. The study doctors' opinions about the appearance of your breast will be compared to your opinion.

This information will help doctors better understand how patients feel during treatments and what effects the radiation therapy is having. In the future, this information may help patients and doctors as they decide what radiation therapy to use to treat breast cancer.

You may change your mind about completing the questionnaires or having the photos taken of your breasts at any time. It will not affect your taking part in this study.

5. What are the possible risks or discomforts from being in this research study?

Risks and side effects related with 3D-conformal and proton external beam breast radiation therapy given only to the area of the breast where the cancer was removed:

Likely *(these side effects occur in **10% or more** of patients):*

- Reddening of the skin during treatment and for several weeks following treatment
- Tanning of the skin lasting months and may be permanent
- Slightly smaller breast size or change in the way the breast looks
- Tiredness and weakness during treatment and for several weeks following treatment
- Swelling of the breast
- Peeling of the skin in the area treated with radiation
- Mild pain at the site of radiation treatment requiring over the counter pain relievers

Less Likely *(these side effects occur in **3-9%** of patients):*

- Soreness of tightness in muscles of the chest wall under the treated breast
- Severe pain at the site of radiation requiring prescription pain relievers

Rare but serious *(these side effects occur in less than **3%** of patients):*

- Cough
- Difficulty breathing
- Inflammation of the heart muscle
- Rib fracture
- Slight increase in risk of developing heart disease for patients with cancer in the left breast
- Risk of developing another cancer due to radiation therapy

Risks and side effects related to brachytherapy radiation given only to the area of the breast where the cancer was removed:

Likely *(these side effects occur in **10% or more** of patients):*

- Mild redness of the skin over the treatment area
- Mild scar tissue
- Flaking or peeling of dry skin over the treatment area
- Slightly smaller breast size or change in the way the breast looks
- Swelling of the breast
- Bruising
- Mild breast pain

Less Likely *(these side effects occur in **3-9%** of patients):*

- Infection
- Small visible blood vessels on the skin surface over the treatment area
- Increased firmness of the breast tissue
- Slight change in color of the skin over the treatment area
- Thickening of the skin over the treatment area
- Damaged fat cells in the breast that cause a red, swollen, or tender are in the breast. (These damaged cells may look like a tumor and a biopsy may be needed.)

Rare but serious *(these side effects occur in less than **3%** of patients):*

- Severe scar tissue
- Breast pain lasting a long time
- Severe infection
- Punctured lung
- Risk of developing another cancer due to radiation therapy

Many side effects go away shortly after the radiation is stopped, but in some cases side effects can be serious, long lasting, or may never go away. There may be a risk of death. Some side effects may not be known. Side effects may range from mild to life-threatening. Drugs may be given to make side effects less serious and less uncomfortable. Talk to the researcher and/or your healthcare provider about side effects and ask any other questions.

Blood Draw Risks:
The risks of drawing blood include pain, bruising, lightheadedness, and/or fainting, or rarely, infection at the site of the needle stick.

Reproductive risks:
You should not become pregnant while undergoing radiotherapy on this study because the radiation therapy in this study can affect an unborn baby. Women should not breastfeed a baby while on this study. If you are a woman able to have children and have not been surgically

sterilized (tubal ligation or hysterectomy), you should have a pregnancy testing 7 days prior to registration and agree to use acceptable birth control (see list below). A pregnancy test will be done as part of your normal clinical care. If you are pregnant, you will not be allowed to participate. You should not become pregnant while on this study, but if you should become pregnant while you are on this study, you must tell your study doctor immediately. Ask about counseling and more information about preventing pregnancy.

If you are sexually active and able to become pregnant while undergoing radiotherapy on this study, you must agree to use one of the birth control methods listed below:

- Approved hormonal contraceptives, such as birth control pills, patches, injections, vaginal ring, or implants
- Barrier methods (such as a condom or diaphragm) used with a spermicide (a foam, cream, or gel that kills sperm)
- An intrauterine device (IUD)
- Abstinence (no sex)

Future Testing Risks:

If you agree later in this consent to give your samples for future research some future studies may examine your DNA, which is the genetic information you inherited from your parents (genetic testing).

