



Radiation Oncology



What You and Your Family Can Count On

Our Riverside Mission: To care for others as we would care for those we love, to enhance their well-being and improve their health.

Every member of our team commits to the Riverside Care Difference when they join Riverside. Our Riverside Care Difference is the way in which we deliver care and services, as a team, by putting our patients and customers at the heart of all we do. The Riverside Care Difference represents our ongoing commitment to provide you with the best care possible:

- To keep you safe
- To help you heal
- To treat you with kindness
- To respect your wishes



One of the ways we provide *care that is focused on you* is by providing patient education. Research shows that patients have better health and fewer complications when they understand their health conditions and know what they can do to be healthier. They participate more fully in decisions about their health and in self-care.

Our sincere goal is to help you become healthier and stay as well as possible throughout your life. If you have any questions about the information presented here or would like more explanation, please let us know.

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This book will explain some of the things to expect during radiation therapy and what you can do to make yourself more comfortable during treatment. You can also watch the accompanying video by texting RADONC to 78234 or going to riversideonline.com/patientvideo.

For further information, please feel free to ask questions of your therapists, oncology nurses or your radiation oncologist. We are all here to make this time in your life as comfortable as possible.



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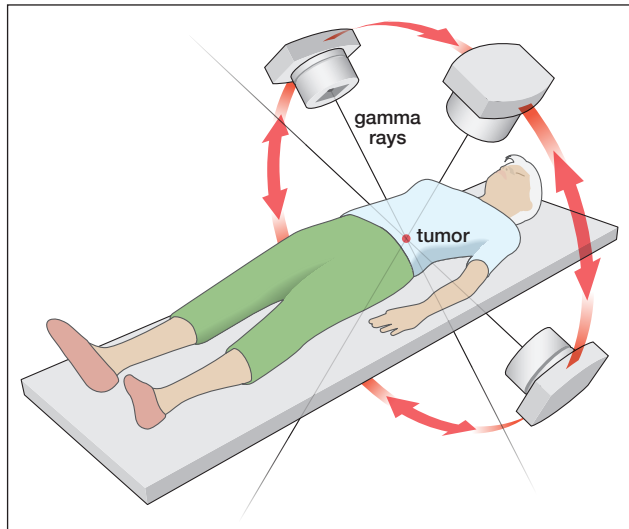
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Section 1: Radiation as a Cancer Therapy

Radiation is an extremely useful form of treatment. For some kinds of cancer, radiation alone is enough to destroy the cancer. In other cases, it is combined with surgery, chemotherapy and hormone therapy. When the cancer cannot be reached by surgery, sometimes radiation is used before or after the surgery to keep cancer cells from growing. And, it can also reduce pressure, bleeding, pain or other symptoms cancer can cause.

1.1: How Radiation Kills Cancer

Radiation destroys the ability of cells to grow and reproduce. Cancer cells divide more rapidly and are more sensitive to radiation than normal cells. Radiation kills cancer cells by destroying them when the cells are dividing.



1.2: How the Machine Delivers Radiation

Most patients who receive external beam radiation therapy are treated by X-rays or electrons produced by a linear accelerator. The kind of treatment depends on the type of cancer and where it is in your body. Electrons are often used to treat cancers near the surface of the body. High energy X-rays are used to treat cancers located deep inside the body. During treatments, these advanced machines move around you so we can point radiation right at the tumor from different angles.

Section 2: Radiation Therapy Types

2.1: External Beam Radiation Therapy

Radiation therapy is sometimes called radiotherapy, X-ray therapy or irradiation. It is the use of high energy X-rays or electrons to stop cancer cells from growing and multiplying. In external beam radiation therapy, a machine aims the high energy X-rays or electrons to treat the cancer. This is the most common type of radiation treatment.

Intensity Modulated Radiation Therapy is an advanced technique used to deliver precise radiation doses to a tumor or high risk areas determined by your radiation oncologist. IMRT can target the tumor with less damage to healthy tissue. This helps you have fewer side effects.

Image-Guided Radiation Therapy is an additional process ordered by the doctor to take a picture of the area being treated inside the body. IGRT is sometimes ordered when daily targeting is needed. This process of taking a picture before each radiation treatment checks the treatment position each time. This allows the doctors to adjust the treatment plan based on any changes.



