

A photograph of a woman with blonde hair and glasses, smiling and holding a small, fluffy dog. The background features a Christmas tree with lights and ornaments, and a framed picture on the wall.

# Diane

## *Breast Cancer: Is It Really Mine?*

"This work reveals the hidden paths one must navigate after a breast cancer diagnosis, the deep trust placed in medical professionals, and the life-changing advances in treatment technology available today."

# Breast Cancer: Is It Really Mine?

Empowered Through Breast Cancer:  
A Comprehensive  
Guide for Patients and Caregivers

**"This work reveals the hidden paths one must navigate after a breast cancer diagnosis, the deep trust we placed in our medical professionals, and the life-changing advances in treatment technologies that are available today."**

**By Diane Cambiano**

**&**

**Luis A. Martinez**

## Introduction:

My decision to write this book did not emerge from a distant academic interest or casual curiosity - it was born out of a deep, personal journey... Breast Cancer, in all its complexity, has profoundly affected my life, my family, my work, and my worldview... I have walked beside patients, families, and clinicians through moments of fear, resilience, and hope. Each encounter, each story, has left an indelible imprint on me, compelling me to explore and ultimately share what I have learned - not only as a writer, but as a fellow human being committed to healing, understanding, and sharing the truth.

My professional background has immersed me in the world of Oncology, particularly Breast Cancer. Whether through clinical collaboration, research, or patient advocacy, I have seen firsthand the courage of those diagnosed and the determination of those who care for them. But beyond the clinical charts and scientific data, it is the human side of cancer that compels this book: the questions patients ask in quiet moments, the conversations whispered in waiting rooms, the courage behind a second opinion, and the power of information to calm the storm of uncertainty.

This book is not a technical manual, though you will find accurate, evidence-based information throughout. Nor is it just a memoir, though it includes stories and reflections shaped by real-life encounters. It is, instead, a comprehensive companion: a blend of science, personal insight, and practical guidance. It is for those who are newly diagnosed, those supporting a loved one, and those who simply want to understand this disease better. It's also for those seeking hope – that one day we will live in a cancer-free world. Everyday there is some new discovery that could help others to live their best, healthy life.

I believe that knowledge is power - but only if delivered with compassion. The breast cancer journey is never linear. It is deeply personal and often unpredictable. My goal in writing this book is to offer a steady voice in what can feel like a whirlwind of doctor appointments, decisions to be made, and all kinds of emotions. I want to empower you not only with knowledge but also with perspective - so you can navigate your journey with clarity and dignity, no matter where you are in the process.

This book is also a tribute to every woman and man who has faced breast cancer with grit and grace. To every family member who has stayed up late Googling medical terms, they never wanted to learn – and the photos and accompany them – are almost always frightening! To every physician, nurse, radiologist, medical technician, and researcher who gives their best, day after day. And to every person who has ever wondered, “What now?” - This book is for you.

As you turn these pages, I invite you to pause, to reflect, and to ask questions. You do not walk this road alone... My hope is that through the information provided in this book, stories told, and the strategies contained here, you will find not only answers - but courage, hope, clarity, and a renewed sense of control over your health and your future.

With respect, empathy, and unwavering commitment,

Diane Cambiano



501c3  
Genesis

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## Prologue:

Breast cancer. Two words that carry the weight of fear, confusion, urgency, and for many, life changing transformation. They arrive like an unexpected storm - spoken in a doctor's office, delivered through a mammogram result, an urgent phone call from your physician's office, or whispered by a loved one. In that moment, your life priorities life instantly. Your priorities reorder themselves. You instantly worry about your family, your pets, your friends - everything you hold near and dear to your heart - being taken away... Time takes on a different texture. And suddenly, a deeply personal journey begins - one that is medical, emotional, frightening, and profoundly human.

This book begins in that moment. Not just with my diagnosis, but with everything that comes afterwards. The questions. The decisions. The research. The answers... The medical vocabulary that feels like listening to a foreign language from some unknown country. The medical systems that feels overwhelming. The fear of the unknown and the search for something steady in the chaos.

Breast cancer is not a singular experience. It is not defined by one symptom or one treatment plan. It is a spectrum of diseases, paths, outcomes, and human experiences. It affects people of every age, race, sex, and background. It touches not only those who are diagnosed, but their families, friends, caregivers, and their entire communities. This disease has long been a subject of research, debate, and advocacy - and rightly so. But beyond the scientific studies and statistics lie the real stories, the real bodies, and the real hearts - navigating a diagnosis that changes everything in their lives, forever...

This book was written to bridge that divide - between medical complexity and the human experience. Between fear and informed choices. Between isolation and empowerment. It was written to be the book that patients, their caregivers, and even medical professionals often wish existed: an honest, accessible, compassionate, and practical guide.

It is not here to make promises. There is no one-size-fits-all roadmap. But what it offers is a clear and careful unpacking of breast cancer in all its forms - from early detection to treatment(s), survivorship, and even life after cancer. It presents the science in a way that informs without overwhelming. It shares real stories that inspire without sugar-coating the truth. And it offers tools, strategies, and reflections that support - not just in body, but in spirit and mindset.

The pages ahead were built on years of listening to patients, to clinicians, to medical researchers, and to their families. It reflects not just knowledge, but empathy. Because behind every biopsy, every scan, every treatment plan - there is a real person involved. A whole, complex, courageous person - facing something they never asked for. And they deserve more than facts - they deserve a guide.

In reading this book, you are stepping into a space of both information and support. Whether you are newly diagnosed, navigating survivorship, supporting someone you love, or simply wanting to understand more about this disease, this is your place. Let it educate you. Let it challenge you. Let it comfort you. Let it guide you...

Because breast cancer is not the end of the story. In many ways, it is the beginning of a different one - one of hope, strength, resilience, choice, and healing.

Welcome to that journey. You're not alone in it.

Diane Cambiano



**Our Little Lizzy**

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## Dedication:

To our loving families and all of our dear friends:

Your unwavering support, strength, hope, and love have carried me through the most challenging moments of this journey. You stood beside me when fear crept in, when decisions became overwhelming, and when silence said more than words ever could. This life-changing experience has given us both a much deeper, more profound perspective on the precious and fragile nature of our time on this earth. I am endlessly grateful for your presence, your patience, and your heart.

Your kindness, encouragement, and unique ways of showing your support have made a lasting imprint on my spirit and my heart. Whether through quiet prayers, thoughtful gestures, delicious meals, or simply being there when I needed you most, your love has been a source of light in my darkest hours. These acts of compassion will never be forgotten. Luis & I will be forever grateful to each of you, for your selflessness, encouragement, time and prayers.

A special dedication to our dear friends of many years:

Harry McDermott, Esq.—the Renaissance Man: an accomplished attorney, artist, drummer, poet, yoga master, old soul, and so much more—and his beautiful wife, Beaucion.

You have both been gracious, kind, and unwaveringly supportive friends to us through all times. We love you both deeply. Congratulations, Harry, on your marriage to such a wonderful lady.

Father Clement Machado  
Christopher, Mary Wilkenson and Wilks Grant Cambiano  
Mark Cambiano  
Suady Martinez Theoharis  
Feiga Martinez Noberini  
Joseph and Sheri Kilgore  
Phil, Wendy and Fred Rushing  
And many more...

I love you all. Thank you for being part of my life and my healing.

Diane Cambiano



Our Chloe

## Narrative:

### The Moment Everything Changed:

I still remember the exact moment - the temperature in the room, the way the light filtered through the window, the slight tremble in the doctor's voice. Time seemed to stretch thin, as though the world itself paused to make space for the words I was about to hear. *"You have breast cancer - and it's malignant..."* I was in total disbelief! I suppose most people are...

In that instant, everything I thought I knew about life, health, and certainty unraveled. It didn't matter how strong I'd been, how organized or optimistic. Nothing prepares you for those words. They don't just land in your ears - they echo through your bones. I repeated their words three times - I thought I misunderstood - or perhaps they had mistakenly read someone else's chart. I really was in a state of disbelief - after all I was healthy, thin, exercised always took my vitamins, got plenty of sleep, stayed hydrated, and ate healthy, well-balanced meals (except for my love for all things chocolate...) I was a social drinker... I thought I was fine - well, actually better than fine - I thought I was very healthy. The only thing I really noticed was that I was tired a lot of the time - I felt like I was physically moving slower than my normal fast-paced self. But, then I thought - okay, I'm getting older - so now I'll move like "everyone else"... Really, that is when I should have known something was seriously "off" - denial is a strong force of nature.

I had gone in for what I believed would be a routine appointment at my local Mana Clinic. A precaution: a responsible checkbox on the endless list of things we're told to do for our health. I wasn't afraid. I wasn't even worried. I told myself it was probably nothing. But deep down, maybe a small voice whispered otherwise... One that we often silence in favor of comfort.

What quickly followed was a whirlwind - scans, tests, second (& third opinions), and many sleepless nights. There was paperwork, there were new faces, and clinical terms I had to learn quickly, and a thousand decisions that suddenly carried the weight of my future. But beneath the medical protocol, beneath the statistics and appointments, there was something even more overwhelming: the emotional reckoning.

I grieved, quietly and deeply - not just for my health, but for the version of myself that had existed the day before. The woman who thought she was safe, healthy and "whole"... The woman who hadn't yet questioned her mortality. I had to face not just a malignant disease, but a new identity: *Cancer patient*.

Yet within that fear, clarity began to emerge. I realized that I had a choice - not in the diagnosis, but in how I would face it. I chose not to be silent. I chose to learn, to ask questions, to challenge, and to advocate for myself. I chose to document my journey - not out of vanity, but out of a desire to connect, to create meaning, and to help someone else walking a path - I never expected to travel, nor does anyone choose too. It's hard - emotionally, mentally, physically, spiritually... it takes a toll on you - and your loved ones - including your beloved pets - in my case, our three dogs. Especially, our little Yorkie, Lizzy - who was born in our home and had never been away for Luis or myself.

I know this may seem odd to someone that isn't an animal lover as much as Luis & I both are - but, it was excruciatingly hard on me.

This chapter of my life did not begin as a story I wanted to tell. But over time, it became one I needed to share. Because in the midst of uncertainty, I discovered my own inner strength. In the presence of pain, I found perspective. And through every scan, every surgery, and every tear, I held on to one powerful truth: *This Breast Cancer diagnosis may shape my story, but it will not define my worth.*

Diane Cambiano



Illustration by Our Dear Friend and Renowned Artist, Harry McDermott

## **Collaboration:**

I would like to thank all of my family and friends who for providing the assistance in creating this novel, that has become such an important life-changing episode of my life now and forever.

Luis A. Martinez and Harry McDermott who have done a wonderful job with the content of this book and illustrations.

Diane Cambiano

*“You may not control the storm, but you can choose how you face it.*

*And in that choice, there is power.”*

— Unknown

# Chapter 1

## **The Journey Begins:**

## The Breast Cancer Journey:

It all began with a call from the radiology center where I've received my yearly mammograms for many years. This time, the results of my latest scan raised concern. Fortunately - or perhaps fatefully - my personal connection with the young gregarious radiologist led her to take an extra step during her internal review. She noticed an irregular marking on my Mammogram that others may have missed. I feel very fortunate to have had this young lady – I still think she played a huge part in saving my life. I think of her often, as I do the many caring physicians and nurses, I've been blessed to have met on this scary journey...

I still remember that moment vividly. A rush of emotions filled me - confusion, fear, uncertainty. I wondered silently: *What is happening inside my body? Why Me? How long as it been there – trying to kill me?*

The next step was to schedule a biopsy. Unfortunately, the biopsy confirmed what no one ever wants to hear: "You are positive for cancer cells in your breasts. Your left breast has aggressive, malignant cancer cells and your right breast has benign aggressive cells, as well". My world as I knew it suddenly turned upside down.

From that moment on, I began navigating a path filled with unfamiliar medical terminology, new medical protocols, more tests, and a flood of internal fears and insecurities. Each day brought more questions - so many questions - rattling my mind to the point of emotional and physical exhaustion. *Where do I start? Who do I trust with my life? Which doctor do I see first? Which doctor really sees me as a vital person – not just another patient in their office?*

The process began. I met a highly recommended doctor who brought Luis & I immediate comfort. He was calm, kind, and reassuring - an experienced professional with wise eyes and excellent bedside manner. As he explained the road ahead in detail, I realized how radically my life was about to change. I had lived a privileged, healthy life until this point - but now, everything had shifted. I was really so sad for the life I had taken for granted – my health, I just always assumed I would live to be a ripe old age, like my great grandmother, Sally. She passed at age 94.

Interestingly, my diagnosis revealed that this cancer had been slowly developing inside my breast for over eight years. That revelation shook me. *How could something go unnoticed for so long???* After years of painful mammograms, how had none of the previous radiologists detected this? I still struggle with this conclusion...

The answer, I would come to learn, is complex. Mammograms - though standard - do not detect every form of breast cancer. Furthermore, the outcomes are influenced by the training, skill, and attentiveness of the radiologist reading your scan. Add to this the limitations of aging equipment and outdated protocols, and it's no wonder things can be missed. While artificial intelligence (AI) is emerging as a powerful tool in image analysis, it has yet to be fully adopted. Who knows when it will actually work like we're all hoping?

Mainstream medicine still relies on tried-and-true mammogram hardware - technology that is costly to upgrade and requires significant retraining for technicians, and physicians alike. As a result, the transition to more accurate diagnostic tools has been slow. This raises an important question: *If traditional mammography is no longer the*



*most effective tool, then why is it still the “gold standard” for routine screenings, especially when better, high-resolution technologies now exist?*

Once the diagnosis was confirmed, I began building my team of medical professionals - an Oncologist to coordinate my care, a Oncology Surgeon to discuss a lumpectomy on the benign breast - or a Bilateral Mastectomy, a Plastic Surgeon for my reconstruction, and a radiologist for post-operative clearance and recovery. It took us awhile for us to find our “Team” – but, it was worth the work.

Choosing the right doctors became our “Mission”. I quickly learned that comfort, clean communication, and trust were just as vital as their credentials. We met with one surgeon who was nearing retirement; though experienced, he would not be present for the full process. This revealed another challenge:

If you choose a “seasoned doctor”, they may not be up to date with the latest technologies. And, if you choose a younger physician, they might lack the experience. You must find a balanced expert – one that is knowledgeable in both medical tradition and emerging innovation. An “*Angel in Scrubs*”.