1) Loss of privacy: There is a small chance that your personal medical information could accidentally be spread. We cannot guarantee that your information will not be released. In this case, information could potentially be used to discriminate against you. A federal law, the Genetic Information Nondiscrimination Act (GINA), makes it illegal for employers and insurers to use certain kinds of information about your genes to discriminate against you. This law generally will protect you in the following ways:

- Health insurance companies and group health plans may not request your genetic information that we get from this research.
- Health insurance companies and group health plans may not use your genetic information when making decisions regarding your eligibility or premiums.
- Employers with 15 or more employees may not use your genetic information when making a decision to hire, promote, or fire you or when setting the terms of your employment.

All health insurance companies and group health plans must follow this law.

Be aware that this new Federal law doesn't protect you against genetic discrimination by companies that sell life insurance, disability insurance, or long-term care insurance.

2) Risks related to test results:

- **Deciding whether to learn results**: If researchers believe they have valuable test results, then they will ask the Radiation Oncology group if the results are something that should be given to participants. This group will also decide the best way to return results to participants.

- **Learning test results**: The risks of learning results can include emotional upset, changes in family relationships, insurance or job discrimination. It may be necessary to return to Mayo Clinic to meet with a health care professional to get test results.

6. Are there reasons you might leave this research study early?

You may decide to stop at any time. You should tell your doctor if you decide to stop and you will be advised whether any additional tests may need to be done for your safety.

In addition, your doctor, the Principal Investigator or Mayo Clinic may stop you from taking part in this study at any time:

- if it is in your best interest,
- if you don't follow the study procedures,
- if the study is stopped.

If you leave this research study early, or are withdrawn from the study, no more information about you will be collected; however, information already collected about you in the study may continue to be used.

We will tell you about any new information that may affect your willingness to stay in the research study.

7. What if you are injured from your participation in this research study?

Where to get help:

If you think you have suffered a research-related injury, you should promptly notify the Principal Investigator listed in the Contact Information at the beginning of this form. Mayo Clinic will offer care for research-related injuries, including first aid, emergency treatment and follow-up care as needed.

Who will pay for the treatment of research related injuries:

Care for such research-related injuries will be billed in the ordinary manner, to you or your insurance. You will be responsible for all treatment costs not covered by your insurance, including deductibles, co-payments and coinsurance.

8. What are the possible benefits from being in this research study?

Taking part in this study may or may not make your health better. While researchers hope that this method of administering radiation therapy over 3 days will be as safe and effective against cancer compared to the usual treatment given over a longer period of time, there is no proof of this yet. We do know that the information from this study will help researchers learn more about using larger daily doses of radiation therapy for fewer treatments in a shorter period of time as a treatment for cancer. This information could help future cancer patients.

9. What alternative do you have if you choose not to participate in this research study?

You don't have to be in this study to receive treatment for your condition. Your other choices may include:

- Getting radiation therapy treatment for your cancer without being in a study
- Taking part in another study
- Getting no treatment.

Talk to the Principal Investigator or your doctor if you have any questions about any of these treatments or procedures.

10. What tests or procedures will you need to pay for if you take part in this research study?

If you have billing or insurance questions, call Research Billing at the telephone number provided in the "Contact Information" section of this form.

You and/or your insurance will need to pay for tests and procedures that are part of this research study because they are needed for your regular medical care. You and/or your insurance might also have to pay for other drugs or treatments given to help control side effects. Before you take part in this study, you should call your insurer to find out if the cost of these tests and/or procedures will be covered. In some cases, insurance will not pay for services ordinarily covered because these services were performed in a research study. You will have to pay for any costs not covered by your insurance. Therefore, taking part in this research study may lead to added costs to you. Discuss the costs that will or will not be covered with your doctor.

You won't need to pay for tests and procedures which are done just for this research study. These tests and procedures are:

- Venipuncture to obtain blood specimen
- Obtaining/storing tumor tissue and creating slides

11. Will you be paid for taking part in this research study?

You will not be paid for taking part in this study.

12. What will happen to your samples?

We would like to keep some of the tissue that is left over from your diagnostic evaluation, your lumpectomy surgery, and any future surgeries that relate to your breast cancer for future research. Along with the baseline blood sample we would like to collect an additional 3 teaspoons of blood for research when you finish treatment. If you agree, your tissue and blood will be kept and may be used in research to learn more about cancer and other diseases.