2.2: Internal Radiation Therapy (Brachytherapy)

(Offered in the Newport News cancer center location)

Brachytherapy [bray-key-therapy] or internal radiation therapy is a special use of radiation in which a radioactive source is placed as close as possible to the cancer cells. It delivers the radiation treatments inside your body, or directly into the cancer. By using internal radiation therapy, the radiation oncologist can give a higher total dose of radiation to a specific area. Most patients can come to the office or hospital to get the treatment and go home the same day.

Brachytherapy can be used to treat gynecologic and bile duct cancers. The radioactive source may be delivered by seeds or catheters in the operating room or in the office.

Devices and Delivery

Breast Cancer Brachytherapy This is also called Accelerated Partial Breast Irradiation or APBI. A treatment device is placed in the breast during surgery. The brachytherapy treatments are done in the office.

Gynecologic Cancer Brachytherapy

The radiation oncologist places a temporary treatment device in the woman's vagina. This is most often done in the office for each brachytherapy treatment, after an initial pelvic exam.

Bile Duct Cancer Brachytherapy

A catheter is placed during surgery to be used for brachytherapy treatments in the office.

To learn more about what to expect with brachytherapy procedures, visit page 17.

Section 3: Radiation Oncology Team

Radiation therapy requires coordinated care by a highly skilled medical team. They develop an effective care plan. The team makes sure each treatment is given safely and accurately. Each team member has a specific role and specialized education and training.

Front Desk Team Members

The radiation oncology front desk team members will assist you in the registration process during your first visit. They are responsible for obtaining your insurance authorizations and referrals, if needed. The front desk team is a resource for you and your family for additional information, and can assist you in contacting Cancer Patient Navigators, other physicians' offices and diagnostic centers. Your front desk team will schedule any diagnostic testing required. Our professional billing staff is responsible for ensuring your bills are submitted to your insurance company accurately and timely.

Radiation Oncology Nurse

Radiation oncology nurses are specially trained in radiation therapy. They work closely with your radiation oncologist to care for you during your radiation treatments. They will explain side effects you might have and help you manage them. They also assess how you are doing and will help you throughout treatment, providing support and needed information to you and your family.



Radiation Oncologist

The radiation oncologist is the only physician with the specialized training and expertise required to prescribe radiation therapy treatments. Your radiation oncologist will review your diagnosis and develop the best course of treatment. She or he oversees your radiation therapy, adjusting the treatment as needed to make sure the radiation is hitting the target with minimum side effects. Your radiation oncologist is always available to answer your questions about your radiation treatments.

An additional physician partner works with your radiation oncologist after your final radiation treatment. This provider, an internal medicine physician, may see you six weeks after your treatment is completed and then at regular intervals as needed to provide comprehensive follow-up care.

Radiation Therapist

The radiation therapist delivers your treatment at each radiation session and can answer questions *about the treatments and your schedule*. They are specially trained in radiation therapy and inspect the radiation machines daily to be sure they work properly.

Dosimetrist

The dosimetrist works with the medical physicist and radiation oncologist to calculate the right dosage, computer simulations and medical scans. These calculations ensure accurate delivery of the radiation oncologist's prescribed dose.

Medical Physicist

Medical physicists work with the dosimetrist to ensure that complex radiation treatments are individualized for each patient. They make sure you get the exact radiation treatment prescribed by your radiation oncologist. They are responsible for making sure the treatment planning equipment and treatment machines are safe.

Section 4: Your Consultation Visit

Your first visit to our radiation therapy center usually does not involve treatment. The appointment should take about an hour. Please plan to arrive 30 minutes early to complete necessary paperwork. Our staff needs your medical history and other information before you see the radiation oncologist.

Things to have or know for your first appointment:

- Picture identification
- Insurance cards
- Your social security number
- Date of birth of the primary health insurance holder
- Advance medical directive, if you have one
- List of medications (including over-the-counter)
- Personal health history information (making notes beforehand about your personal health history may help)

What is an advance directive?

An advance directive is how most people communicate their instructions for how they want to be treated if they cannot speak for themselves. The instructions can include a living will and a health care power of attorney.

Why is advance care planning important?

Advance care planning allows you to have your wishes respected and can improve your care at the end of life. When you tell people how you want to live, they will be better prepared to make decisions the way you would for yourself, not just at the end of life but at any time if you cannot speak for yourself.

How can I learn more about advance care planning?

