

Understanding Brain Metastases:

A Guide for Patient and Caregiver



Provided to you by



Alliance for
LUNG CANCER
Advocacy, Support, and Education



This booklet was made possible by an educational grant from

[Pharmacyclics](#)

Emergency Contacts

Patient's name _____ Phone number _____

Address _____

Emergency contact _____ Phone number _____

Doctor _____ Phone number _____

Nurse _____ Phone number _____

Primary caregiver _____ Phone number _____

Medical oncologist _____ Phone number _____

Radiation oncologist _____ Phone number _____

Other _____ Phone number _____

Medications and dosages
(include non-cancer-related medications) _____

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Introduction

This booklet is intended to provide you with a basic understanding of brain metastases and their treatment. You should discuss any questions you may have regarding the information provided in this guide with your doctor or other healthcare professional. You may also want to share this information with family, friends, and loved ones who are helping you.

Many have found a personal support system made up of friends, family members, members of a cancer support group, or social or religious organization is helpful in dealing with cancer. They can provide a wide range of services, from providing emotional comfort to picking up the groceries. Support systems can also benefit those who are helping you on an everyday basis.

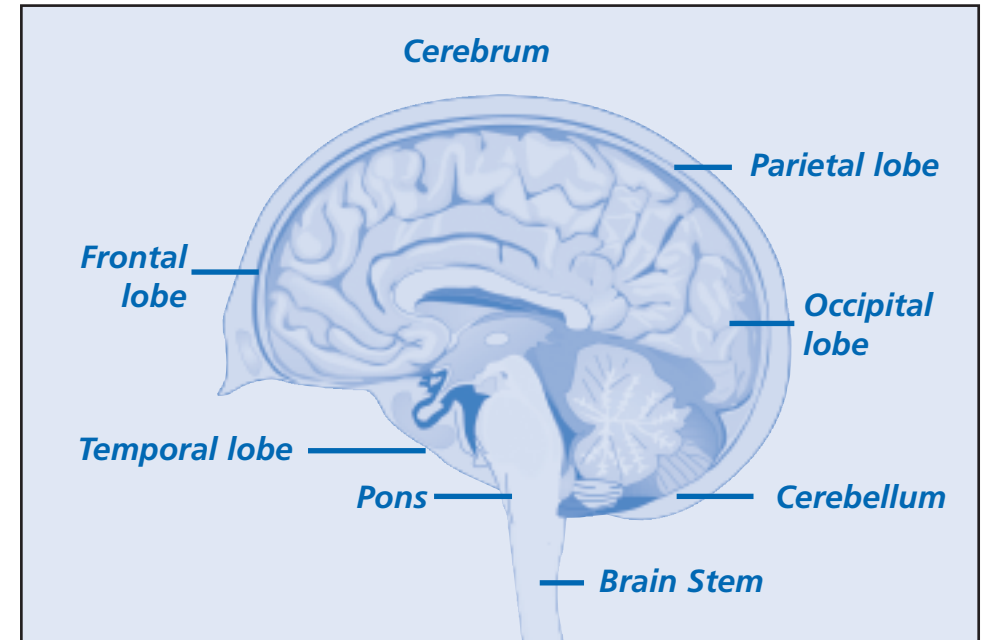
The Brain

The human brain is one of the most extraordinary creations in all of nature. Our brains allow us to think and talk and to remember the things we've thought and said. It helps us move around and have emotions—and also to hear, feel, and see.

Each part of the brain has a different job, although some parts may share tasks.

To the best of our understanding, here is what each part of the brain does:

- The cerebrum is where the brain stores memories. It also decides how we respond to the things we hear, see, touch, smell, and taste.
- The cerebellum makes sure that our muscles work together so that we can walk and stand.
- The frontal lobe allows us to talk. It also controls our emotional reactions and things such as intelligence, reasoning, behavior, memory, sexual urges, and personality.
- The parietal lobe controls both our sense of touch and how we use our hands.
- The occipital lobe allows us to see and may affect reading and vision.



- The temporal lobe controls both our hearing and our organizational abilities.
- The pons makes sure we breathe and our hearts beat.
- The brain stem is the communications center—once our brain makes a decision, the brain stem sends the news to the rest of the body.