Researchers at other institutions may ask for your sample for future research studies. Your sample will be sent to the Researcher in a coded format, which protects your identity.

Some of the future studies may examine your DNA, which is the genetic information you inherited from your parents (genetic testing). The Principal Investigator may contact you if there are findings which may be useful for your health care. You would be given general information on the potential risks, benefits, and costs of choosing to learn about the findings.

Please read the following statements and mark your choices:

1. I permit Mayo Clinic to collect and store my tissue sample(s) to be used in future testing for the study and for future breast cancer research.

☐ Yes ☐ No Please initial here: _____ Date: _____

2. I permit Mayo Clinic to collect and store my blood sample(s) to be used in future testing for the study and for future breast cancer research.

☐ Yes ☐ No Please initial here: _____ Date: _____

3. I permit Mayo Clinic to give my sample(s) to researchers at other institutions:

☐ Yes ☐ No Please initial here: _____Date: _____

There is a very small chance that some commercial value may result from the use of your donated sample. If that happens, you won't be offered a share in any profits.

You may request to have your sample destroyed by writing to the Principal Investigator at the address provided in the "Contact Information" section of this consent form.

Because we cannot predict how your sample will be used in the future, we cannot promise that samples can be retrieved and destroyed.

13. How will your privacy and the confidentiality of your records be protected?

Mayo Clinic is committed to protecting the confidentiality of information obtained about you in connection with this research study.

We will do our best to make sure that the personal information in your medical record will be kept private. However, we cannot guarantee total privacy. Your personal information may be given out if required by law. If information from this study is published or presented at scientific meetings, your name and other personal information will not be used.

During this research, information about your health will be collected. Under Federal law called the Privacy Rule, health information is private. However, there are exceptions to this rule, and you should know who may be able to see, use and share your health information for research and why they may need to do so. Information about you and your health cannot be used in this research study without your written permission. If you sign this form, it will provide that permission.

Health information may be collected about you from:

- Past, present and future medical records.
- Research procedures, including research office visits, tests, interviews and questionnaires.

Why will this information be used and/or given to others?

- To do the research.
- To report the results.
- To see if the research was done correctly.

If the results of this study are made public, information that identifies you will not be used.

Who may use or share your health information?

- Mayo Clinic research staff involved in this study.

With whom may your health information be shared?

- The Mayo Clinic Institutional Review Board that oversees the research.
- Researchers involved in this study at other institutions.
- Federal and State agencies (such as the Food and Drug Administration, the Department of Health and Human Services, the National Institutes of Health and other United States agencies) or government agencies in other countries that oversee or review research.
- The sponsor(s) of this study and the people or groups it hires to help perform this research.
- A group that oversees the data (study information) and safety of this research.

Is your health information protected after it has been shared with others?

Mayo Clinic asks anyone who receives your health information from us to protect your privacy; however, once your information is shared outside Mayo Clinic, we cannot promise that it will remain private and it may no longer be protected by the Privacy Rule.

Your Privacy Rights

You do not have to sign this form, but if you do not, you cannot take part in this research study.

If you cancel your permission to use or share your health information, your participation in this study will end and no more information about you will be collected; however, information already collected about you in the study may continue to be used.

If you choose not to take part or if you withdraw from this study, it will not harm your relationship with your own doctors or with Mayo Clinic.

You can cancel your permission to use or share your health information at any time by sending a letter to the address below:

Mayo Clinic
Office for Human Research Protection
ATTN: Notice of Revocation of Authorization
200 1st Street SW
Rochester, MN 55905

Alternatively, you may cancel your permission by emailing the Mayo Clinic Research Subject Advocate at: researchsubjectadvocate@mayo.edu

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Please be sure to include in your letter or email:

- The name of the Principal Investigator,
- The study IRB number and /or study name, and
- Your contact information.

Your permission lasts forever, unless you cancel it.

ENROLLMENT AND PERMISSION SIGNATURES:

Your signature documents your permission to take part in this research.

Printed Name Date (mm/dd/yyyy) Time (hh:mm am/pm)

Signature

Person Obtaining Consent

- I have explained the research study to the participant.
- I have answered all questions about this research study to the best of my ability.

Printed Name Date (mm/dd/yyyy) Time (hh:mm am/pm)

Signature