- Talk to your doctor.
- Visit: asyouwishvirginia.org or riversideonline.com/advancedirective
- Call 757-325-9400 (As You Wish Virginia)

What to expect at your consultation visit:

- We will take a photo of you to put in your medical record for identification.
- You will meet with the radiation oncology nurse to review your medical history.
- You will talk with your radiation oncologist. He or she will examine you, discuss your diagnosis and treatment options, review side effects and answer any questions you may have.
- We will go over your next appointment information and possible instructions for your future visits.

Discuss Your Medications

Be sure to ask your radiation oncologist or nurse before taking any medicine (including aspirin). You should list all medicines you are currently taking and any allergies you may have, and discuss them with your radiation oncologist.

Ask Questions

Feel free to ask anything about your treatments. You may find it helpful to write down questions as you think of them to take with you to your appointments. It is important to ask any questions or express your concerns with your nurse or radiation oncologist.



Section 5: External Beam Radiation Therapy Visits

5.1: CT Simulation Visit

At this visit you will go through a process called CT simulation. This appointment takes about an hour and you may be asked to change into a gown or shorts. The radiation therapist will explain the procedure and make a CT scan of the area of your body to be treated with radiation therapy. This scan is for planning purposes and is not diagnostic; there will not be a radiology report produced from this scan.



The simulation visit also involves making a device to keep you in the same position every time you are treated. A “mask” may be used for treatments near the head and a “mold” may be cast for the torso or rest of the body. Marks will be made on the mask or mold to serve as reference points to help our radiation therapists place you in the correct and exact position every day.



This ensures your treatments are as accurate and precise as possible.

Treatment areas

Your radiation preparation and treatment will vary depending on the area treated.

Here’s what to expect for the specific areas of the body:

Head and Neck

We will make a mask to form around your head, neck and possibly shoulders to keep you still during your CT simulation and future daily treatments.

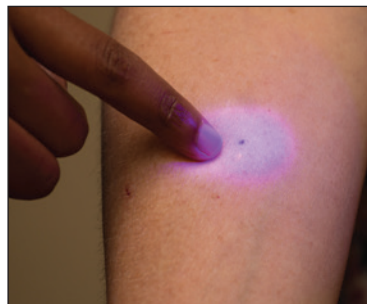
Pelvis

You may be asked to follow preparation instructions before this appointment. We make a special mold around your legs to hold your position during daily treatment.

Chest and Abdominal

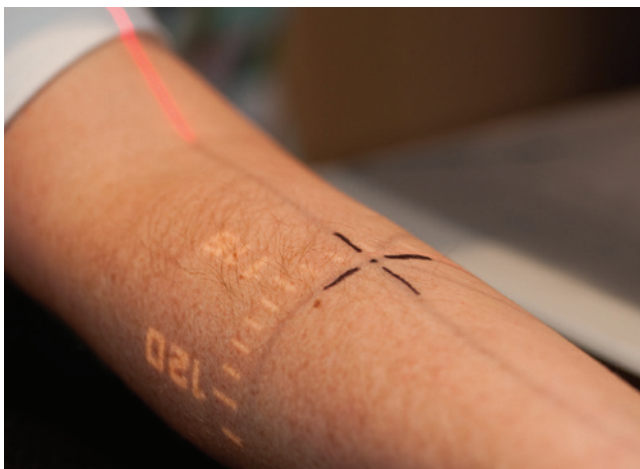
Your arms may be positioned with a mold above your head to position you for daily treatment. For breast treatment, the doctor may draw semi-permanent marks on your skin and place small removable stickers for the CT simulation scan.

During the CT simulation, the radiation therapist may mark your skin in the designated area with tattoos and/or semipermanent marker. These tattoos are permanent and are done with a small needle leaving behind a “freckle” sized dot. Your radiation therapist uses this mark for a precise daily treatment setup.