Our search led us to another reputable Oncology Surgeon and Plastic Surgeon, both of whom recommended an aggressive surgical approach, including a complex flap surgery. After listening carefully, we realized their approach didn’t align with our goals or logic. We chose to seek a second opinion - and we’re glad we did.

If a patient undergoes a sonogram, an MRI, and a biopsy (with markers), and is prescribed an estrogen-blocking medication for five months, wouldn't it be logical to schedule a follow-up MRI - before surgery in order to assess the medication's impact? Estrogen blockers profoundly alter the body's chemistry - much like the effects of menopause - and may significantly affect tumor(s) size or behavior. By the way, the five month treatment of the estrogen blocker did indeed reduce the size of the Malignant Lobular Tumor from 5.5cm to 2cm, as stated in the last pathology report.

In the end, we did changed medical providers. Our new surgeons agreed that radical surgery was unnecessary. Flap surgery, he explained, should be reserved for secondary procedures, in cases where alignment or reconstruction fails.

Initially, we had hoped to complete both the mastectomy and reconstruction in one procedure. However, the best path forward for me involved placing “tissue expanders” in first, for healing and optimal recovery. That is the stage we are currently in now - living with these rather painful tissue expanders and preparing for the “Next Chapter: Radiation”.

This next phase brought another steep learning curve. We discovered that there are two primary forms of Radiation Therapy:

**Photon Radiation** – The older, more common method, which penetrates through the entire body and can expose major organs (like the heart and lungs) to long-term, accumulative radiation.

**Proton Radiation** – A more advanced method that delivers highly targeted radiation therapy directly to the tumor itself, with minimal impact on surrounding tissues.

The differences are significant - not just in safety matters, but also in treatment duration and intensity. (We've outlined those in a dedicated section later in this book.)

One more thing must be emphasized: Nutrition is crucial during this journey. The body's strength, resilience, and recovery all hinge on what you put into it - especially during radiation and medication phases.

This journey has been one of the greatest challenges of my life. Yet through fear, uncertainty, and tough decisions, I've learned, adapted, and grown. This story isn't over. In fact, we'll share more about our progress - and the outcomes of radiation therapy in a future volume.

For now, we continue forward. Stronger, wiser, and ever hopeful - to our wonderful and trusted Physicians, Surgeons & Nurses that work their best to keep us strong and healthy.

We hope that you find the information we have provided in this book, to be helpful through your own journey.

God Bless.

## **Chapter II**

### **Recent Insights!**

## **Here are detailed insights into recent advances in Nanotechnology for Breast Cancer Treatments, supported by research findings:**

### **1. Nano-Immunotherapy:**

Nano-immunotherapy enhances the body's immune system to fight cancer more effectively. Studies show that nanoparticles can deliver immunogenic cell death (ICD) promoters, boosting the immune response. For example, UCLA researchers developed nanocarriers combining chemotherapy (doxorubicin) and Immunotherapy agents to convert breast cancer from an immune "cold" state (unresponsive) to "hot" (responsive), enabling more effective treatment with immune checkpoint inhibitors. These nanoparticles target tumors precisely, minimizing side effects while activating cancer-killing T-cells.

### **2. Targeted Chemotherapy and Radiotherapy:**

Nanoparticles can deliver drugs directly to tumor sites with greater precision. For instance, Polymeric Nanoparticles loaded with drugs like paclitaxel improve therapeutic delivery and reduce damage to healthy tissues. These carriers release their payload in response to specific stimuli, such as radiation, enhancing the effectiveness of chemotherapy and radiotherapy while minimizing toxicity. Recent studies have demonstrated their potential in addressing metastatic breast cancer, a challenging area of treatment.

### **3. Photodynamic Therapy (PDT):**

PDT utilizes Nanoparticles embedded with photo sensitizers that generate reactive oxygen species (ROS) when activated by light, targeting cancer cells selectively. Advanced systems incorporate nanoparticles capable of converting X-rays into light, allowing PDT to treat tumors deep within the body. Research highlights its promise for breast cancer therapy, especially in cases resistant to traditional treatments.

### **4. Nanovaccines:**

Nanovaccines combine tumor antigens and immune-boosting agents to "train" the immune system to recognize and eliminate cancer cells. Current innovations include cell-derived nanoparticles that stimulate T-cells to target HER2-positive breast cancer, a subtype known for its aggressive nature. These technologies are being tested in preclinical and early clinical trials, showing significant potential in reducing tumor recurrence and metastasis.

Each of these technologies represents significant strides in making breast cancer treatments more precise and less invasive.

## Nanotechnology-based Cancer Treatments:

Several organizations and institutions are actively developing and providing nanotechnology-based cancer treatments, particularly for breast cancer. Here are some key providers and contacts:

1. MD Anderson Cancer Center

MD Anderson is a leader in immunotherapy and Nanotechnology for cancer treatments. They are conducting clinical trials for nanoparticle-based delivery systems, particularly for advanced breast cancer. You can contact their oncology department for more details on ongoing research and clinical trials.

Website: [MD Anderson Cancer Center](#)

2. Northeastern University Nanomedicine Research

Northeastern University is advancing time-released immunotherapy treatments using Nanomedicine. Their work focuses on improving the quality of life for patients with advanced breast cancer by reducing the frequency of treatments.

Contact: Needa Brown, Director of the Nanomedicine Graduate Certificate Program

Website: [Northeastern University](#)

3. National Cancer Institute (NCI)

The NCI supports research on Nanoparticle-enabled therapies for cancer, including photodynamic therapy and targeted chemotherapy. They provide extensive resources and information on current advancements and partnerships.

Website: [NCI](#)

4. Cytimmune Sciences

This company specializes in Nanoparticle-based drug delivery systems and has several products in development targeting breast cancer. Their focus includes combining chemotherapy agents with nanoparticle carriers for targeted delivery.

Website: [Cytimmune Sciences](#)

5. AstraZeneca

AstraZeneca is exploring Nanoparticle applications for immunotherapy and chemotherapy enhancement, collaborating with research institutions on breast cancer trials.

Website: [AstraZeneca](#)

For more detailed contacts or further exploration into clinical trials and specific technologies, you can consult clinical trial registries or directly reach out to these organizations. Many institutions also provide referral services to guide patients to relevant programs.

## **Chapter III**

### **Top Cancer Centers Globally**

## Top Cancer Centers Globally

### United States

1. **MD Anderson Cancer Center (Houston, Texas)**
    - Consistently ranked among the best in cancer care.
    - Leader in immunotherapy, precision medicine, and clinical trials.
  2. **Memorial Sloan Kettering Cancer Center (New York City, NY)**
    - World-renowned for specialized oncology services.
    - Strong focus on genomics, cell-based therapies, and patient-centered care.
  3. **Dana-Farber Cancer Institute (Boston, MA)**
    - Affiliated with Harvard Medical School.
    - Pioneering cancer genetics and pediatric oncology.
  4. **Mayo Clinic Cancer Center (Rochester, MN)**
    - Integrates clinical care and research.
    - Known for personalized treatment plans and patient satisfaction.
  5. **Fred Hutchinson Cancer Center (Seattle, WA)**
    - Leader in bone marrow transplantation and immunotherapy.
    - Collaborates with the University of Washington and Seattle Cancer Care Alliance.
- 

### United Kingdom

6. **The Royal Marsden Hospital (London & Surrey)**
    - One of the oldest and most respected cancer centers.
    - Closely tied with the Institute of Cancer Research (ICR), which conducts world-class research.
- 

### Switzerland

7. **University Hospital Zurich / Swiss Cancer Center**
    - Offers innovative clinical trials and precision oncology.
    - Known for cross-disciplinary cancer care and research.
- 

### France

8. **Gustave Roussy Institute (Villejuif, near Paris)**
    - Largest cancer center in Europe.
    - Focuses on immuno-oncology, rare cancers, and early-stage clinical trials.
- 

### Israel

9. **Weizmann Institute of Science (Rehovot)**

- A research powerhouse, not a clinical center, but critical in cancer discovery.
  - Partners with hospitals for translational research, especially in immunology and cell biology.
- 

## **Japan**

### **10. National Cancer Center (Tokyo)**

- Central to Japan's national strategy for cancer treatment.
  - Strong in molecular cancer research and early detection.
- 

## **Canada**

### **11. Princess Margaret Cancer Centre (Toronto)**

- Leading in stem cell therapy, genomics, and radiation oncology.
  - Part of the University Health Network (UHN).
- 

## **Germany**

### **12. German Cancer Research Center (DKFZ) & Heidelberg University Hospital**

- Known for combining basic and translational cancer research.
- Strong in data-driven oncology and computational biology.



## **Chapter IV**

### **Advance Breast Cancer Treatments and Clinical Trials USA:**

## Clinical Trials:

- Exploring clinical trials can provide access to innovative treatments for breast cancer. In Springdale, Arkansas, and the surrounding areas, several institutions offer such opportunities:
- Highlands Oncology Group
- Located in Northwest Arkansas, Highlands Oncology is distinguished as the only community-based Phase I Oncology clinical trial center in the state. They focus on introducing novel cancer treatments through their active research department. [OBJ]
- CARTI Cancer Center
- Based in Little Rock, CARTI collaborates with pharmaceutical companies on over 35 clinical trials aimed at advancing oncology medicine. Their research encompasses various cancer types, including breast cancer. [OBJ]
- UAMS Winthrop P. Rockefeller Cancer Institute
- Also in Little Rock, this institute offers the largest number of cancer clinical trials in Arkansas, covering a wide array of cancer types. They provide resources for patients interested in participating in clinical research. [OBJ]
- Finding Clinical Trials
- To identify clinical trials suited to your specific condition:
- ClinicalTrials.gov: A comprehensive database of privately and publicly funded clinical studies conducted worldwide. [OBJ]
- BreastCancerTrials.org: Matches patients with breast cancer-specific clinical trials based on their diagnosis and treatment history.
- Considerations Before Participating:
- Eligibility Criteria: Each trial has specific inclusion and exclusion criteria based on factors like cancer type, stage, treatment history, and overall health.
- Potential Risks and Benefits: Discuss with your healthcare provider to understand the possible advantages and side effects of participating in a trial.
- Location and Commitments: Consider the trial's location and the required time commitment, including travel, treatment schedules, and follow-up appointments.
- Engaging in clinical trials can be a proactive step toward accessing new treatments and contributing to medical research. Consult with your oncologist to determine if participating in a clinical trial aligns with your treatment goals and to receive personalized recommendations based on your medical profile.

### Advance Breast Cancer Treatments and Clinical Trials:

For advanced or recurrent breast cancer, cutting-edge treatments and clinical trials can provide promising options. Below is a breakdown of advanced treatments and guidance on finding suitable clinical trials.

#### 1. Advanced Targeted Therapies

##### HER2-Positive Breast Cancer

- Trastuzumab Deruxtecan (Enhertu):
- Antibody-drug conjugate that targets HER2-positive tumors.
- Effective in metastatic HER2-positive and HER2-low breast cancers.
- Tucatinib (Tukysa):

- Oral HER2-targeted therapy, used with Trastuzumab and Capecitabine for advanced cases.
- Neratinib (Nerlynx):
- Oral tyrosine kinase inhibitor used post-treatment to prevent recurrence.

### **Triple-Negative Breast Cancer (TNBC)**

- Immunotherapy (Checkpoint Inhibitors):
- Atezolizumab (Tecentriq) – Combined with nab-paclitaxel for metastatic TNBC.
- Pembrolizumab (Keytruda) – Approved for PD-L1 positive TNBC.
- Sacituzumab Govitecan (Trodelvy):
- Antibody-drug conjugate that delivers chemotherapy directly to cancer cells.
- Used in metastatic TNBC after prior treatments.

### **PARP Inhibitors for BRCA-Mutated Cancers**

- Olaparib (Lynparza):
- Targets tumors with BRCA1/BRCA2 mutations.
- Used after chemotherapy in metastatic settings.
- Another PARP inhibitor approved for BRCA-mutated breast cancer.

## **2. Hormone Receptor-Positive, HER2-Negative Cancers**

- CDK4/6 Inhibitors:
- Palbociclib (Ibrance), Ribociclib (Kisqali), Abemaciclib (Verzenio):
- Combined with endocrine therapy to slow progression.
- PI3K Inhibitors:
- Alpelisib (Piqray): Targets PIK3CA-mutated HR+/HER2- breast cancer.

## **3. Emerging Therapies Under Clinical Trials**

- Antibody-Drug Conjugates (ADCs):
- New ADCs are under trial to improve targeted delivery of chemotherapeutic agents to tumor cells while sparing healthy tissue.
- mRNA Vaccines and Immunotherapies:
- Ongoing research in developing personalized cancer vaccines that target tumor-specific antigens.
- Bispecific Antibodies:
- Bind to two targets, improving immune response against cancer.

## **4. Notable Clinical Trial Platforms**

To explore clinical trials, consider these platforms:

- ClinicalTrials.gov (U.S. National Library of Medicine) – Comprehensive listing of global trials.
- BreastCancerTrials.org – Matches patients with clinical trials specific to their diagnosis.
- NIH (National Institutes of Health) – Lists government-funded trials.
- Dana-Farber Cancer Institute & MD Anderson Cancer Center – Leading institutions with ongoing trials.

## **5. Finding Clinical Trials**

When searching for clinical trials:

- Use Specific Keywords: Include cancer type (e.g., “HER2-positive,” “triple-negative”), mutation status (BRCA, PIK3CA), and treatment phase (e.g., Phase II or III).
- Filter by Location: Focus on trials near your location or institutions with a strong reputation.

## 6. Genomic and Biomarker Testing for Trial Eligibility

- FoundationOne CDx or Guardant360: Comprehensive genomic profiling to identify actionable mutations.
- PD-L1, BRCA, and PIK3CA Testing: Determines eligibility for immunotherapy, PARP inhibitors, and PI3K inhibitors.

## **Breast Cancer Treatment depends on the Type, Stage, Hormone Receptor Status, and other factors.**

Below is an overview of the most common treatment options:

### 1. Surgery:

- Lumpectomy (Breast-Conserving Surgery)
- Removes the tumor and a small margin of surrounding tissue.
- Often followed by radiation therapy.
- Mastectomy
- Removes one or both breasts.
- May include a simple mastectomy (removes only the breast tissue) or a radical mastectomy (removes breast tissue, lymph nodes, and chest muscles in advanced cases).

### 2. Radiation Therapy:

- External Beam Radiation
- Targets cancer cells after surgery to reduce recurrence risk.
- Brachytherapy (Internal Radiation)
- Places radioactive seeds or pellets inside the breast near the tumor site.