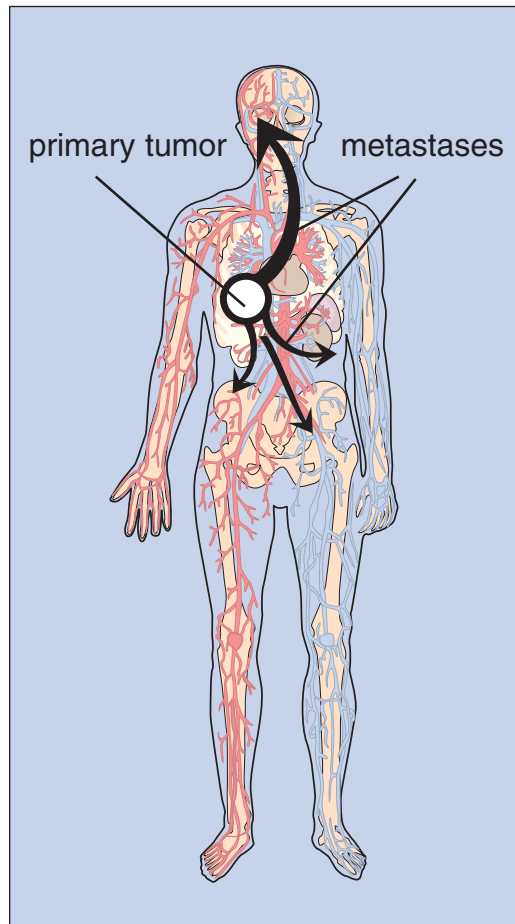
What Is Cancer?

Our bodies are made of cells, including skin cells, blood cells, bone marrow cells, and nerve cells. Each of our bodies contains *trillions* of cells. Similar cells grow together to form living tissues and organs.

In children, cells grow and multiply rapidly as their bodies develop. In adults, cells generally multiply only when they are needed to replace defective or dying cells, or to repair injuries. Sometimes, a cell becomes damaged in such a way that it begins to grow and multiply without control. When this happens, the cell becomes a cancer cell. It produces other cancer cells, too. Each cancer cell continues to produce still more cancer cells.

Cancer cells usually grow together as tumors. A cancer at its original site is called a *primary tumor*. When tumor cells break away from the primary cancer and spread to a new location—by the bloodstream or lymph system—the new tumor is called a *metastatic* or *secondary tumor*. As tumors grow larger, they can harm nearby tissue by pressing against, damaging, or growing into normal tissue.

What Are Brain Metastases?



Brain metastases are cancer cells that have spread to the brain from primary tumors in other organs in the body. This occurs most often with lung cancer but can also occur in breast, skin (melanoma), kidney, and colon cancer. It is estimated that over 100,000 people are diagnosed with brain metastases each year. Cancer cells break away from the primary tumor in the chest, travel through the bloodstream, and take up residence in the brain.

What Are the Typical Symptoms of Brain Metastases?

As tumor cells multiply within the brain, they can press against, irritate, and/or destroy normal brain tissue. As a result, brain metastases can be associated with symptoms such as headaches, seizures, speech problems, weakness, bad vision, pain or numbness, problems moving, paralysis, nausea, or vomiting. Brain metastases may cause a feeling of tiredness or fatigue. In addition, brain metastases can cause problems with memory, reading, and talking.

However, not everyone gets every symptom. In fact, about one third of people with brain metastases have no symptoms at all.

How Are Brain Metastases Diagnosed and Evaluated?

Brain metastases may be diagnosed and evaluated using one or more of several different types of procedures:

- MRI—magnetic resonance imaging
- CT—computerized tomography
- PET—positron emission tomography
- Biopsy

MRI—Magnetic Resonance Imaging

Magnetic resonance imaging (MRI) uses an extremely strong magnet to produce images. With contrast-enhanced MRI, the patient is first injected with a dye that makes normal and tumor tissue appear different. The dye may cause a temporary headache or other temporary side effects. Rarely, the dye causes an allergic reaction. If you require an MRI be sure to tell your doctor if you have a history of allergies or drug reactions.