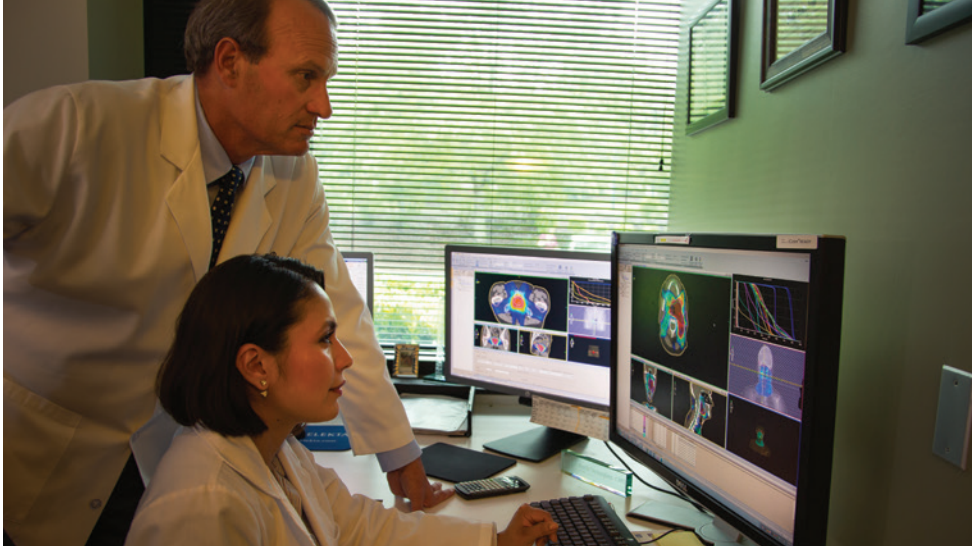
If a marker is used, small stickers may be placed over the marks to help keep them in place until your next visit. You may shower as normal, just be careful not to take off any stickers or wash off any marks.

Photos will be taken of your marks and/or tattoos and mask and/or mold setup. These will be placed in your medical record for reference.



Radiation Treatment Planning

Your next appointment will be in a few days or up to two weeks. This allows time for your team – dosimetrist, radiation oncologist and physicist – to plan your treatment. This team uses a special planning software to develop a treatment plan especially for you.



5.2: “Dry-Run” of Treatment

Once the treatment plan is completed, you return to the office to do a “dry-run” on the treatment machine. This consists of taking images and measurements. The radiation oncologist reviews these to ensure treatment accuracy.

What to Expect During “Dry-Run:”

- This appointment takes 15 to 30 minutes.
- We will ask your name, date of birth, and area of treatment.
- You may be asked to change in the dressing room into a gown or shorts.
In the treatment room, you lie on the table in your mold/mask in the same position used for the CT simulation.
- The therapists will ask you to hold still while they use your tattoos/marks to properly align you for treatment and will adjust your position as needed.
- We take images and measurements to verify treatment.

- We may draw the shape of your radiation area on your skin with semipermanent marker. A photo will be taken and placed in your medical record for reference.

The therapist will work with you for scheduling all future radiation treatments. We will make every effort to work within your schedule.

5.3: Treatment Schedule

The number of treatments will vary according to your individualized treatment plan, the type of cancer you have as well as the location of the cancer.

Here are some things to remember:

- You will have treatments five days a week (Monday - Friday) except for holidays.
- Each treatment lasts 15 to 30 minutes. Because it is important for you to have all your treatments, we urge you not to miss any of them.
- Your therapists will coordinate your appointment schedule.
- Please arrive a few minutes early so you have time to change into a gown or shorts if needed for your treatment.



5.4: Treatments

Radiation is given daily – aimed at the treatment area from different angles – as outlined by your treatment plan. It is delivered by the registered radiation therapists.

Here is what to expect at each treatment:

- We will ask your name, date of birth, and area of treatment at every visit.
- You may be asked to change in the dressing room into a gown or shorts.
- In the treatment room, you lie on the table in your mold/mask in the same position used for the CT simulation and “dry-run.”
- The therapists will ask you to hold still while they use your tattoos/marks to properly align you for treatment and will adjust your position as needed.
- The therapists will ask you to continue holding still. They will leave the room and monitor you through video and intercom.
- We may take images and measurements prior to turning on the radiation.
- Radiation is delivered as outlined by your treatment plan.
- The actual time the radiation is on is often less than the time it takes to position you on the table.
- You will not see or feel anything during treatment, but you may hear a faint buzzing and see the machine move around you.
- Once a treatment is complete, the therapists will return to the room and assist you off the table. You are free to go home.

Once a week, you will see a nurse, who will take your weight and ask a series of questions regarding how you are feeling. A radiation oncologist will answer any questions about potential side effects or concerns. You will not have an outcome until you are finished with all of your treatments.

5.5: Possible External Beam Side Effects

Radiation is an effective treatment for cancer. It can sometimes affect normal tissue causing side effects. Most side effects of radiation stay in the same area as where you are being treated; however, not everyone has side effects. The severity of side effects depends on the person, the cancer, the amount of radiation given, as well as the area that is being treated. If you do have side effects, it is likely they will not appear until two to three weeks into your treatments. Be sure to notify your radiation oncologist, therapist or nurse about them if and when they occur. Side effects sometimes last a few weeks to a few months after you have completed therapy.