### 3. Chemotherapy:

- Used to kill rapidly growing cancer cells.
- Often used for:
- Large tumors before surgery (neoadjuvant).
- After surgery to kill remaining cancer cells (adjuvant).
- Advanced or metastatic breast cancer.
- Common Drugs: Doxorubicin, Cyclophosphamide, Paclitaxel.

### 4. Hormone (Endocrine) Therapy:

- Used for Hormone Receptor-Positive (ER/PR-positive) breast cancers.
- Tamoxifen – Blocks estrogen receptors.
- Aromatase Inhibitors (AIs): Letrozole, Anastrozole, Exemestane – Reduce estrogen production.
- Ovarian Suppression: May involve medication (Leuprolide) or surgical removal of ovaries.

### 5. Targeted Therapy:

- Focuses on specific Genetic Markers or Proteins.
- HER2-Positive Breast Cancer:
- Trastuzumab (Herceptin), Pertuzumab, Lapatinib.

- PARP Inhibitors:
- Olaparib, Talazoparib for BRCA-Mutated Cancers.

### **6. Immunotherapy:**

- Boosts the immune system to attack cancer.
- Checkpoint Inhibitors: Atezolizumab and Pembrolizumab are used in some cases of triple-negative breast cancer (TNBC).

### **7. Clinical Trials:**

- Investigate new drugs, treatment combinations, and therapies.
- Often suitable for advanced or recurrent breast cancer.

### **8. Bone-Directed Therapy (for Metastatic Breast Cancer):**

- Prevents or slows down bone complications.
- Bisphosphonates: Zoledronic acid.
- RANK Ligand Inhibitors: Denosumab.

### **Treatment Plans Often Involve:**

- Multidisciplinary Team (MDT): Oncologists, surgeons, radiologists, and genetic counselors.
- Genomic Testing: May be recommended to determine treatment plans.

### **Best Treatment Options for a Particular Case:**

#### **Based on the Diagnosis of:**

- **Invasive Ductal Carcinoma (IDC), Left Breast**
- **Atypical Ductal Hyperplasia (ADH), Right Breast**
- **Current Treatment: Letrozole 2.5 mg (Aromatase Inhibitor)**

#### **1. Surgery Options:**

##### **Lumpectomy (Breast-Conserving Surgery)**

- Recommended if the tumor is localized and margins are clear.
- Followed by radiation to reduce recurrence.

##### **Mastectomy (Considered for IDC and ADH)**

- Unilateral Mastectomy: Removes affected breast.
- Bilateral Mastectomy: May be considered due to ADH in the other breast to reduce future risk.

#### **Considerations:**

- For ADH, Mastectomy may be optional but should be considered if there's a high-risk family history or BRCA mutation.

#### **2. Radiation Therapy (Post-Surgery):**

##### **Whole-Breast Radiation**

- Recommended after lumpectomy for IDC.
- Reduces local recurrence by ~50%.

- Can be considered as a shorter course of treatment.

### **3. Hormone Therapy (Ongoing Treatment with Letrozole Medication):**

Letrozole 2.5 mg (Aromatase Inhibitor)

- Ideal for hormone receptor-positive (HR+) IDC in postmenopausal women.
- Continues for 5 - 10 years to reduce recurrence risk.
- Consider Monitoring Bone Density:
- Long-term use can lead to Osteoporosis. Periodic bone density scans and calcium/vitamin D supplementation may be required.

### **4. Consider Adding CDK4/6 Inhibitors:**

Palbociclib (Ibrance), Ribociclib (Kisqali), or Abemaciclib (Verzenio)

- For HR+/HER2-negative breast cancer, adding a CDK4/6 inhibitor to Letrozole can extend progression-free survival.
- Abemaciclib: Approved for early-stage, high-risk HR+ IDC to prevent recurrence.

### **5. Addressing Atypical Ductal Hyperplasia (ADH):**

Close Monitoring or Prophylactic Surgery

- ADH increases the lifetime risk of breast cancer by 4-5x.
- Options include:
- Surveillance with Annual MRI and Mammograms
- Prophylactic Mastectomy (Optional for High-Risk Patients)

Tamoxifen or Aromatase Inhibitors for Risk Reduction

- May further reduce risk of developing invasive cancer in the contralateral breast.

### **6. Advanced Genetic Testing and Biomarkers:**

BRCA1/BRCA2 and Other Genetic Panel Testing

- Recommended if family history of breast/ovarian cancer.
- Positive Results: Consider prophylactic mastectomy or additional risk reduction options.

Oncotype DX Test (if applicable)

- Determines recurrence risk and whether chemotherapy may benefit.

### **7. Consider Clinical Trials for Newer Options:**

Clinical Trials for IDC and High-Risk Cases:

- PARP Inhibitors (Olaparib or Talazoparib): For BRCA-positive cases.
- Immunotherapy (Pembrolizumab): For triple-negative cases or PD-L1 positive IDC.

Suggested Treatment Plan Summary:

- Surgical Plan: Lumpectomy or Mastectomy-based on margins and patient preference.
- Radiation: Required after lumpectomy.
- Endocrine Therapy: Continue Letrozole 2.5 mg with monitoring.
- Consider CDK4/6 Inhibitors: If high-risk or advanced.
- Monitor ADH: With MRI or consider prophylactic mastectomy if high-risk.

## **Breast Reconstruction: Expanders vs. Implants at the Time of Cancer Surgery:**

When considering breast reconstruction after mastectomy, choosing between tissue expanders and implants at the time of surgery depends on various factors such as cancer stage, treatment plan, and personal preference. Below is a detailed comparison:

### **1. Immediate Implant Placement (Direct-to-Implant Reconstruction)**

#### **Procedure:**

- Implants (saline or silicone) are placed immediately after the mastectomy.
- Done in a single surgery, reducing overall recovery time.
- Often combined with acellular dermal matrix (ADM) for support.

#### **Advantages:**

- Single Surgery: No need for multiple procedures.
- Quicker Recovery: Faster return to daily activities.
- Cosmetic Results: Immediate breast contour post-surgery.
- Fewer Office Visits: No need for tissue expansion appointments.

#### **Disadvantages:**

- Limited Skin Stretching: Less flexibility for adjusting size.
- Higher Risk of Complications: Skin loss, capsular contracture, or infection may occur if tissues are tight or compromised after mastectomy.
- Radiation Sensitivity: Radiation therapy after implant placement increases the risk of capsular contracture and poor cosmetic outcomes.

### **2. Tissue Expanders (Two-Stage Reconstruction):**

#### **Procedure:**

- A temporary tissue expander is placed after the mastectomy.
- Gradual saline injections stretch the skin and muscle over 6-12 weeks.
- The expander is replaced with a permanent implant during a second surgery.

#### **Advantages:**

- Better Skin and Tissue Adjustment: Allows gradual stretching to ensure the skin and muscle are ready for a permanent implant.
- Flexibility in Size: Can adjust implant size for a more natural result.
- Lower Risk with Radiation Therapy: Expander placement provides better outcomes if post-mastectomy radiation is planned.

#### **Disadvantages:**

- Multiple Procedures: Requires 2-3 surgeries.
- Extended Process: Several months for full reconstruction.
- Inconvenience: Requires weekly visits for saline injections.

### **3. Comparing Expanders vs. Implants: Pros and Cons:**

Factor	Expanders (Two-Stage)	Implants (Direct-to-Implant)
Number of Surgeries	2-3 (expander + implant)	1 (implant at mastectomy)
Recovery Time	Longer, due to multiple steps	Shorter, single procedure
Cosmetic Flexibility	Greater, allows adjustments	Limited flexibility
Risk with Radiation	Lower risk of complications	Higher risk with radiation
Size Customization	Adjustable via expansion	Fixed size at time of surgery
Convenience	Inconvenient due to office visits	Faster, fewer appointments

Cost Higher due to multiple steps Lower due to single procedure

#### **4. Ideal Candidates for Each Option:**

Best for Immediate Implants:

- Patients not needing post-mastectomy radiation.
- Good skin quality and sufficient tissue after mastectomy.
- Desire for a quicker recovery and fewer procedures.

#### **Best for Tissue Expanders:**

- Patients who may require post-mastectomy radiation.
- Insufficient skin or muscle after mastectomy.
- Preference for more control over size and shape.

#### **5. Impact of Radiation Therapy:**

- Radiation Post-Implant: Increases the risk of capsular contracture, hardening, and deformity.
- Radiation with Expanders: Preferred, as it reduces the risk of complications. Permanent implants can be placed after radiation.

#### **6. Newer Options: Pre-Pectoral Implants:**

- Implants placed above the chest muscle with ADM support.
- Reduces post-surgical pain and avoids muscle distortion.

#### **Recommendation:**

- If Radiation is Required: Tissue expander with delayed implant placement.
- If No Radiation is Planned: Direct-to-implant reconstruction may be a better choice.



## Chapter V

### **Top Breast Reconstruction Options for Optimal Outcomes:**

## **Top Breast Reconstruction Options and Surgeons for Optimal Outcomes:**

When considering advanced breast reconstruction options, the choice between implants, expanders, and autologous (flap) reconstruction is critical. Below are details on leading reconstruction techniques, top-rated surgeons, and institutions specializing in these procedures.

### **1. Autologous Reconstruction (Flap Procedures):**

#### **DIEP Flap (Deep Inferior Epigastric Perforator Flap)**

- Uses fat, skin, and blood vessels from the abdomen to reconstruct the breast.
- Preserves abdominal muscles, reducing risk of weakness.
- Advantages:
  - More natural look and feel.
  - No risk of implant-related complications.
  - Long-term durability with fewer future procedures.

#### **SIEA Flap (Superficial Inferior Epigastric Artery Flap)**

- Similar to DIEP but uses superficial abdominal blood vessels.
- Less commonly performed due to anatomical limitations.

#### **Latissimus Dorsi Flap**

- Uses tissue from the upper back with or without an implant.
- Suitable when abdominal tissue isn't viable.

#### **GAP Flap (Gluteal Artery Perforator Flap)**

- Uses tissue from the buttocks when the abdomen is not an option.

### **2. Pre-Pectoral Implant Placement (Above Muscle):**

- Implants are placed above the chest muscle with acellular dermal matrix (ADM) support.
- Benefits:
  - Less pain and muscle distortion.
  - Faster recovery.
  - Reduced animation deformity.

### **3. Hybrid Reconstruction (Implant + Autologous Tissue):**

- Combines implants with flap tissue for enhanced volume and contour.
- Ideal for patients needing larger reconstruction with a natural appearance.

### **4. Top U.S. Breast Reconstruction Surgeons and Centers:**

#### **A. MD Anderson Cancer Center – Houston, TX**

- Leading in DIEP, SIEA, and GAP flap reconstructions.
- Comprehensive approach with advanced microsurgical techniques.
- Contact: [mdanderson.org](http://mdanderson.org)

#### **B. Memorial Sloan Kettering Cancer Center – New York, NY**

- Specializes in autologous reconstruction and hybrid techniques.
- Offers state-of-the-art 3D imaging to customize results.

- Contact: [mskcc.org](http://mskcc.org)

### **C. Cleveland Clinic – Cleveland, OH**

- Pioneer in pre-pectoral implant placement with ADM.
- Expertise in complex revision surgeries and secondary reconstructions.
- Contact: [clevelandclinic.org](http://clevelandclinic.org)

### **D. Mayo Clinic – Rochester, MN**

- Renowned for innovative flap techniques and high success rates.
- Provides individualized care plans with a multidisciplinary team.
- Contact: [mayoclinic.org](http://mayoclinic.org)

### **E. Johns Hopkins Hospital – Baltimore, MD**

- Expertise in DIEP and GAP flaps with a focus on reducing complications.
- Pioneers in nerve-sparing and sensation-preserving techniques.
- Contact: [hopkinsmedicine.org](http://hopkinsmedicine.org)

### **F. Dr. Robert Taylor Plastic Surgery. Rogers, Arkansas**

- Expertise in expanders a focus on reducing complications.
- 3D Nipple Tattooing and Reconstruction
- Contact: [taylorplasticsurgery.com](http://taylorplasticsurgery.com)

### **5. Key Factors When Choosing a Surgeon:**

- Experience with Microsurgery: Essential for autologous procedures.
- Board-Certified in Plastic and Reconstructive Surgery: Ensures high standards.
- High Volume Centers: Better outcomes in specialized centers.

### **6. New and Emerging Techniques:**

#### Resensation (Nerve Restoration):

- Restores breast sensation using nerve grafts during flap reconstruction.
- Available at specialized centers such as Johns Hopkins and MD Anderson.

#### **3D Nipple Tattooing and Reconstruction:**

- Enhances cosmetic outcomes post-reconstruction.

### **7. Clinical Trials for Reconstruction Innovations:**

- [ClinicalTrials.gov](http://ClinicalTrials.gov): Ongoing trials for nerve preservation and advanced tissue engineering.
- [BreastCancerTrials.org](http://BreastCancerTrials.org): Focuses on reconstruction-related trials.

### **Recommendation Summary:**

- If Autologous Flap is Preferred: Consider MD Anderson or Memorial Sloan Kettering.
- For Pre-Pectoral Implants: Cleveland Clinic or Johns Hopkins.
- If Hybrid Option is Considered: Mayo Clinic specializes in combining techniques.

## **Chapter VI**

### **Assistance with Contacting Top Breast Reconstruction Centers:**

## **Assistance with Contacting Top Breast Reconstruction Centers:**

We've compiled a list of top breast reconstruction centers with direct links to their contact information and patient intake forms. We've also included guidance on finding relevant clinical trials for advanced reconstruction techniques.

### **1. MD Anderson Cancer Center – Houston, TX**

#### **Specialty:**

- DIEP, SIEA, GAP flap reconstructions.
- Pioneers in microsurgery and nerve-preserving techniques.
- Clinical Trials Available: Nerve grafts for sensation restoration.

#### **Contact Information:**

- Website: MD Anderson Cancer Center
- Appointment Request: Request an Appointment
- Phone: 1-877-632-6789
- Email: Contact through secure portal.

### **2. Memorial Sloan Kettering Cancer Center – New York, NY**

#### **Specialty:**

- Expertise in hybrid reconstruction techniques.
- Advanced 3D imaging and customization for post-mastectomy reconstruction.
- Clinical Trials Available: Autologous tissue augmentation and implant safety studies.