Because the MRI uses a magnet, you cannot bring any metal into the room. This includes watches and earrings. Patients who have pacemakers cannot undergo an MRI, since the MRI will stop the pacemaker from working. MRI also may not be an option in patients with metal clips, pins, or shrapnel in their body. However, many newer implants use nonmagnetic metals, and patients with such implants can undergo MRI. Do not bring credit cards or any other card with a magnetic strip into the scanner. The MRI magnet will erase the information on the cards. Your doctor or the doctor's staff should instruct you on how to prepare for the procedure.

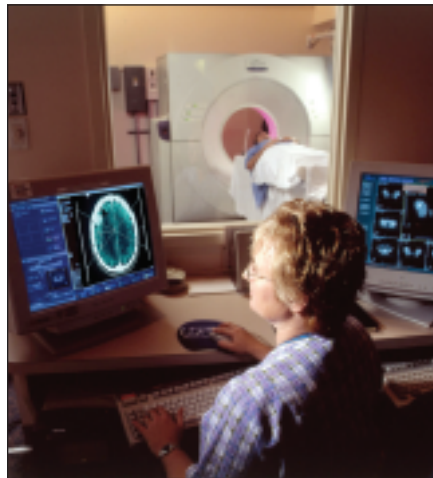
People who suffer from claustrophobia (the fear of being in tight spaces) may have difficulty dealing with the enclosed space of the MRI tube. There are a few possible solutions to this problem. If the imaging site allows it, you can have a friend or relative there with you. Another option, if your doctor agrees that it is appropriate and necessary, would be to take some sort of medication to help you relax before the scan. A third option, if available at your treatment facility, would be to have the scan in a newer "open" MRI, which does not require you to enter a tube.

For patients who cannot undergo MRI due to having pacemakers, metal implants, allergies, claustrophobia, or other issues, CT scan may be used.

CT—Computerized Tomography

Computerized tomography (CT) scan machines take multiple x-rays of small areas of your brain from different angles. The computer then combines the scans to make a detailed, 3-dimensional image.

Iodine may be used as a contrast agent to enhance the image; it is generally injected after the first few images have been taken. If iodine is used, tell your healthcare provider about any allergies you may have; also mention if you have diabetes, asthma, a heart condition, kidney problems, thyroid, or other conditions.

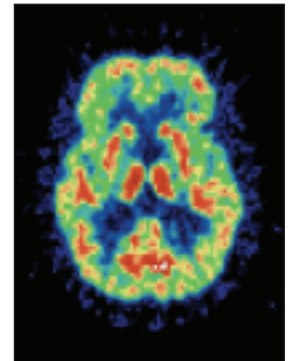


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In general, side effects from iodine use are infrequent. You may experience a brief warm or hot "flushed" sensation during the actual injection of the iodine and a brief "metallic" taste in your mouth. If you experience itching over various parts of your body, tell your healthcare provider immediately so that you can be given medication to treat this response. Serious reactions are rare, and may include breathing difficulty, swelling of the throat, or swelling of other parts of the body; if you experience any of these, tell the healthcare provider *immediately*.

PET—Positron Emission Tomography Scan

Positron emission tomography (PET) scan is sometimes used in addition to MRI or CT to diagnose or evaluate brain metastases. After receiving treatment, PET scans can also help to differentiate between new tumor growth and scar tissue or necrosis (cells killed by radiation). The contrast agent for PET is a radioactive sugar; the PET scan reads which parts of the brain consume more of the sugar (tumors) and which parts consume hardly any at all (scar tissue; necrosis).



Biopsy

MRI, CT, and PET scanning are all ways to take pictures of the inside of the body. They are all painless, and do not require surgery. Under certain circumstances, however, a doctor may need to take a biopsy. That is, a small piece of the tumor tissue is surgically removed to be studied. This can be done as part of surgery or as part of a special procedure.

There are three types of biopsies:

- **Needle biopsy:** A narrow, hollow needle is inserted through a hole in the skull and into the tumor.
- **Stereotaxic or computer-directed needle biopsy:** A computer provides detailed information about the location of the tumor, based on a CT or MRI scan.
- **Closed biopsy:** A computer helps to physically guide removal of the tumor sample.

Who Are the Members of the Healthcare Team?