General Side Effects

Fatigue: Some patients tire easily during radiation therapy. This can occur because your body is using a lot of energy to fight the cancer and to rebuild injured cells. Rest is good, but not too much rest. Try to get seven to eight hours of sleep a day and plan your activities at levels that are comfortable for you. Staying active is a good way to manage feeling tired.

Skin Irritation: Skin changes and reactions to radiation treatment do occur. The skin in the treatment area may begin to look reddened, irritated, tanned or sunburned. It is very important to protect the skin from the sun during and after treatment.

Hair Loss: If you have body hair in the area we are treating, you may temporarily lose some or all of that hair (called alopecia.) Some patients never grow the hair back but this is unusual. If you lose the hair on your head, you can wear hats, turbans, or scarves, or you might want to buy a wig or a toupee. These hairpieces are tax-deductible medical expenses and are sometimes covered by insurance.

Specific side effects depend on the area being treated. Your radiation nurse will go over what you can expect based on the area of your treatment. If at any time during treatment you have questions or concerns, ask your radiation oncologist, nurse or therapist, and they will be happy to help you.

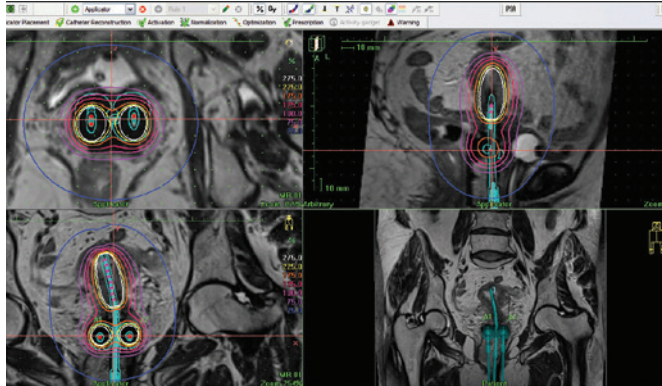
Section 6: Internal Radiation Therapy – Brachytherapy

(Offered in the Newport News cancer center location)

6.1: What Can I Expect During My Procedures?

Before your brachytherapy treatment, you will be given a handout with further descriptions about the procedure (what to expect, care instructions and possible side effects).

For gynecologic, bile duct and breast cancer, the brachytherapy treatments are done in the office. A nurse will take vital signs and explain the equipment and the procedure to you. During the procedure a CT scan is done to check the position of the treatment



applicator and device. Your first brachytherapy visit may take more time while the physicist does the initial treatment plan. Once the actual radiation treatment begins, your doctor, nurse, physicist and therapist will be outside the treatment room. In the brachytherapy room, the nurse and the therapist will be able to closely observe and communicate with you during treatment through video monitoring and intercom. You will need to lie as still as possible during the treatment. You will be free to leave after each treatment.



How Long Is the Treatment?

The length of each brachytherapy appointment is on average two hours. However, the actual radiation treatment time is only several minutes.

6.2: Possible Brachytherapy Side Effects

Brachytherapy side effects don't happen very often. The side effects you have depend mostly on the part of the body that is treated. Before beginning your treatment, your radiation oncologist will explain the side effects you may have and how long they might last.

6.3: Brachytherapy Radiation Safety

For gynecologic, breast or bile duct cancers, there is no radioactive material left inside your body. After your treatments, you are not radioactive.

Section 7: Follow-up Visits

You will be given a follow-up appointment before your final treatment. During your follow-up visit, you will see either the radiation oncologist or our internal medicine specialty physician. He or she will monitor your treatment progress, refer you for any tests or to other specialists and determine further treatment plans as necessary.

There will be a complete report, which your medical oncologist and referring provider can view in your electronic medical record.



The Victory Bell

Riverside Radiation Oncology-
Gloucester

*Ring this bell
three times well
to celebrate this day.
My course is run,
the treatments done.
I am on my way.*

Section 8: Resources at Riverside

Riverside Health System offers a variety of services to patients and their families. Riverside Cancer Services provides cancer prevention and education programs as well as free cancer screenings throughout the year. Listed below are resources, support groups and cancer services available for you and your family.