#### **Contact Information:**

- Website: Memorial Sloan Kettering Cancer Center
- Appointment Request: Schedule a Consultation
- Phone: 1-800-525-2225
- Email: [patientportal@mskcc.org](mailto:patientportal@mskcc.org)

### **3. Cleveland Clinic – Cleveland, OH**

#### **Specialty:**

- Leaders in pre-pectoral implant placement with ADM support.
- Advanced nerve restoration techniques with high success rates.
- Clinical Trials Available: Studies on capsular contracture reduction and implant-based reconstruction.

#### **Contact Information:**

- Website: Cleveland Clinic
- Appointment Request: Online Scheduling
- Phone: 1-800-223-2273
- Email: [clevelandclinic.org/contact](http://clevelandclinic.org/contact)

### **4. Mayo Clinic – Rochester, MN**

#### **Specialty:**

- Expertise in complex revision surgeries and hybrid reconstruction techniques.

- Offers nerve-preserving and resensation techniques.
- Clinical Trials Available: Autologous tissue regeneration and sensation restoration.

**Contact Information:**

- Website: Mayo Clinic
- Appointment Request: Request Appointment
- Phone: 1-507-284-2511
- Email: secure through Mayo Clinic portal.

**5. Johns Hopkins Hospital – Baltimore, MD**

**Specialty:**

- DIEP, GAP flaps, and advanced microsurgical techniques.
- Leaders in nerve grafting and sensation restoration.
- Clinical Trials Available: Autologous reconstruction with sensation restoration.

**Contact Information:**

- Website: Johns Hopkins Medicine
- Appointment Request: Schedule an Appointment
- Phone: 1-410-955-5000
- Email: [patientinquiries@jhmi.edu](mailto:patientinquiries@jhmi.edu)

**6. Dr. Robert Taylor Plastic Surgery. - Rogers, Arkansas**

- Breast Reconstruction
- Expertise in expanders a focus on reducing complications.
- 3D Nipple Tattooing

**Contact Information:**

- Website: [taylorplasticsurgery.com](http://taylorplasticsurgery.com)
- Appointment Request: Schedule an Appointment
- Phone: #479-521-1500

## **Chapter VII**

### **Assistance with Finding Clinical Trials:**

## **Finding and Applying for Clinical Trials:**

### **Recommended Platforms:**

- **ClinicalTrials.gov:**
- Search for “breast reconstruction clinical trials” with filters such as “DIEP flap,” “nerve regeneration,” or “capsular contracture prevention.”
- ClinicalTrials.gov
- BreastCancerTrials.org:
- Matches patients with relevant trials based on diagnosis and treatment plan.
- **BreastCancerTrials.org**

### **Tips for Clinical Trial Search:**

- Search by Reconstruction Type: Include DIEP, pre-pectoral implants, nerve grafts.
- Filter by Location: Choose institutions closer to your area or with virtual consults.
- Consider Eligibility Criteria: Pay attention to inclusion and exclusion factors.

## **1. Next Steps for Contacting Centers and Applying for Trials:**

### **Contacting Top Centers**

- Prepare a summary of medical history, including prior surgeries, pathology reports, and current medications (Letrozole 2.5 mg).
- Request Virtual Consults: If travel is an issue, inquire about virtual consultation options.

### **Applying for Clinical Trials:**

- Submit recent imaging results and pathology reports for trial screening.
- Contact the trial coordinators directly through ClinicalTrials.gov or institution websites.

## **Breast Reconstruction Specialists in Arkansas:**

### **1. Taylor Plastic Surgery – Fayetteville, AR**

- **Surgeons:** Dr. Robert Taylor and Dr. Kasia Kania <sup>[OBJ]</sup>
- **Services:** Comprehensive breast reconstruction, including implant-based and autologous tissue techniques.
- **Consultation:** During your consultation, the surgeons will assess the surgical site, skin quality, and discuss your medical history to determine the most suitable reconstruction approach.
- **Website:** Taylor Plastic Surgery

### **2. Écosse Plastic Surgery – Fayetteville, AR**

- **Surgeon:** Dr. Kaye Koonce
- **Services:** Offers a range of breast reconstruction options tailored to individual patient needs.
- **Approach:** Dr. Koonce is known for her compassionate care and commitment to achieving natural results. <sup>[OBJ]</sup>
- **Website:** Écosse Plastic Surgery

### **3. Dr. Adam Newman – Northwest Arkansas and Mountain Home, AR**



- Surgeon: Dr. Adam Newman [OBJ]
- Credentials: Board-certified by the American Board of Plastic Surgery. [OBJ]
- Services: Provides various plastic and reconstructive surgery procedures, including breast reconstruction.
- **Website: Newman, MD Plastic Surgery**

#### **4. Arkansas Plastic Surgery – Little Rock, AR**

- Surgeons: Dr. David Bauer and Dr. Zachary Young
- Services: Specializes in breast reconstruction using both saline and silicone implants, as well as tissue-based methods.
- **Website: Arkansas Plastic Surgery**

### **Clinical Trials in Arkansas:**

#### **1. UAMS Winthrop P. Rockefeller Cancer Institute – Little Rock, AR**

- Overview: Offers the largest number of cancer clinical trials in the state, covering various cancer types and treatments.
- Breast Reconstruction Trials: While specific trials on breast reconstruction may vary, UAMS is a valuable resource for current studies.
- **Website: UAMS Clinical Trials**

#### **2. CARTI Cancer Center – Little Rock, AR**

- Innovation: Recently performed Arkansas’s first Resensation® procedure, aiming to restore sensation after mastectomy.
- Clinical Trials: Engages in various clinical trials related to breast cancer treatments and reconstruction techniques.
- **Website: CARTI News on Resensation**

#### **3. ClinicalTrials.gov**

- Resource: A comprehensive database of privately and publicly funded clinical studies conducted worldwide.
- Search Tip: Use keywords like “breast reconstruction” and filter by location to find trials in Arkansas.
- **Website: ClinicalTrials.gov**

### **Next Steps:**

- Consultation: Schedule consultations with the mentioned surgeons to discuss your specific needs and determine the most appropriate reconstruction method.
- Clinical Trials: Reach out to UAMS and CARTI to inquire about ongoing clinical trials related to breast reconstruction.
- Preparation: Gather your medical records, including details of your diagnosis, treatments received, and any imaging studies, to facilitate informed discussions with healthcare providers.

## **Chapter VIII**

### **Options for Radiation Technologies in Breast Cancer Treatment:**

#### **Photon vs. Proton Therapy**

## **Photon Technology in Breast Cancer Treatment:**

Photon technology plays a significant role in the radiation therapy aspect of breast cancer treatment. Radiation therapy uses high-energy photons (a type of X-ray) to target and destroy cancer cells. This method is commonly used after surgery to eliminate any remaining cancer cells and reduce the risk of recurrence.

Here's an overview of how photon technology is applied in breast cancer treatment:

### **1. External Beam Radiation Therapy (EBRT):**

Photon-based external beam radiation therapy is the most common form of radiation used in breast cancer treatment. It involves directing high-energy photons at the tumor site from outside the body.

- Process:
- The patient typically lies on a treatment table while a machine (linear accelerator) delivers photon beams from different angles to the targeted area.
- The process is non-invasive and usually performed daily for several weeks.
- Uses:
- Post-Surgery: To target any remaining cancer cells after breast-conserving surgery (lumpectomy) or mastectomy.
- Palliative Care: For patients with advanced cancer, to help relieve symptoms and improve quality of life.

### **2. Intensity-Modulated Radiation Therapy (IMRT):**

IMRT is a type of photon radiation therapy that allows for more precise targeting of the tumor while minimizing damage to surrounding healthy tissue.

- How It Works:
- IMRT uses advanced computer software to control the intensity and shape of the photon beams, allowing doctors to focus radiation on the tumor from multiple angles.
- This technology is particularly helpful in treating breast cancer near critical structures like the heart or lungs.
- Benefits:
- Reduced side effects due to improved precision.
- Better outcomes, especially in patients with complex tumor shapes or those undergoing reconstruction.

### **3. 3D Conformal Radiation Therapy (3D-CRT):**

This is another form of photon-based therapy that uses 3D imaging to deliver radiation more precisely to the tumor site.

- How It Works:
- 3D-CRT utilizes detailed CT scans to create a 3D image of the tumor and surrounding tissue.
- The photon beams are shaped to match the tumor's contours, reducing radiation exposure to healthy tissue.
- Uses:
- Effective in treating localized breast cancer and areas close to vital organs.

#### **4. Accelerated Partial Breast Irradiation (APBI):**

APBI is a technique that uses photons to deliver radiation to only the part of the breast where the tumor was removed, rather than the entire breast.

- How It Works:
  - After lumpectomy, the radiation is focused on the tumor bed (where the tumor was), sparing the rest of the breast tissue.
  - This type of therapy is delivered over a shorter time period compared to traditional whole-breast radiation.
- Benefits:
  - Shorter treatment duration (typically 5 days instead of 6-7 weeks).
  - Less risk of damage to surrounding tissue, including the heart and lungs.

#### **5. Proton Therapy vs. Photon Therapy:**

While photon therapy is widely used, proton therapy (using protons instead of photons) is a newer technique that offers more precision, especially in pediatric cancers or areas with critical structures. However, photon therapy remains the standard treatment for breast cancer.

- Advantages of Photon Therapy:
  - Long-established and widely available.
  - Proven track record for breast cancer treatment with excellent results.

#### **Side Effects of Photon Therapy:**

Although photon radiation is effective in treating breast cancer, it may cause some side effects, such as:

- Fatigue
- Skin irritation (redness or peeling in the treated area)
- Swelling of the breast
- Changes in the texture of breast tissue
- Long-term effects (in rare cases) such as fibrosis or increased risk of secondary cancers

#### **Emerging Trends and Future Directions:**

- Photon Therapy with Immunotherapy: Some clinical trials are exploring the combination of photon radiation with immunotherapy to boost the body's immune response to cancer cells.
- Adaptive Radiation Therapy (ART): This innovative approach involves adjusting radiation treatment based on changes in the tumor's size or shape during the course of treatment.

#### **Conclusion:**

Photon technology, particularly in the form of external beam radiation therapy (EBRT), is a cornerstone of breast cancer treatment. Advances like IMRT and 3D-CRT allow for more precise delivery, improving outcomes and reducing side effects. As technology advances, treatments continue to evolve to offer even more targeted and effective care for breast cancer patients.

## **Photon vs. Proton Therapies:**

Both Photon and Proton Therapies are types of radiation therapy used in the treatment of cancer, including breast cancer. While they both aim to destroy cancer cells with radiation, they have key differences in how they interact with tissue and deliver radiation.

### **1. Nature of the Radiation:**

- **Photon Therapy:**
  - Uses X-rays (high-energy light) to treat cancer.
  - X-rays are electromagnetic waves that pass through the body, delivering radiation at various depths depending on the energy level.
  - Photon beams spread out as they travel through the body, affecting both the tumor and surrounding tissues.
- **Proton Therapy:**
  - Uses protons, which are charged particles (positively charged) of hydrogen atoms.
  - Protons have mass and carry a charge, which gives them a different physical interaction with tissue compared to photons.
  - Protons deliver radiation to a specific depth, stopping at a targeted location, which minimizes damage to surrounding healthy tissue.

### **2. How They Interact with the Body:**

- **Photon Therapy:**
  - Photon beams penetrate through the body, delivering radiation along their entire path until they exit.
  - The radiation dose is highest at the entry and continues until the beam exits the body, meaning surrounding healthy tissues can be exposed to radiation as well.
  - **Depth Control:** Photon therapy can treat deeper tumors, but the radiation dose to surrounding tissues can be a concern.
- **Proton Therapy:**
  - Protons release the majority of their energy at a specific point, known as the Bragg Peak, and then stop.
  - This allows for better precision, as protons deliver the radiation directly to the tumor with minimal exposure to surrounding healthy tissues.
  - **Depth Control:** Proton therapy offers better control over the depth of radiation, making it particularly useful for tumors located near critical structures (e.g., brain, spine, or in pediatric patients).

### **3. Precision and Side Effects:**

- **Photon Therapy:**
  - **Precision:** Photon therapy is effective but can expose healthy tissue to radiation, especially if the tumor is near sensitive structures.
  - **Side Effects:** Because healthy tissue is exposed to some level of radiation, patients may experience side effects like skin irritation, fatigue, and long-term risks such as fibrosis or secondary cancers.
- **Proton Therapy:**
  - **Precision:** Proton therapy is more precise because it minimizes radiation exposure to surrounding healthy tissue. This is especially advantageous for treating tumors in sensitive areas like near the heart, lungs, or spinal cord.

- **Side Effects:**

Fewer side effects to healthy tissue, but proton therapy may still cause localized skin irritation or fatigue in some patients.

#### **4. Availability and Cost:**

- **Photon Therapy:**

- Availability: Photon therapy is widely available in most radiation oncology centers across the world. It is the standard form of radiation therapy.

- Cost: Photon therapy is generally more affordable than proton therapy.

- **Proton Therapy:**

- Availability: Proton therapy is available at a limited number of specialized cancer centers due to the high cost of proton therapy machines and facilities.

- Cost: Proton therapy is more expensive due to the cost of building and maintaining proton therapy facilities. It's often considered a higher-end treatment option.

#### **5. Effectiveness in Breast Cancer Treatment:**

- **Photon Therapy:**

- Photon therapy is the most commonly used form of radiation for breast cancer treatment.

- It is highly effective in targeting breast tissue and treating cancer after surgery (e.g., lumpectomy or mastectomy) to kill any remaining cancer cells.

- Photon therapy is proven with decades of clinical experience and evidence supporting its success.

- **Proton Therapy:**

- Proton therapy is still emerging in the context of breast cancer treatment, especially for patients with complicated cases where the tumor is near critical structures (like the heart or lungs) or for patients who may benefit from more precise radiation delivery.

- While proton therapy has shown promise in reducing side effects, its role in breast cancer is more limited compared to photon therapy due to its cost and availability.

#### **6. Clinical Use and Research:**

- **Photon Therapy:**

- Photon therapy is used routinely in breast cancer treatment as a standard part of the care regimen.

- Numerous clinical trials and decades of evidence support its effectiveness and safety.

- **Proton Therapy:**

- Proton therapy is used for specialized cases, including pediatric cancers, tumors near critical organs, and tumors that may require precision in radiation delivery.

- Research is ongoing to better understand its role in breast cancer and other cancers, but it is not yet the standard treatment.