- **Medical oncologist:** a doctor who specializes in the management of patients with cancer and who treats them with drugs such as chemotherapy or monoclonal antibodies.
- **Neurologist:** a doctor who specializes in the management of patients with diseases of the brain and other parts of the nervous system.
- **Neuro-oncologist:** a doctor who specializes in the management of patients with brain tumors and other nervous system tumors. The neuro-oncologist may be originally trained as a neurologist, oncologist, or neurosurgeon.
- **Neuropathologist:** a doctor (pathologist) who diagnoses diseases by examining tumor tissue from the brain and other areas of the nervous system.
- **Neuropsychologist:** a psychologist (that is, a doctor specializing in emotional and mental health disorders) who specializes in how the brain works and the impact that damage to the brain has on the patient.
- **Neuroradiologist:** a doctor who specializes in diagnosing diseases of the brain and the nervous system via x-rays, CT scans, and other imaging devices.
- **Neurosurgeon (or brain surgeon):** a doctor who specializes in surgery of the brain and the rest of the nervous system.
- **Nurse:** a person trained in the care of patients, providing therapies and monitoring health.
- **Patient advocate:** a member of an organization whose goal is to provide patients, their families, and loved ones with a greater understanding of their disease and treatment choices. Both ALCASE and NBTF are patient organizations that provide information and support to patients and family members.
- **Physical therapist:** a healthcare provider who teaches and guides you through various exercises to ease pain, reduce disability, and help restore function or help adaptation to new physical limits.
- **Radiation oncologist:** a doctor who specializes in the management of patients with cancer and who treats them with radiation therapy.

- **Social worker:** a healthcare provider who offers a wide range of services directly to persons with cancer and their families including counseling, support, education, and resource identification.
- **Speech-language pathologist or speech therapist:** a healthcare provider who specializes in the treatment of communication and swallowing problems.

What Is Done After Brain Metastases Are Found?

If There Is No Prior History of Cancer

If brain metastases are the first sign of cancer, typically the next step will be to search for a primary cancer. This will most likely include a chest x-ray and chest CT scan, since lung cancer is most commonly associated with brain metastases. Physical examination, CT scan of the abdomen and pelvis, mammogram, MRI, bone scan, PET scan, endoscopy, colonoscopy, and/or blood tests may also be required. Once the primary cancer is identified, a tissue sample will be needed to confirm the type of cancer. The tissue sample can come from a sputum specimen, from a needle biopsy, or from surgery. It could be taken from the primary cancer, or from any other metastatic site, including the brain. The tissue sample will confirm that there is cancer, and will help the doctor identify which type of cancer it is. Once the type of cancer and the extent of the cancer spread are known, the doctor will identify and begin appropriate treatment for that cancer.

If a Prior Cancer Has Been Treated

If a patient has finished cancer treatment, and a brain metastasis is the first sign that cancer has returned, the doctor will perform a number of tests to see if there is cancer elsewhere in the body. These may include physical examination, x-rays, CT, MRI, bone scan, PET scan, and/or blood tests. A biopsy also may be necessary.

If Cancer Treatment Is Ongoing

If a patient is undergoing cancer treatment for a primary tumor and a brain metastasis is found, the doctor may or may not assess the status of the cancer elsewhere in the body through physical examination, x-rays, CT, MRI, bone scan, PET scan, and/or blood tests.

How Are Brain Metastases Treated?

There is generally a range of options to be considered for the treatment of brain metastases. Your healthcare team will design a treatment plan to help treat the tumor, as well as relieve the symptoms it may be causing.

Treating the Tumor Surgery

Surgery is the preferred treatment for brain metastasis if there is only one tumor, and if that tumor can be easily reached. In deciding whether surgery is right for you, your doctor will consider the size, location, and type of the tumor, your overall health, and your medical history. Surgery can also reduce symptoms caused by swelling in the brain, thus reducing the need for medication. The benefits and risks of surgery should be discussed with your oncologist and neurosurgeon. Surgery may be followed by radiation therapy (see below) to help prevent the formation of new tumors.

Patients with more than one tumor, or with one tumor that is not readily accessible, are typically not treated with surgery, but are treated with radiation therapy instead. In those cases where patients undergo surgery for the treatment of their brain metastases, radiation therapy afterwards can significantly reduce the risk of tumor recurrence in the brain, and hence the tumor-associated neurologic problems.