8.1: Questions and Support

Your nurse may be able to help you with both nonmedical information and questions or problems you may have during the course of treatment. Arrangements may be made regarding transportation, financial assistance or any emotional support or counseling you may need.

Always feel free to ask your radiation oncologist, therapist or nurse any questions you may have concerning your treatments.

Cancer Navigation at Riverside

From the beginning, you may have a lot of concerns and questions. That's why Riverside created the Cancer Navigation Program, a special service provided at no cost that offers a highly-individualized approach to care. Your navigator is an oncology-certified registered nurse who will:

- Guide you through the overall health system
- Answer your questions about your diagnosis and care plan
- Listen carefully and respond clearly to your comments and concerns
- Coordinate referrals and other support services
- Assist with ways to get you to your appointments, if needed
- Address insurance and financial challenges
- Direct you to local and regional resources and support
- Be available during all phases of your cancer care

Please see the insert at the back of this book for more information on our patient navigators, patient care facilitators and social workers.

8.2: Transportation

Radiation therapy is usually given on an outpatient basis (no overnight hospital stay). Most patients will feel well enough to drive themselves. However, if you are not feeling well you may want to arrange for someone else to drive you. If you need transportation support, just let your nurse, radiation therapist or patient navigator know and they can help.

(Limited transportation is provided by the Peninsula Chapter and Maryland Chapter of the American Cancer Society. Some services and support are also available from the Tree of Life Cancer Care Funds at Riverside.)

8.3: Billing Information

Health insurance policies vary in treatment coverage. Authorization for radiation treatment may take several days to obtain.

Patients undergoing radiation therapy can expect a statement for their treatment. The statement will be broken down by type, including “technical services” for the radiation oncology services. The other type is “professional services” and covers the services of the radiation oncologist who is directing your care.

You can now pay your bill online if you prefer.
Go to: https://secure.riversideonline.com/n/rhs/pay_your_bill.php

Here’s what you’ll need:

- Patient Account Number
- Patient Name
- Patient Date of Birth
- Major Credit Card



For information concerning your bill, please contact the customer service center for your concern:

“Technical Services” Billing – Riverside Patient Accounting **757-989-8830, Option #3.**

“Professional Services” Billing – RMG Patient Accounting **757-534-6791.**

Patients can check with their patient navigator, patient care facilitator or social worker for financial assistance options and concerns. (See the insert in the back of this book for information on how to contact these team members.)

8.4: Nutrition During and After Treatment

You may be referred to a dietitian. A dietitian is a health professional with specialized training in nutrition. They can help you pick foods and plan meals that help meet your nutrition needs during treatment.

Nutrition Classes

The American Cancer Society also offers classes for those diagnosed with cancer and their caregivers. To register, call **757-591-8330**.



8.5: Cancer Wellness Pathway with Riverside Physical Therapy

During and after cancer treatments, you may experience changes that could be relieved or improved through therapy. Our physical, occupational and speech-language therapists at Riverside are specially trained to understand and help cancer patients during and after treatment. Physical or occupational therapy may be an option for you if you are experiencing any of the below.

If you experience:

- weakness or fatigue
- poor balance or the feeling that you may fall

If you are having difficulty with:

- walking
- daily tasks (for example: personal hygiene care, cooking, or cleaning)
- swallowing
- memory or concentration

8.6: Riverside Treatment Locations

- 1 Riverside Cancer Care Center**
Riverside Regional Medical
Center Campus
12100 Warwick Blvd., Suite 102
Newport News, VA 23601
757-594-2644
- 2 Riverside Middle Peninsula
Cancer Center**
7544 Medical Drive
Gloucester, VA 23061
804-693-4900
- 3 Williamsburg Radiation
Therapy Center**
3901 Treyburn Drive, Suite B
Williamsburg, VA 23185
757-220-4900
- 4 Riverside Shore Cancer Center**
20480 Market St.
Onancock, VA 23417
757-302-2600



We're here for you 24 hours a day.

Call **Riverside Nurse** to talk to an experienced, registered nurse skilled in assessing symptoms and advising callers on their healthiest course of action. You can also count on an easy referral to a Riverside physician.

757-595-6363 or toll free 800-675-6368

View Health Information under the Patients & Visitors tab on riversideonline.com

Riverside MyChart

Manage your health online 24/7 using the features in MyChart:

- **Communicate with your doctor**
- **Access your test results**
- **Request prescription refills**
- **Schedule your appointments online**
- **View bills and pay online**
- **Follow your loved one's health**

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