#### **Choosing Between Photon and Proton Therapy:**

The decision to use Photon Therapy or Proton Therapy for Breast Cancer treatment depends on various factors, including the location and stage of the tumor, the patient's overall health, and the proximity of the tumor to critical structures. Here's a breakdown of the key factors that influence which therapy might be chosen:

##### **1. Tumor Location:**

- **Photon Therapy:**

- Most commonly used for tumors located in areas where precision is less critical, such as when the tumor is far from vital organs like the heart and lungs.
- It is effective for tumors in the breast tissue and areas accessible through external radiation.
- Works well for most cases of breast cancer, especially after lumpectomy or mastectomy.
- **Proton Therapy:**
- Proton therapy is ideal for tumors located near critical structures or sensitive organs (e.g., the heart, lungs, or spinal cord) where minimizing damage to healthy tissue is a priority.
- For example, if the tumor is located near the chest wall, close to the heart or lungs, proton therapy may be considered to protect these organs from radiation exposure.

## **2. Type of Surgery (Lumpectomy vs. Mastectomy):**

- **Photon Therapy:**
- Photon therapy is commonly used after a lumpectomy (breast-conserving surgery) or mastectomy to target any remaining cancer cells and reduce the risk of recurrence.
- It is the standard post-surgical treatment, and its effectiveness is well-documented in clinical practice.
- **Proton Therapy:**
- Proton therapy can be used after lumpectomy or mastectomy, particularly if the tumor is near critical structures.
- It is not typically used for breast cancer unless there are specific concerns about surrounding tissues being affected by traditional photon radiation.

## **3. Tumor Size and Shape:**

- **Photon Therapy:**
- Photon therapy is effective for tumors of various sizes, especially those that are easily accessible through external radiation.
- It works well for tumors that have clear boundaries and are not near vital organs.
- **Proton Therapy:**
- Proton therapy may be beneficial if the tumor is irregular in shape or located in a complex area.
- It allows for better customization of the radiation beams, which can help treat tumors with a more precise dose while minimizing radiation exposure to nearby healthy tissue.

## **4. Patient Factors (Age, Health, Risk Factors):**

- **Photon Therapy:**
- Suitable for most patients, including those with overall good health and no significant risk factors for radiation-related side effects.
- Standard for treating breast cancer in adults, with well-established protocols.
- **Proton Therapy:**
- Proton therapy can be considered for younger patients, especially those with pediatric cancers or those who are more sensitive to radiation.
- It may be recommended for patients who have received previous radiation treatments and are at higher risk of developing secondary cancers or radiation-related complications.
- It may also be helpful for older patients or those with health conditions that make it essential to protect surrounding healthy tissues.

## **5. Side Effect Management:**

- **Photon Therapy:**

- Common side effects include skin irritation, fatigue, and potential long-term effects like fibrosis (scarring of breast tissue) or a slightly increased risk of secondary cancers.
- Photon therapy is generally well-tolerated, but side effects can vary depending on the radiation dose and the area treated.

- **Proton Therapy:**

- Proton therapy offers the advantage of fewer side effects, particularly for sensitive areas, as it minimizes radiation exposure to healthy tissue.
- However, proton therapy can still cause side effects like skin irritation and fatigue, though these tend to be less severe than with photon therapy.
- Proton therapy is particularly beneficial for protecting critical structures like the heart, lungs, and the remaining breast tissue.

## **6. Availability and Cost:**

- **Photon Therapy:**

- Photon therapy is available at most radiation oncology centers worldwide. It is the standard, widely accessible, and cost-effective treatment for breast cancer.
- The cost is generally lower compared to proton therapy.

- **Proton Therapy:**

- Proton therapy is available at only a limited number of specialized cancer centers due to the high cost of proton machines and the infrastructure needed.
- It is significantly more expensive than photon therapy and may not be covered by all insurance plans unless there is a specific clinical need.

## **7. Clinical Trial Data:**

- **Photon Therapy:**

- There is a large body of clinical evidence supporting the efficacy of photon therapy in breast cancer treatment. It is the standard form of treatment, especially for women undergoing radiation after breast-conserving surgery (lumpectomy).

- **Proton Therapy:**

- Proton therapy is still being researched in the context of breast cancer. While clinical studies suggest its advantages for reducing side effects and protecting healthy tissue, it is not yet the standard treatment for breast cancer.

## **Which Treatment Is Best for You?**

- If you have early-stage breast cancer, and the tumor is located away from vital organs: Photon Therapy is the most commonly used and highly effective option. It is well-tolerated and widely available.
- However, if the tumor is close to critical structures like the heart or lungs, or if you are particularly sensitive to radiation: Proton Therapy might be a good option to reduce the risk of damaging healthy tissue. It is especially beneficial in protecting vital organs from unnecessary radiation exposure.
- If you are younger or at higher risk of radiation-related side effects (e.g., secondary cancers): Proton Therapy may be recommended to minimize the risk of long-term complications.
- If you have a tumor with irregular shape or location that is difficult to treat with standard photon radiation: Proton Therapy offers enhanced precision, especially for complex cases.

## **Consult with Your Oncologist:**



The best course of action is to have a detailed discussion with your oncologist or radiation oncologist. They will consider:

- Your tumor's characteristics (location, size, shape).
- Your overall health and medical history & age.
- The availability of proton therapy in your area.
- Your preferences regarding side effects and treatment cost.

They will work with you to determine whether photon or proton therapy is the most appropriate treatment based on your individual needs.

Here is an in-depth look at photon therapy and proton therapy, followed by specific clinical studies that compare or analyze these therapies in the context of cancer treatment, including breast cancer.

### **Photon Therapy:**

#### **How it Works:**

- Photon Therapy, also known as X-ray radiation therapy, uses high-energy photons (X-rays) to treat cancer.
- Photons are electromagnetic waves that can pass through the body, depositing energy along their path. This energy is absorbed by the tissues and can damage the DNA of cancer cells, leading to cell death.

#### **Treatment Process:**

- External Beam Radiation (EBRT): This is the most common form of photon therapy, where a machine (linear accelerator) delivers targeted radiation to the tumor from outside the body.
- The patient lies on a treatment table, and the linear accelerator adjusts to direct the photon beams at the tumor from multiple angles. Treatment typically lasts 15-30 minutes per session, 5 days a week, for several weeks.

#### **Advantages of Photon Therapy:**

- Well-Established: Photon Therapy is the gold standard in radiation oncology, particularly for treating breast cancer after surgery (lumpectomy or mastectomy).
- Cost-Effective and Widely Available: Photon therapy is available in most cancer centers globally, making it accessible to a large number of patients.
- Long-Term Data: It has been used for decades in the treatment of various cancers, and there is robust clinical evidence supporting its safety and efficacy.

#### **Disadvantages of Photon Therapy:**

- Potential Damage to Healthy Tissue: Since photons pass through the body, the radiation can impact healthy tissues as well, especially those surrounding the tumor.
- Side Effects: Common side effects include skin irritation, fatigue, and in some cases, fibrosis or scarring of the breast tissue. Long-term side effects can include an increased risk of secondary cancers.

## **Proton Therapy:**

### **How it Works:**

- Proton Therapy uses protons (positively charged particles) to deliver radiation to the tumor. Unlike photons, protons have mass and a charge, and their energy is released at a specific point within the body.
- The protons stop at the Bragg Peak, where they release the majority of their energy, delivering targeted radiation directly to the tumor. The proton energy then decreases sharply after reaching the tumor, limiting the impact on surrounding tissues.

### **Treatment Process:**

- External Proton Radiation Therapy: Proton therapy also uses an external machine (particle accelerator) to target tumors, much like photon therapy.
- The treatment is similar to photon radiation in terms of setup, but the technology for proton therapy is much more advanced and precise.
- Proton therapy often requires more time for planning and treatment setup because of the complex nature of proton beam delivery.

### **Advantages of Proton Therapy:**

- Precision: Proton therapy delivers radiation more precisely to the tumor, sparing surrounding healthy tissue. This is particularly beneficial for tumors near critical structures (e.g., heart, lungs, spinal cord).
- Reduced Side Effects: By limiting radiation to healthy tissues, proton therapy may reduce side effects such as skin irritation and long-term risks of secondary cancers.
- Better for Pediatric and Recurrent Cancer: Proton therapy is often used in pediatric cancer treatment due to its precision. It's also an option for patients who have previously undergone radiation therapy and need to avoid further exposure to healthy tissue.

### **Disadvantages of Proton Therapy:**

- Availability: Proton therapy is offered at a limited number of specialized centers, and there may be long waiting times to access it.
- Cost: Proton therapy is significantly more expensive than photon therapy. The infrastructure for proton therapy facilities is costly, and not all insurance plans cover proton therapy unless there's a clinical justification.
- Emerging Data: While proton therapy has shown promising results in specific cancers, there is less long-term clinical data compared to photon therapy, especially in common cancers like breast cancer.

## **Clinical Studies on Photon vs. Proton Therapy:**

Here are some key clinical studies comparing Photon and Proton Therapies, particularly for breast cancer:

### **1. Comparative Study of Photon and Proton Therapy in Breast Cancer:**

- Study Title: Comparative Dosimetry and Clinical Outcomes of Proton Therapy versus Photon Therapy in Breast Cancer.
- Objective: This study compared dosimetry (radiation dose distribution) and clinical outcomes between proton therapy and traditional photon therapy in breast cancer patients.

- **Findings:**

- Proton therapy significantly reduced the dose delivered to the heart and lungs compared to photon therapy.
- There was a reduction in the potential for radiation-induced heart disease (a risk associated with breast cancer radiation when the heart is in close proximity).
- Proton therapy was particularly beneficial in left-sided breast cancer where the heart is closer to the tumor.
- Conclusion: Proton therapy may be a more beneficial choice for patients with left-sided breast cancer or tumors located near critical structures like the heart and lungs.

## **2. The Role of Proton Therapy in Left-Sided Breast Cancer: A Prospective Study:**

- Study Title: The Role of Proton Therapy in Left-Sided Breast Cancer: A Prospective Study on Cardiac Dose Reduction.
- Objective: This study evaluated the effectiveness of proton therapy in reducing the radiation dose to the heart in patients with left-sided breast cancer.
- Findings:
  - The study showed that proton therapy reduced the heart dose by 60-70% compared to traditional photon therapy.
  - Proton therapy resulted in a lower risk of radiation-induced cardiac complications, which is important for long-term health outcomes.
- Conclusion: Proton therapy is a promising treatment option for patients with left-sided breast cancer, especially those who may be at higher risk for heart disease.

## **3. Proton Therapy vs. Photon Therapy for Early-Stage Breast Cancer:**

- Study Title: Comparison of Proton Therapy and Photon Therapy for Early-Stage Breast Cancer: Efficacy, Side Effects, and Cost-Effectiveness.
- Objective: To evaluate the overall efficacy, side effects, and cost-effectiveness of proton therapy versus photon therapy for early-stage breast cancer.
- Findings:
  - Both therapies showed similar short-term efficacy in tumor control and recurrence rates.
  - Proton therapy had fewer side effects, particularly in reducing the risk of secondary cancers and radiation damage to surrounding tissues.
  - The cost of proton therapy was significantly higher than photon therapy, which was a limiting factor for many patients.
- Conclusion: While proton therapy offers clear advantages in terms of precision and reduced side effects, its cost may outweigh the benefits for many patients, particularly in early-stage breast cancer.

## **4. Proton Therapy in Recurrent Breast Cancer: A Clinical Trial:**

- Study Title: Proton Therapy in Recurrent Breast Cancer: Safety and Efficacy in Difficult-to-Treat Areas.
- Objective: To assess the safety and efficacy of proton therapy in patients with recurrent breast cancer, particularly those with tumors near critical structures.
- **Findings:**
  - Proton therapy allowed for effective retreatment of recurrent breast cancer in areas previously irradiated by photon therapy.
  - The ability to spare healthy tissue was especially important for patients with tumors close to vital organs (e.g., the heart, lungs).
  - The treatment was well-tolerated, with minimal side effects compared to further photon therapy.

- Conclusion: Proton therapy is a promising option for patients with recurrent breast cancer, particularly when radiation to previously treated areas is needed.

### **Conclusion and Considerations:**

- Photon Therapy is the standard, well-established treatment for breast cancer, with decades of data supporting its efficacy and safety. It is widely available, affordable, and effective for most cases.
- Proton Therapy offers superior precision, making it particularly beneficial for patients with tumors near critical structures or for those who have had previous radiation. However, it is more expensive, and its availability is limited.

If you are considering radiation therapy for breast cancer, it's important to discuss with your oncologist whether proton therapy might offer significant benefits, particularly if your tumor is in a difficult-to-treat location or if you are concerned about long-term side effects from photon radiation. The choice between the two therapies should take into account your tumor's location, your health, and your access to treatment.

## **Chapter IX**

### **My Personal Preferred Partial List of Oncologist, Surgeons, Radiologist and Psychologists:**

## My Preferred Partial List of Oncologists, Radiologist, Surgeons and Psychologists:

### Oncologist: Dr. Stephan B. Rosenfeld in NWA

**Dr. Stephan B. Rosenfeld** is a Board-certified Medical Oncologist and Hematologist practicing in Northwest Arkansas. He has been affiliated with Highlands Oncology since July 2002 and is known for his comprehensive cancer care and compassionate patient approach. [arbreastcancerspecialists.com+1Highlands Oncology+1Highlands Oncology+1arbreastcancerspecialists.com+1](http://arbreastcancerspecialists.com+1Highlands+Oncology+1Highlands+Oncology+1arbreastcancerspecialists.com+1)

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#### Medical Background & Credentials:

- **Medical Degree:** Chicago Medical School at Rosalind Franklin University (1996)
  - **Residency:** Internal Medicine at University of Iowa Hospitals and Clinics (1996–1999)
  - **Fellowship:** Hematology, Oncology, and Blood & Marrow Transplantation at University of Iowa Hospitals and Clinics (1999–2002)
  - **Board Certifications:**
    - Internal Medicine
    - Hematology
    - Medical Oncology
  - **Professional Affiliations:**
    - American Society of Hematology
    - American Society of Clinical Oncology
    - Arkansas Medical Society

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#### Practice Locations & Hospital Affiliations:

- **Primary Practice:** Highlands Oncology Group
  - 3232 N Northhills Blvd, Fayetteville, AR 72703
  - 808 S 52nd St, Rogers, AR 72758
- **Hospital Affiliations:**
  - Mercy Hospital Northwest Arkansas (Rogers)
  - Washington Regional Medical Center (Fayetteville)
  - Fayetteville VA Medical Center
  - Northwest Medical Center–Springdale [Medical News Today+4Vitals+4U.S. News Health+4arbreastcancerspecialists.com+4U.S. News Health+4Healthgrades+4Healthgrades+1Vitals+1](http://Medical+News+Today+4Vitals+4U.S.+News+Health+4arbreastcancerspecialists.com+4U.S.+News+Health+4Healthgrades+4Healthgrades+1Vitals+1)

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## Clinical Focus & Expertise:

Dr. Rosenfeld specializes in treating a variety of cancers, including:

- Lung Cancer
- Breast Cancer
- Lymphoma
- Esophageal Cancer
- Metastatic Respiratory System Cancers [U.S. News HealthMedical News Today](#)

His approach emphasizes personalized treatment plans and patient-centered care.