Radiation Therapy

Radiation therapy is the use of a painless x-ray directed to damage or destroy tumor cells. Radiation may be used after surgery to prevent recurrence, or to destroy tumor tissue that could not be surgically removed. In cases where surgery is not an option, radiation therapy may be used instead of surgery to destroy tumor tissue or to relieve symptoms. Radiation is painless, and is typically given in 15-minute visits over several weeks. Radiation has the



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potential to cause various side effects, depending on your treatment plan. Ask your radiation oncologist about potential side effects of treatment.

Different types of radiation therapy are described below.

Whole Brain Radiation Therapy

Whole brain radiation therapy (WBRT) delivers an even dose of radiation to the entire brain. Whole brain radiation therapy can treat small, undetectable tumors that may be developing in different areas of the brain. The advantages of whole brain radiation therapy are that it can treat large and small tumors, multiple tumors at the same time, and tumors deep in the brain that are inaccessible to surgery. Whole brain radiation therapy is often used to reduce the risk of tumor recurrence after surgery. Side effects of whole brain radiation therapy may include nausea, vomiting, headache, fever, and temporary worsening of neurologic symptoms such as memory loss and difficulty thinking. You should fully discuss any concerns you have about side effects with your radiation oncologist.

Stereotactic Radiosurgery

Stereotactic radiosurgery is a more targeted form of radiation therapy—it isn't surgery at all. It is called "radiosurgery" because it is so precise and focused. Other names you may hear for stereotactic radiosurgery include Gamma Knife®, XKnife™, and Cyberknife®. This form of therapy delivers a higher dose of radiation to a small tumor (usually 1.5 inches or less in diameter) in a single treatment session. The radiation beam is delivered to the tumor from many different angles using special computer planning. A head frame is used to keep the patient's head completely still during the procedure. Because this form of radiation targets the tumor more precisely, it is less likely to hurt healthy tissue. Generally, stereotactic radiosurgery may be used to treat people with up to 3 brain tumors that are not surgically accessible, although this may vary depending on the size and location of the tumors. When there are multiple tumors, whole brain radiation therapy is usually best. Whole brain radiation therapy is also an option for people who are not eligible for surgery.

Stereotactic radiosurgery only treats tumors that can be detected on MRI or CT scans. Possible side effects of radiosurgery include swelling, neurological problems, and necrosis (a build up of dead tumor cells in the brain) that may need to be removed by surgery. Ask your doctor about side effects.

Brachytherapy

Brachytherapy, also called interstitial radiation therapy, is another form of targeted radiation for patients with tumors that are not responsive to other types of treatment. It is used alone or combined with other therapies. The tumor must be small (less than 2 inches in diameter) and surgically accessible. In contrast to the other forms of radiation that come from outside the body, brachytherapy uses radioactive pellets implanted in catheters (tubes) close to the tumor. With brachytherapy, the damage to healthy tissue is greatly reduced. However, special precautions are needed when you have brachytherapy to protect others who come into contact with you from radiation exposure. The implant may be removed after a few days, months, or longer. Surgery may be needed after brachytherapy to remove dead tumor cells. Brachytherapy is rarely used anymore.

Chemotherapy

Chemotherapy is the use of special drugs to kill tumor cells. Some chemotherapy drugs are given by mouth; others are given by injection. In some cases, chemotherapy may need to be given continuously over a long period of time. When necessary, a pump or catheter may be placed underneath the skin.

Because chemotherapy affects both healthy cells and tumor cells, side effects can occur. These vary depending on the type of drug and the individual. Your medical oncologist can discuss these side effects with you.

Usually, the brain is protected from many harmful substances that can get into the blood by what is known as the blood-brain barrier. Blood vessels in the brain are lined with cells that make a tighter seal than in the blood vessels in the rest of the body. Cancer cells *can* penetrate through the blood-brain barrier. Once the cancer cell has penetrated the blood-brain barrier it multiplies to grow into a tumor.



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Because of the blood-brain barrier, chemotherapy given by mouth or injection is often prevented from reaching the brain. To solve this problem, new ways of giving chemotherapy are being developed to deliver the drug directly to the tumor.

Treating the Symptoms Steroids (Corticosteroids)

Brain metastases often produce swelling and inflammation in the brain. This can cause headaches, sleepiness, and other problems. Steroids (corticosteroids) can reduce the swelling quickly and can improve mental functioning. Most patients feel better with short-term medications; however, some will need to take corticosteroids for more than a few months to control symptoms. If you take corticosteroids as part of your treatment plan, be sure to tell your doctor or nurse about any changes in your health that you may notice. Steroids can cause side effects such as weight gain, increased appetite, insomnia, and irritability. If you start to urinate frequently and always feel thirsty, it may be a sign that you have developed diabetes as a consequence of taking the corticosteroids. Also, unless directed by your physician, do not stop taking corticosteroids suddenly. You must speak with your doctor before stopping treatment.

Antiseizure Medications (Anticonvulsants)

Medications may be given to help prevent seizures. These medications are called antiseizure medications or anticonvulsants. There are several different antiseizure medications available. If you are taking an antiseizure medication as part of your treatment plan, and it either does not work or causes unpleasant side effects, your doctor may check your blood to determine if you are taking an appropriate dose. Sometimes the dose is too low or too high. Your doctor may also be able to switch you to another medication that may be better suited to you. These medications may interact with other treatments, so be sure to talk to your doctor about any changes in your health.

Complementary Therapies

Your medical treatment is carefully planned to control your disease and reduce your symptoms as much as possible. Many people seek out complementary therapies to help them feel better and cope with the stress of cancer. These therapies are not meant to replace your medical therapy, but may help you to manage your symptoms. Complementary therapies for cancer

may include stress management, relaxation and imagery training, meditation, group support, family counseling, and education. Nutrition, herbal medicine, and manual healing (massage, acupuncture, etc.) may also be used, although the benefits of these therapies have not been confirmed by published research. Many cancer centers and hospitals offer certain complementary therapies for people with cancer, their families, and their caregivers.

What Are Clinical Trials?

Clinical trials are carried out to find and develop new ways to treat diseases better. For cancer research, a clinical trial might focus on medication, surgery, radiation therapy, a new type of therapy, or some combination of these. Some trials test a single treatment, while others compare two or more treatments. Because every patient's situation is unique, clinical trials select patients who are similar or have similar circumstances. To participate in a trial, a patient has to be seen by a doctor who is participating in the trial. The doctor will make sure the patient fits requirements of the trial and is appropriate for the treatment under investigation. Some trials use treatments that are already available on the market, perhaps used in a novel way or combined with other medicines in a novel way, while other trials use treatments that are not available to the public outside of clinical trials.

There are several investigational treatments for brain metastases that doctors are now studying in clinical trials. Some investigational drugs are designed to increase the effectiveness of standard treatments, such as radiation therapy and chemotherapy. Other investigational treatments are designed to change tumor cells, such that their growth gets back under control. Some clinical trials are evaluating whether investigational treatments improve your ability to think and function more normally and improve your quality of life while others evaluate if investigational treatments improve the length of time you will live.

There are many ways to find trials that are right for you. One way is to search on the Internet for clinical trials. Under the guidance of the US Food and Drug Administration (FDA), a comprehensive database of clinical trials for study medications has been established. You can search for appropriate trials at www.clinicaltrials.gov

Enter "brain metastases" in the search field. If too many trials are listed, you can narrow your search by pushing the "Search-Within-Results" button and selecting the trials open in your state. You could also narrow your search by pushing the "Search-Within-Results" button and entering "neurologic function" to search for trials that try to improve neurologic problems. If you click on a clinical trial, you will be taken to a description of the trial, the entry criteria that need to be met to participate in a trial, and where the trial is open for participants. It also provides contact information for you or your doctor for further questions or if you would like to be considered for participation in the trial. Other Internet sources are provided in the section entitled, *Where Can I Get More Information?* at the back of this booklet.

If you don't have access to the Internet, you can call the National Cancer Institute at 1 (800) 4 CANCER (or 1(800) 422-6237) for clinical trial information. You may also start by asking your doctor about what trials are available. Additional organizations that provide lists of trials along with information about what is being tested, and where the trial is occurring, are shown in the section entitled, *Where Can I Get More Information?* at the back of this booklet. You will find information on how to contact these organizations there. Be sure to check with your health insurance provider to see whether the costs of participating in the study are covered.

Which Treatment Is Best For Me?