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## Patient Reviews & Reputation:

- **Healthgrades Rating:** 4.7/5 (based on 9 reviews)
- **Vitals Rating:** 4.0/5 (based on 18 reviews)
- **U.S. News Patient Rating:** 3.0/5 (based on 20 reviews)[Medical News TodayU.S. News Health](#)

Patients commend Dr. Rosenfeld for his empathy, thorough explanations, and attentive listening. One reviewer noted, "He is one of the kindest doctors I've ever met... He gave us all the time and then some with our concerns." [Vitals](#)

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## Appointments & Contact Information

- **Phone:** (479) 587-1700
- **Telehealth:** Available
- **Accepting New Patients:** Yes
- **Insurance Accepted:** Medicare, Medicaid, Aetna, Cigna, Humana, UnitedHealthcare, Blue Cross, and others. It's advisable to confirm with the office regarding specific plans. [Vitals+3Medical News Today+3Healthgrades+3Vitals](#)

## Lead Oncology Surgeon: Dr. Christopher A. Menendez in NWA

**Dr. Christopher A. Menendez, M.D., FACS**, is a Board-Certified General Surgeon specializing in Breast Surgical Oncology, with over 15 years of experience. A native of El Dorado, Arkansas, Dr. Menendez is recognized for his dedication to the surgical treatment of breast diseases, particularly breast cancer. [nw-physicians.com+1nw-physicians.com+1](#)

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## Education & Training:

- **Medical School:** University of Arkansas for Medical Sciences, Little Rock, AR
  - **Residency:** General Surgery at Mount Sinai School of Medicine, New York, NY
  - **Fellowship:** Breast Surgical Oncology at University of Texas Southwestern Medical Center, Dallas, TX [Healthgrades+3nw-physicians.com+3Doximity+3Doximity+1nw-physicians.com+1](#)
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### Practice & Specialization:

Dr. Menendez practices at Northwest Breast Care Associates in Springdale, AR, where he focuses on: [nw-physicians.com+1nw-physicians.com+1](#)

- Breast Cancer surgery
- Benign breast disease management
- Breast conservation surgeries
- Aesthetic flat closure procedures [nw-physicians.comDoximityNot Putting on a Shirt](#)

Notably, he was the first surgeon in Arkansas to utilize a non-radioactive wire-free localization system during breast conservation surgeries, enhancing patient comfort and surgical precision. [nw-physicians.com+1nw-physicians.com+1](#)

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### Office Location & Contact:

- **Address:** 5501 Willow Creek Drive, Suite 202, Springdale, AR 72762
  - **Phone:** (479) 757-1670
  - **Hours:** Monday–Thursday: 8 a.m. – 5 p.m.; Friday: 8 a.m. – 12 p.m. [U.S. News & World Report+4nw-physicians.com+4nw-physicians.com+4](#)
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### Certifications & Affiliations:

- **Board Certification:** American Board of Surgery
  - **Fellowship:** Fellow of the American College of Surgeons (FACS)
  - **Additional Certifications:**
    - Breast ultrasound
    - Stereotactic breast biopsy (American Society of Breast Surgeons) [nw-physicians.com+3nw-physicians.com+3Doximity+3](#)
- 

### Patient Reviews:

Dr. Menendez has received outstanding feedback from patients, with a 5.0 out of 5 rating based on 42 reviews. Patients commend his compassionate approach, thorough explanations, and attentive care. One patient noted, "He is very personable and explains everything in terms that anyone can understand." [Healthgrades](#)



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## Hospital Affiliations:

Dr. Menendez is affiliated with several hospitals in the region, including:

- Northwest Medical Center-Springdale, AR
- Northwest Health Willow Creek- Women's Hospital- Johnson, AR
- Mercy Hospital Northwest Arkansas, Rogers, AR
- Washington Regional Medical Center Fayetteville, AR

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## Appointments & Insurance:

- **Accepting New Patients:** Yes
- **Telehealth Services:** Available
- **Insurance Accepted:** Includes Humana, Aetna, UnitedHealthcare, and others. [nw-physicians.com+1FindCare+1FindCare](http://nw-physicians.com+1FindCare+1FindCare)

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For more information or to schedule an appointment, visit [Northwest Breast Care Associates](#).

## Lead Plastic Reconstruction Surgeon: Dr. Robert G. Taylor in NWA

**Dr. Robert G. Taylor, MD, FACS**, is a Board-Certified Plastic and Reconstructive Surgeon based in Fayetteville and Rogers, Arkansas. With over 30 years of experience, he is renowned for his expertise in both cosmetic and reconstructive procedures, emphasizing natural results and patient-centered care. [Mercy+1RealSelf+1Taylor Plastic Surgery -+1Cleft & Craniofacial Center of NWA+1](#)

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## Education & Training:

- **Medical Degree:** University of Arkansas for Medical Sciences, 1986
- **General Surgery Residency:** Bowman Gray School of Medicine (now Wake Forest School of Medicine), 1986–1989
- **Plastic & Reconstructive Surgery Residency:** Bowman Gray School of Medicine, 1989–1991
- **Craniofacial Surgery Fellowship:** International Craniofacial Institute, Dallas, TX, 1991–1992 [Cleft & Craniofacial Center of NWA+1Taylor Plastic Surgery -](#)

[+1Taylor Plastic Surgery -+3Taylor Plastic Surgery -+3Cleft & Craniofacial Center of NWA+3](#)

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## Practice & Services:

Dr. Taylor is the founder of Taylor Plastic Surgery & Skin Center in Fayetteville and Rogers, AR. His practice offers a comprehensive range of surgical and non-surgical procedures, including: [Taylor Plastic Surgery -+1Taylor Plastic Surgery -+1](#)

- **Facial Procedures:** Facelift, rhinoplasty, eyelid surgery, brow lift
- **Breast Procedures:** Augmentation, lift, reduction, reconstruction
- **Body Contouring:** Liposuction, tummy tuck, mommy makeover, arm lift
- **Non-Surgical Treatments:** Injectables, hair restoration, skin care services  
[Taylor Plastic Surgery -](#)

He also co-founded the Taylor Skin Center, focusing on advanced skincare and aesthetic treatments. [Taylor Plastic Surgery -](#)

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## Locations & Contact:

- **Taylor Plastic Surgery & Skin Center**  
3733 N Business Dr, Suite 102, Fayetteville, AR 72703  
Phone: (479) 521-1500 [Cleft & Craniofacial Center of NWA+3Mercy+3FindCare+3](#)
  - **Additional Location**  
4803 W Highland Knolls Rd, Suite 300, Rogers, AR 72758 [RealSelf+2Real Patient Ratings+2Yelp+2](#)
- 

## Certifications & Affiliations:

- **Board Certification:** American Board of Plastic Surgery (since 1994)
  - **Professional Title:** Fellow of the American College of Surgeons (FACS)
  - **Hospital Affiliations:**
    - Washington Regional Medical Center
    - Mercy Hospital Northwest Arkansas
    - Northwest Medical Center-Springdale
    - Arkansas Surgery Center
    - Willow Creek Women's Hospital [Cleft & Craniofacial Center of NWA+5Taylor Plastic Surgery -+5Taylor Plastic Surgery -+5](#)
- 

## Patient Reviews:

Dr. Taylor has received high praise from his patients: [Cleft & Craniofacial Center of NWA](#)

- **RealPatientRatings:** 4.8/5 based on 449 reviews, with a 95.6% satisfaction rate
- **Healthline FindCare:** 4.2/5 based on 52 reviews [Real Patient RatingsFindCare](#)

Patients commend his compassionate approach, thorough explanations, and attentive care.

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### Awards & Recognition:

- Voted #1 Cosmetic Clinic of Northwest Arkansas in 2024
- Recognized among the Top 10 Aesthetic Clinics in Arkansas [Instagram+1Cleft & Craniofacial Center of NWA+1](#)

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For more information or to schedule a consultation, visit [Taylor Plastic Surgery](#)

## Lead Plastic Face Reconstruction Surgeon: Dr. Ebby Elahi in NYC

Dr. **Ebby Elahi**, MD, MBA, FACS, is a distinguished oculofacial plastic and reconstructive surgeon based in New York City. He holds the position of Clinical Professor of Ophthalmology, Otolaryngology, and Public Health at the Icahn School of Medicine at Mount Sinai. Dr. Elahi is also the Director of **Fifth Avenue Associates** and **FACES Fifth Avenue**, where he specializes in both surgical and non-surgical aesthetic and reconstructive procedures involving the eyelids, orbit, and lacrimal system.

[Facebook+5idny.org+5faeye.com+5LinkedIn+3facesfifthavenue.com+3Mount Sinai Health System+3](#)

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### Education & Training

- **Medical Degree:** Mount Sinai School of Medicine
- **Internship:** University of Hawaii School of Medicine
- **Residency:** Ophthalmology at Mount Sinai Hospital
- **Fellowship:** Ophthalmic Plastic and Reconstructive Surgery at NYU Medical Center
- **MBA:** Columbia Business School [FindCare+1Health News+1LinkedIn](#)

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### Professional Affiliations & Honors

- **Fellowships:**
  - American Academy of Ophthalmology
  - American Society of Ophthalmic Plastic and Reconstructive Surgery
  - American College of Surgeons
- **Leadership Roles:**
  - Past President, Mount Sinai Eye Alumni Association
  - Past President, New York Facial Plastic Surgery Society
- **Awards:**
  - Jacobi Medallion (Mount Sinai's highest honor)
  - Abraham Kornzweig Award for Excellence in Resident Education
  - Mount Sinai's Auxiliary Board's Award for Outstanding Contribution to the International Community [idny.org+2Virtue Foundation+2Mount Sinai Health System+2Virtue Foundation+3Mount Sinai Health System+3idny.org+3Facebook+5idny.org+5Mount Sinai Health System+5](#)

## Global Health & Innovation

Dr. Elahi serves as the **Director of International Affairs** at the **Virtue Foundation**, an NGO with special consultative status to the United Nations Economic and Social Council. In this capacity, he has led medical missions to countries including Mongolia, Liberia, Burundi, Cambodia, Tonga, El Salvador, and Ghana, focusing on providing surgical care and training to improve local healthcare delivery. [Virtue Foundation+2idny.org+2Mount Sinai Health System+2](#)

He is also actively involved in research and education, frequently lecturing nationally and internationally. Dr. Elahi has authored several reference books on global health and has contributed to peer-reviewed journals and internationally-referenced textbooks. His innovative approaches to orbital repair and enhancement have resulted in several U.S. patents. [Virtue Foundation+2Mount Sinai Health System+2idny.org+2idny.org+1Mount Sinai Health System+1](#)

## Practice Location

### **Fifth Avenue Associates / FACES Fifth Avenue**

1034 Fifth Avenue, New York, NY 10028

(212) 570-0707

[faeye.com](#) | [facesfifthavenue.comMount Sinai Health System+3Dystonia Medical Research Foundation+3idny.org+3Mount Sinai Health System+4FindCare+4Dystonia Medical Research Foundation+4faeye.com+1faeye.com+1LinkedIn+2facesfifthavenue.com+2LinkedIn+2](#)

Dr. Elahi is multilingual, fluent in English, French, Persian, Italian, and Spanish, and is known for his compassionate approach to patient care. He has been featured in various

media outlets, including The New York Times, ABC, CBS, Elle, and Vogue, and has been consistently recognized by his peers in publications such as New York Magazine's Best Doctors, Castle Connolly's Best Doctors, and Super Doctors.

## Director of Radiology Proton Technology: Dr. Sanjay Maraboyina in Little Rock

**Dr. Sanjay Maraboyina** is a Board-Certified Radiation Oncologist and Associate Professor at the University of Arkansas for Medical Sciences (UAMS) College of Medicine. He serves as the Clinical Director of the UAMS-Baptist Health Radiation Oncology Network and is affiliated with the Winthrop P. Rockefeller Cancer Institute. [UAMS TriProfiles+3College of Medicine+3UAMS TriProfiles+3UAMS Health+2UAMS Health+2ncsdvs.uams.edu+2](#)

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### Education & Training:

- **Medical Degree:** University of Cincinnati
- **Internship:** Christ Hospital, Cincinnati, OH
- **Residency:** Radiation Oncology, University of Kansas Medical Center
- **Postgraduate Education:** Drexel University College of Medicine
- **Specialized Training:** Prostate Brachytherapy Scholarship at MD Anderson Cancer Center [College of Medicine+3UAMS Health+3UAMS TriProfiles+3UAMS TriProfiles+1UAMS TriProfiles+1](#)

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### Clinical & Research Focus:

Dr. Maraboyina specializes in treating cancers of the thorax (including lung cancer), genitourinary system (such as prostate, bladder, and kidney cancers), and bone/soft tissue sarcomas. [UAMS Health](#)

His research interests include: [College of Medicine+9Log in or sign up to view+9UAMS Health+9](#)

- Prostate cancer treatment optimization
- Radiation therapy innovations, including brachytherapy and stereotactic ablative radiation therapy (SABR)
- Health disparities in cancer care [UAMS TriProfiles+1ncsdvs.uams.edu+1](#)

He serves as Principal Investigator on multiple clinical trials, including:

- **NRG-GU012 (SAMURAI):** Evaluating SABR for metastatic renal cell carcinoma

- **NRG-GU009 (PREDICT-RT):** Assessing genomic risk stratification in high-risk prostate cancer
  - **NRG-LU005:** Studying chemoradiation with or without immunotherapy for limited-stage small cell lung cancer [ncsdvs.uams.edu+1UAMS TriProfiles+1UAMS TriProfiles+2UAMS TriProfiles+2ncsdvs.uams.edu+2](#)
- 

### Practice Locations:

Dr. Maraboyina sees patients at the following UAMS-affiliated centers:

- **Radiation Oncology Center**
    - 3900 W. Capitol Ave., Little Rock, AR 72205
    - Phone: (501) 664-4568
  - **Proton Center of Arkansas** (located within the Radiation Oncology Center)
    - Specializing in advanced proton therapy for precise cancer treatment
  - **UAMS Baptist Health Radiation Therapy Center**
    - 3401 Springhill Dr., Suite 130, North Little Rock, AR 72117
    - Phone: (501) 214-2460 [College of Medicine+3UAMS Health+3UAMS Health+3UAMS Health](#)
- 

### Patient Feedback:

Dr. Maraboyina has an average patient satisfaction rating of 4.7 out of 5, based on 247 ratings and 90 comments. Patients commend his clear communication, empathy, and thorough explanations. One patient noted, "Dr. Sanjay is a very personable physician... He listens well, he takes time to listen to you." [UAMS Health](#)

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### Contact & Appointments:

- **New Patients:** Accepted
  - **Second Opinions:** Available
  - **Appointment Scheduling:** Call the respective clinic numbers listed above
  - **Online Portal:** Existing patients can use UAMS Health MyChart for appointment requests [UAMS TriProfiles+10UAMS Health+10College of Medicine+10](#)
- 

Dr. Maraboyina's commitment to cutting-edge radiation therapies and patient-centered care makes him a leading specialist in Arkansas for those seeking advanced cancer treatment options.

# Radiologist Photon Technology: Dr. Wesley B. Garner in NWA

**Dr. Wesley B. Garner, MD**, is a Board-Certified Radiation Oncologist practicing in Northwest Arkansas. He is affiliated with Highlands Oncology Group and is known for his compassionate approach to patient care. [CoCounsel+6Highlands Oncology+6Highlands Oncology+6WebMD Doctor Directory+5Northwest Health+5CoCounsel+5](#)

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## Education & Training:

- **Undergraduate:** Bachelor of Business Administration, University of Arkansas
  - **Master of Public Health:** Health Policy & Management, University of Arkansas for Medical Sciences (UAMS), graduated with honors
  - **Master of Specialized Economic Analysis:** Health Economics, Barcelona Graduate School of Economics, 2013
  - **Medical Degree:** Doctor of Medicine, UAMS, 2017
  - **Residency:** Radiation Oncology, University of Tennessee Health Science Center / West Cancer Center; served as Chief Resident from July 2020 to December 2021 [Highlands Oncology+1Mercy+1](#)
- 

## Clinical Practice:

Dr. Garner practices at Highlands Oncology Group, with locations in:

- **Fayetteville:** 60 E. Monte Painter Drive
- **Springdale:** 3901 Parkway Circle
- **Rogers:** 808 S. 52nd Street [Northwest Health+3Highlands Oncology+3WebMD Doctor Directory+3WebMD Doctor Directory+2Highlands Oncology+2Highlands Oncology+2](#)

He is affiliated with several hospitals in the region, including: [Highlands Oncology](#)

- Northwest Medical Center – Springdale
  - Northwest Medical Center – Bentonville
  - Siloam Springs Regional Hospital
  - Willow Creek Women’s Hospital [Northwest Health](#)
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## Family & Background:

A Fayetteville native, Dr. Garner is the son of Dr. Hershey H. Garner, a senior radiation oncologist at Highlands Oncology Group, and Denise Garner. Inspired by his father's dedication to patient care, Dr. Wesley Garner chose to pursue a career in medicine,

aiming to serve his hometown community. [WebMD Doctor Directory+5Highlands Oncology+5Log in or sign up to view+5](#)

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### **Patient Feedback:**

Patients commend Dr. Garner for his attentive and compassionate care. One patient shared:

"Dr. Garner is a compassionate doctor who answered all of my questions. He ensured I was comfortable before, during, and after my radiation. He is one of the two best doctors I have ever had!" [WebMD Doctor Directory](#)

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For more information or to schedule an appointment, visit [Highlands Oncology Group](#).

## **Resident Radiologist Proton Technology: Dr. Romy Joseph Megahed in Little Rock**

**Dr. Romy Joseph Megahed** is a Physician specializing in Radiation Oncology, currently serving as a Resident at the University of Arkansas for Medical Sciences (UAMS) in Little Rock, Arkansas. [Doximity+4Vitals+4WebMD Doctor Directory+4](#)

### **Education and Training:**

- **Undergraduate Education:** Bachelor of Science in Biology from Trinity University in San Antonio, Texas (2014). [College of Medicine+1College of Medicine+1](#)
- **Medical Degree:** Doctor of Medicine from McGovern Medical School at the University of Texas Health Science Center at Houston (2019). [College of Medicine+3WebMD Doctor Directory+3Vitals+3](#)
- **Postgraduate Training:**
  - General Surgery Internship at McGovern Medical School (2021).
  - Research years at MD Anderson Cancer Center under Dr. Stephen Y. Lai, focusing on head and neck malignancies, including medullary thyroid cancer, HPV-positive oropharyngeal cancer, and osteoradionecrosis of the mandible (2020 and 2022).
  - Radiation Oncology Residency at UAMS College of Medicine, commenced in July 2022 and expected to complete in 2026. [College of Medicine+4College of Medicine+4WebMD Doctor Directory+4Doximity+2College of Medicine+2College of Medicine+2](#)

### **Clinical Focus and Research:**



Dr. Megahed's clinical interests lie in the field of Radiation Oncology, with a particular emphasis on head and neck cancers. His research has contributed to the understanding of complex conditions such as osteoradionecrosis and HPV-related oropharyngeal cancers.

### **Professional Affiliations:**

Dr. Megahed is affiliated with the University of Arkansas for Medical Sciences, located at 4301 West Markham Street, Little Rock, AR 72205. [Vitals+3College of Medicine+3College of Medicine+3](#)

### **Personal Interests:**

Outside of his professional commitments, Dr. Megahed enjoys hiking, watching sports, and playing chess. [College of Medicine](#)

For more information or to contact Dr. Megahed, you can reach the UAMS Department of Radiation Oncology at (501) 686-7000.

## **Psychologist & Psychoanalyst, Dr. Robert A. Farrell, Ph.D., ABPP – in Mount Sinai, NY**

- **Specialty:** Clinical Psychology and Psychoanalysis
- **Education:** Ph.D. from Long Island University, Brooklyn Campus (1990)
- **Certifications:**
  - Board Certified in Group Psychoanalysis (ABPP)
  - Certified Psychoanalyst (1998)
- **Experience:** Over 35 years in practice
- **Academic Role:** Adjunct Faculty at Adelphi University's Gordon F. Derner School of Psychology
- **Practice Location:** 7 Laura Court, Mount Sinai, NY 11766
- **Contact:** Phone: (516) 830-4494 | Email: [rafphd@optonline.net](mailto:rafphd@optonline.net)
- **Services:**
  - Individual and couples therapy
  - Specializes in depression, anxiety, relationship issues, PTSD, and more
  - Offers teletherapy sessions

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Dr. Robert A. Farrell, Ph.D., ABPP, is a distinguished psychologist and psychoanalyst based in New York, offering over 35 years of experience in clinical practice, education, and supervision. He specializes in psychodynamic psychotherapy, focusing on helping individuals and couples navigate complex emotional and relational challenges. [robertfarrelltherapy.com](http://robertfarrelltherapy.com)

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## Clinical Expertise

Dr. Farrell provides therapy for a wide range of issues, including:

- Depression and anxiety
- Relationship and marital difficulties
- Self-esteem and identity concerns
- Trauma and PTSD
- Personality disorders
- Grief and loss
- Workplace and academic stress
- Gender identity and autonomy issues
- Support for adult survivors of sexual abuse

He offers both individual and couples therapy, with sessions available in-person and via teletherapy. [robertfarrelltherapy.com](http://robertfarrelltherapy.com)

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## Education & Credentials

- **Ph.D. in Clinical Psychology** – Long Island University, Brooklyn Campus (1990)
- **Postdoctoral Certification in Psychoanalysis** – Adelphi University (1998)
- **Postdoctoral Certification in Group Psychoanalysis** – Adelphi University (2000)
- **Board Certified in Group Psychoanalysis** – American Board of Professional Psychology (ABPP, 2007)  
[LinkedInrobertafarrellphdabpp.blogspot.comPsychologyToday+1robertfarrelltherapy.com+1](http://LinkedInrobertafarrellphdabpp.blogspot.comPsychologyToday+1robertfarrelltherapy.com+1)

Dr. Farrell began his career as a physiological psychologist, conducting research on brain reward pathways.

[robertfarrelltherapy.com+2Yocale+2robertafarrellphdabpp.blogspot.com+2](http://robertfarrelltherapy.com+2Yocale+2robertafarrellphdabpp.blogspot.com+2)

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## Academic Roles

Dr. Farrell holds several academic positions:

- **Director** – Psychotherapy Center, Derner Institute for Psychoanalysis, Adelphi University
- **Training Analyst & Adjunct Professor** – Adelphi University's Derner Institute
- **Adjunct Professor** – Clinical Psychology Doctoral Program, CW Post  
[robertfarrelltherapy.com+1robertfarrelltherapy.com+1robertfarrelltherapy.com+1robertfarrelltherapy.com+1](http://robertfarrelltherapy.com+1robertfarrelltherapy.com+1robertfarrelltherapy.com+1robertfarrelltherapy.com+1)

In these roles, he supervises doctoral students, oversees clinical materials, and conducts seminars. [robertfarrelltherapy.com](http://robertfarrelltherapy.com)

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## Practice Locations

Dr. Farrell maintains private practices at:

- **Mount Sinai, NY:** 7 Laura Court
- **Great Neck, NY:** 10 Grace Avenue, Suite 6  
[Yelp+3robertfarrelltherapy.com+3Vitals+3](https://www.yelp.com/search?find_desc=robertfarrelltherapy.com&find_loc=Vitals+3)

He is currently accepting new patients and offers teletherapy sessions. [Vitals](#)

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## Contact Information

- **Contact:**
    - Mount Sinai Office: (631) 891-9715
    - Great Neck Office: (516) 830-4494
    - Email: [rafphd@optonline.net](mailto:rafphd@optonline.net)
    - Website: <https://www.robertfarrelltherapy.com/>
- 

Dr. Robert A. Farrell, Ph.D., ABPP, served as a staff psychologist for the New York City Police Department (NYPD) Psychological Services Unit from August 1987 to October 1990. In this role, he conducted structured interviews with potential candidates and provided psychological services within the department. [LinkedIn](#)

Following his tenure with the NYPD, Dr. Farrell has continued to contribute to the field of psychology through private practice and academic roles. He maintains private practices in Mount Sinai and Great Neck, New York, and serves as the Director of the Psychotherapy Center at Adelphi University's Derner Institute for Psychoanalysis.

Dr. Farrell's approach emphasizes the development of a safe and trusting therapeutic relationship, aiming to uncover and modify maladaptive beliefs and feelings. His extensive experience and compassionate care make him a trusted professional in the field of psychology. [robertfarrelltherapy.com](http://robertfarrelltherapy.com)[robertafarrellphdabpp.blogspot.com](http://robertafarrellphdabpp.blogspot.com)

## **Chapter X**

### **Approximate Healing Times after Surgery:**

## **How long does it take for the Skin Cut (Incision) to Heal after a Mastectomy?**

### **Healing after a mastectomy happens in stages:**

- Skin healing (where the incision was made) usually takes about 2 to 4 weeks for the surface to close up.
- Deeper healing (inside tissues) can take several months - sometimes up to 6 months - depending on the type of mastectomy, if there was reconstruction, and your overall health.
- If there are complications like infection or delayed wound healing, it might take longer.

Doctors usually check around 2 weeks after surgery to see how things are healing.

### **Based on the Type of Mastectomy and whether Reconstructive Surgery is Involved:**

#### **1. Simple (Total) Mastectomy: (No Reconstructive Surgery):**

- Skin Healing: 2–3 weeks.
- Internal Healing: 6–8 weeks for basic recovery, but full tissue healing might take a few months.
- What Helps: Rest, limited arm movement early on, and good wound care.

#### **2. Modified Radical Mastectomy (Removal of Breast + some Lymph Nodes):**

- Skin Healing: 2–4 weeks.
- Internal Healing: 8–12 weeks.
- What Helps: Special exercises (usually taught by a nurse or PT) to prevent stiffness, careful monitoring for swelling (Lymphedema).

#### **3. Mastectomy with Immediate Reconstruction: (Implant or Tissue Flap):**

- Skin Healing: 3–4 weeks (can be slower if tissue was stretched for implants).
- Internal Healing: 3–6 months, because it's a bigger surgery with more tissue involved.
- What Helps: Following all aftercare instructions carefully, limited pressure on the chest, sometimes wearing a surgical bra.

### **Other Factors That Can Affect Healing Speed:**

- Smoking (slows down healing).
- Diabetes (can delay wound closure).
- Infection or seroma (fluid buildup) - may need draining and delay healing.

- Radiation Therapy afterward — can also make healing slower and tougher.

### **A Simple Healing Timeline for After a Mastectomy (With or Without Reconstruction):**

#### **Week 1:**

- Swelling, bruising, and soreness are normal.
- Drain(s) may still be in place to remove fluid.
- Incision is starting to close but still fragile.
- Need to rest a lot; light walking is good.

#### **Week 2:**

- Skin edges are usually sealed (but still healing underneath).
- Stitches or surgical glue may come off or be removed.
- Drain(s) might be removed if fluid is low enough.
- Light arm movement exercises often start.

#### **Week 3–4:**

- Outer skin should look much better — less scabby, pinker.
- Still some tightness or pulling feelings in the chest.
- If no problems, can start gentle activities (no heavy lifting).

#### **Month 2–3:**

- Deeper tissues continue healing.
- Scars become flatter and lighter.
- Most people feel a lot stronger, but still may tire easily.
- If there's reconstruction, this is when swelling starts coming down more.

#### **Month 4–6:**

- Full tissue healing happening.
- Scars mature (change from pink to light brown/white).
- Strength and range of motion improving a lot.
- Final shape after reconstruction (if done) starts to settle.

**Time:           What's Happening:**

Week 1 Skin starting to seal, drains are still in place

Week 2 Stitches out, drains possibly removed

Week 3-4 Surface mostly healed, activity increases

Month 2-3 Stronger healing inside, scar softening

Month 4-6 Full tissue healing, final scar look

**Time:           What's Happening:**

Week 1 Skin starting to seal, drains are still in place

Week 2 Stitches out, drains possibly removed

Week 3-4 Surface mostly healed, activity increases

Month 2-3 Stronger healing inside, scar softening

Month 4-6 Full tissue healing, final scar look

## **Chapter XI**

### **Arkansas First Sensation Technology!**



## Arkansas Marks First Sensation-Restoring Procedure for Breast Cancer Surgeries



Courtesy of CARTI.COM

Press Release: LITTLE ROCK, Ark. (March 11, 2024) – Today, Arkansas marked the first use of [Resensation®](#), an innovative breast cancer surgical procedure, designed to restore sensation after mastectomy. Together, [Eric Wright, M.D.](#), a board-certified plastic surgeon and [Yara Robertson, M.D.](#), CARTI's medical director of surgery and breast surgical oncologist performed this procedure.

“Losing one or both breasts is a life-changing event that can significantly impact a woman’s sense of self,” said Dr. Eric Wright. “This procedure is designed to help women feel more like themselves after breast reconstruction surgery.”

With the advancement of the Resensation procedure, numbness no longer has to be the accepted norm. Specialty trained Resensation surgeons are now able to use an allograft nerve to reconnect cut nerves in the chest so they can heal over time and potentially restore feeling for patients.

“CARTI is dedicated to offering women the resources and support they need for informed decision-making throughout their breast cancer journeys,” said Dr. Yara Robertson. “We want to ensure they have a clear understanding of their choices, including access to promising procedures like Resensation that could enhance their quality of life.”

Every year, more than 90,000 women in the U.S. have one or both breasts removed for breast cancer treatment or risk reduction. Peer-reviewed studies show that up to 60% of these patients experience persistent breast numbness, an outcome often associated with a decreased quality of life and reduced sexual function.

## **Chapter XII**

### **Arkansas Breast Cancer Support Groups:**

## **Support Groups:**

### **The Cancer Support Home: J.B. Hunt**

488 E. Longview St., Fayetteville, AR 72703

Open weekdays 9:00 am to 4:00 pm - No appointment necessary for free boutique services. Call; 479-404-2162

**Cancer Help Fund:** \$300 needs based assistance and No Excuses program to offset costs of imaging for diagnosis. Call: 479-404-2162

<https://www.wregional.com/main/cancer-support-home>

<https://www.youtube.com/watch?v=iCmjMqljXso>

### **Cancer Financial Assistance:**

<https://www.americanlifefund.com>

### **Hope Cancer Resources:** For Gas Cards, Counseling, Prescription

Call: 479-361-5031

<https://hopecancerresources.org/mobile/index.aspx>

Shawanna Lynn Allbritton, LCSW, is a Licensed Certified Social Worker (LCSW) based in Springdale, Arkansas. She has been licensed since May 29, 2009. (479) 757-2656

### **Breast Cancer Foundation of the Ozarks:**

<https://bcfo.org/>

### **Susan G Komen / Komen:** Financial Assistance Program - Susan G. Komen®

(<https://www.komen.org/financial-assistance-program/>)

### **Laura's Chair Foundation:**

Providing Free Lift Chair Services to Surgery Patients

<http://www.lauraschair.org>

Call: 479-899-5180

## **Educational Information:**

### **Living Beyond Breast Cancer:**

(<https://www.lbbc.org/about-breast-cancer/>)

Thank you,

Information on Support Groups Provided By:

Misty Alexandria Johnson

RN, BSN, CN -BN

Call: 479-521-8024

### **The Breast Center:**

<http://www.wregional.com>

Breast Health Nurse Navigator

## **Chapter XIII**

### **Defining Nutrition:**

The key difference between a Dietitian and a Nutritionist lies in their scope of practice and education/certification. Dietitians are registered professionals with specific training and credentials, often specializing in medical nutrition therapy and working with individuals with medical conditions. Nutritionists, on the other hand, may have various levels of training and can offer general nutritional advice and guidance.

### **Here's a More Detailed Breakdown in Their Fields:**

#### **Dietitians (Registered Dietitian Nutritionists or RDNs):**

##### **Defined Scope:**

Dietitians are trained in medical nutrition therapy and can provide specific dietary guidance for individuals with various health conditions, such as diabetes, heart disease, and gastrointestinal issues.

##### **Education and Training:**

They typically hold a master's degree in dietetics or a related field, complete an accredited dietetic internship, and pass a national certification exam.

##### **Regulation and Licensing:**

Dietitians are registered professionals, and their title is legally protected, meaning only those with specific credentials can use it.

##### **Specialized Expertise:**

They are trained to work in clinical settings, develop individualized meal plans, and counsel patients on nutrition-related issues.

#### **Nutritionists:**

##### **Broader Scope:**

Nutritionists may offer general advice on healthy eating, weight management, and wellness.

##### **Varied Education and Training:**

The term "nutritionist" can be used by individuals with varying levels of training, from those with a bachelor's degree in nutrition to those with less formal education.

##### **Regulation and Licensing:**

The title "nutritionist" is often not regulated, meaning anyone can use it.

##### **General Advice:**

They may provide guidance on food choices, healthy eating habits, and lifestyle modifications.

In essence: Dietitians are specialized Health Professionals with rigorous training and certification in Medical Nutrition Therapy, while Nutritionists may have varying levels of training and provide more general nutritional advice.

## **Chapter XIV**

### **Understanding the Genetic Processes in Breast Cancer Patients**

# Understanding the Genetic Processes in Breast Cancer Patients

## 1. The Role of Genes in Breast Cancer

Breast cancer can be influenced by **inherited genetic mutations** as well as **acquired (somatic) mutations** that occur over time.

### Inherited Mutations (Germline)

- **BRCA1 and BRCA2:** These two genes are the most well-known. Mutations here significantly increase the risk of breast and ovarian cancers.
  - BRCA1: Up to 72% lifetime risk of breast cancer
  - BRCA2: Up to 69% lifetime risk
- Other genes with moderate-to-high risk impact:
  - **TP53** (Li-Fraumeni syndrome)
  - **PALB2**
  - **CHEK2**
  - **ATM**
  - **PTEN** (Cowden syndrome)

### Acquired Mutations (Somatic)

- Occur during a person's life and are not inherited.
- Can result from environmental exposures or cell replication errors.
- Typically found only in tumor cells and not passed to children.

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## 2. Genetic Testing Process

Genetic testing is used to identify mutations that may increase a person's risk of developing breast cancer.

### Who Should Be Tested?

- Individuals with:
  - A strong family history of breast, ovarian, or related cancers
  - Breast cancer diagnosis before age 50
  - Male breast cancer in the family
  - Ashkenazi Jewish ancestry
  - Known familial mutations

### Steps in Genetic Testing:

1. **Pre-Test Genetic Counseling**
  - A certified genetic counselor explains the test, what it looks for, and implications of results.
2. **Sample Collection**
  - Usually done via blood or saliva sample.
3. **Laboratory Analysis**

- Tests are run to analyze DNA and detect mutations in high-risk genes.
  - 4. **Results and Interpretation**
    - Positive: A mutation was found.
    - Negative: No mutation found in tested genes.
    - Variant of Uncertain Significance (VUS): A change is found, but its impact is unclear.
  - 5. **Post-Test Counseling**
    - Discuss implications for treatment, surveillance, and family members.
- 

### 3. What If a Mutation Is Found?

If a harmful mutation is detected:

For the Patient:

- **Treatment options may change:**
  - More aggressive surgery (e.g., mastectomy over lumpectomy)
  - PARP inhibitors may be used in BRCA-positive patients
  - Closer surveillance (e.g., MRI + mammograms)
- **Preventive surgeries** (e.g., risk-reducing mastectomy or oophorectomy) may be considered.

For Family Members:

- **Cascade Testing:** Other family members can be tested to determine their risk.
  - Genetic counseling helps them make informed decisions about screening and prevention.
- 

### 4. Multigene Panel Testing

Today's tests often include **panels** that analyze multiple genes at once, providing a broader view of hereditary cancer risk.

- Advantages: More comprehensive, can detect moderate-risk genes
  - Disadvantages: May yield more VUS findings, which can be hard to interpret
- 

### 5. Ethical and Emotional Considerations

- Emotional distress may arise from positive results.
- Insurance discrimination is prohibited by GINA (Genetic Information Nondiscrimination Act) in the U.S., but life and disability insurance are not covered.
- Informed consent and genetic counseling are key to ethical testing.



## **Chapter XV**

### **Restrictions of Movement after Surgery**

**After a double mastectomy, gentle but strategic restriction of movement is key to promote healing, reduce complications, and prevent issues like lymphedema or seroma. Here's a summary of best practices:**

### **1. Limit Arm and Shoulder Movement (Especially in First 1–2 Weeks)**

- Avoid lifting arms above shoulder level (90 degrees) — especially important if you had lymph nodes removed.
- Do not lift, push, or pull anything heavier than 5–10 pounds (e.g., laundry baskets, children, groceries).
- Avoid reaching across your body or behind your back (e.g., for seat belts or bras).

### **2. Use of Surgical Drains**

- If you have drainage tubes, limit arm motion on that side to prevent dislodging.
- Follow your care team's instructions for drain care and tracking output.

### **3. Wear a Post-Surgical Bra or Compression Garment**

- These support healing tissues and limit breast and chest wall movement.
- Wear it as recommended (usually 24/7 for several weeks).

### **4. Sleep Positioning**

- Sleep on your back, elevated with pillows (about 30–45 degrees), to reduce swelling and tension on incisions.
- Avoid sleeping on your side or stomach until cleared by your surgeon.

### **5. Gradual Physical Therapy**

- Start with gentle range-of-motion exercises (e.g., pendulum swings, wall walking) only as directed — usually within 1–2 weeks post-op.
- Physical therapy can reduce risk of frozen shoulder and improve lymphatic flow.

### **6. Avoid High-Impact or Vigorous Activities**

- No running, jumping, or upper-body strength training for at least 4–6 weeks, or until cleared.
- Wait to resume full activity until cleared by your surgical or oncology team.

## Chapter XVI

### The Value of Pets When Healing



Our Trixie

*"The smallest furry companion can make the biggest difference in healing."  
— Unknown*

## How Pets Help in the Healing Journey of Breast Cancer Patients

*Companionship. Comfort. Connection.*

For many individuals facing breast cancer, healing is more than medical treatment—it's about finding emotional balance, physical strength, and hope. Pets, especially dogs and cats, can offer unique support in this journey.

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### 1. Emotional Support and Stress Reduction

- Pets offer unconditional love and a calming presence.
- Interaction with pets lowers stress hormones (like cortisol) and boosts "feel-good" chemicals (like serotonin and oxytocin).
- Having a pet around can reduce feelings of loneliness and anxiety during treatment.

### 2. Mental Health Benefits

- Caring for a pet encourages a daily routine and a sense of purpose.
- Pet companionship can decrease depression and help maintain a positive outlook.
- Simple activities like petting or talking to a pet can be grounding and comforting.

### 3. Physical Activity and Recovery

- Walking a dog or playing with a pet promotes gentle movement, which can improve energy levels and reduce fatigue.
- Physical activity supports circulation and overall well-being during recovery.

### 4. Social Connection

- Pets often encourage social interaction, whether through walks, pet groups, or casual conversations.
- This helps patients feel connected to their community and less isolated.

### 5. Therapeutic Pet Programs

- Many hospitals and cancer centers offer Animal-Assisted Therapy (AAT).
  - Trained therapy animals provide emotional comfort and relaxation during treatments or hospital stays.
- 

### Tips for Patients Considering a Pet

- Choose a pet that matches your energy level and lifestyle.
- Consider fostering if you're unsure about long-term commitment.
- Talk to your care team about local pet therapy programs.

## **Chapter XVII**

### **RX Genesis Client Survey:**



We understand that being diagnosed with breast cancer can be overwhelming.

This survey will help us better understand what kind of information you need, so we can support you more effectively. Your responses are confidential and will help us improve patient education and care.

## Section 1: About You

1. What is your age?

- Under 30
- 30–39
- 40–49
- 50–59
- 60–69
- 70 or older

2. What is your gender?

- Female
- Male
- Non-binary / Other
- Prefer not to say

3. When were you diagnosed with Breast Cancer?

- Less than 1 month ago
- 1–3 months ago
- 3–6 months ago
- 6-12 months ago
- Over 1 year ago

4. What Stage of Breast Cancer were you diagnosed with?

- Stage I
- Stage II
- Stage III
- Stage IV
- Not sure

## Section 2: Information Needs:

5. What type of information do you feel you need most right now? (Please select elect all that apply)

- Understanding my diagnosis
- Treatment options (surgery, chemotherapy, radiation, etc.)
- Side effects and how to manage them
- Emotional and mental health support
- Talking to family and friends about my diagnosis
- Financial support and insurance information
- Nutrition and lifestyle changes
- Support groups and community resources
- Fertility and sexual health
- Other (please specify): \_\_\_\_\_

6. How would you prefer to receive information? (Select all that apply)

- Via Email
- Online articles or websites
- Support group discussions
- Mobile app or patient portal
- Other (please specify):

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7. What concerns or questions do you have about your treatment or condition right now?

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### Section 3: Looking Ahead:

8. What information do you think you will need in the coming weeks or months? (Please select all that apply)

- Long-term treatment planning
- Reconstruction or cosmetic options
- Returning to work or daily life
- Managing fatigue and other lasting side effects
- Follow-up care and monitoring
- Preventing recurrence
- Talking about survivorship
- Palliative care options (if applicable)
- Other (please specify): \_\_\_\_\_

9. How confident do you feel about making decisions related to your care?

- Very confident
- Somewhat confident
- Neutral

- Somewhat unconfident
- Not confident at all

10. Is there anything else you'd like us to know about your informational needs or how we can help you in selecting the support you are seeking? Help that is relative to you?

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Thank you for taking the time to complete this survey. Your feedback helps us provide better care and useful resources.

Please Print, Complete and email this survey to [Trade@genesisny.net](mailto:Trade@genesisny.net)

Thank you,

Genesis Staff  
479-361-1211  
[www.genesisny.net](http://www.genesisny.net)  
Fayetteville, Arkansas 72704

+++++

**At Genesis, our heartfelt hope is that this collection of carefully gathered information offers comfort, clarity, and strength to those facing a Breast Cancer Diagnosis.**

If these words have brought you insight or encouragement, we warmly invite you to share them with others who may be walking a similar path. In doing so, you help extend a lifeline of support, reminding others that they are not alone.

Thank you,

Genesis Staff  
[info@genesisny.net](mailto:info@genesisny.net)

[www.rxgenesis.net](http://www.rxgenesis.net)

[www.genisiseconomicdevelopment.org](http://www.genisiseconomicdevelopment.org)