You and your healthcare team will decide which treatment, or combination of treatments, is appropriate for you. In making these decisions, the factors your healthcare team will take into consideration, among others, include the following:

- Number of tumors
- Location of tumor(s)
- Size of tumor(s)
- Type of tumor(s)
- Symptoms of the metastases
- Age
- Overall health
- Active primary cancer

What Will Happen After Treatment?

After treatment, a patient's health is monitored closely. An MRI, CT, or other type of imaging scan may be conducted every so often to evaluate the effectiveness of treatment. Frequent physical examinations will help the doctor detect any cancer recurrence or side effects of treatment.

Be sure to report any recurrence of symptoms or other changes in your health promptly to your doctor or nurse.

Can Brain Metastases Affect the Mind, Emotions, or Personality?

Brain metastases can indeed affect the mind, emotions, and/or personality. Problems with memory, speech, and/or concentration can occur. A patient may face serious intellectual challenges with feelings of confusion. Moods can change, as can the way a person acts. Patients may have difficulty doing more than one task at a time.

Various treatments may slow the progression of these symptoms. Check with your doctor about what treatments may be right for you.

A neuropsychologist can help with rehabilitation. In order to come up with an effective plan, the neuropsychologist will first conduct a series of tests to evaluate your emotional state, behavioral patterns, and mental abilities. Based on the results of the tests, one or more of the following may be recommended:

- Cognitive rehabilitation (treatment for mental difficulties)
- Occupational rehabilitation (education and training on how to be able to continue working)
- Counseling

Loved ones and caregivers may also choose to receive counseling to either
(1) learn how to help the patient work with the mental changes, and/or
(2) learn to deal with their own reactions to the patient's illness and mental changes.

How Can the Home be Safer for the Patient With Brain Metastases?

Due to possible muscle weakness, changes in balance, and other considerations, the following adjustments, among others, may help make the home a safer place for the patient with brain metastases:

- Consider putting hand-rails in shower and bathtub.
- Consider getting a shower chair.
- If the home is more than one story, consider putting the patient's bed on the ground floor.
- Consider getting a hospital bed.
- Consider getting a portable toilet.
- Make sure the patient has adequate support from family members, friends, or home care aids if he/she is not able to be left alone.



How Can My Loved Ones And I Cope Emotionally?

This is a difficult time for everyone involved. While illness may bring people closer together, it may also cause tension, unhappiness, and stress. The following are some suggestions for coping:

- Find family members and friends who are willing to commit to helping the patient.
- Involve those people in a caring community that provides both practical and emotional support.
- As the old ways of living no longer work, be creative in developing new ones.
- Identify your strengths and the strengths of the others in your caring community.
- Take time off regularly! Caregiver burn-out is a major concern.
- Get involved with outside groups and organizations that provide support and information for people with cancer and their loved ones and caregivers. Individual counseling might also be helpful.

Where Can I Get More Information?

This booklet is meant to provide general information on brain metastases and is intended to supplement the information provided by your doctor. Please talk with your doctor or nurse if you have any questions about the information provided in this booklet or your individual condition and treatment plan.

You may also contact our organizations for more information:

ALCASE

Alliance for Lung Cancer Advocacy, Support,
and Education
500 W. 8th St., Suite 240
Vancouver, WA 98660
Phone: 1-360-696-2436
Fax: 1-360-735-1305
Lung Cancer Hotline: 1-800-298-2436
E-mail: info@alcase.org
www.alcase.org

National Brain Tumor Foundation

414 Thirteenth Street
Suite 700
Oakland, CA 94612-2603
Patient Information Line: 1-800-934-CURE
(1-800-934-2873)
E-mail: nbtff@braintumor.org
www.braintumor.org

The following organizations can also provide you with additional information.

Cancer-Related Organizations

American Cancer Society

Phone: 1-800-ACS-2345
(1-800-227-2345)
www.cancer.org

Chemocare.com

www.chemocare.com

American Society for Clinical Oncology

www.plwc.org

International Radiosurgery Support Association

Phone: 1-717-260-9808
www.irsa.org

Cancer Care

Phone: 1-800-813-4673
www.cancercare.org

Cancer-Related Organizations (cont'd)

National Cancer Institute

Phone: 1-800-4-CANCER (1-800-422-6237)

www.cancer.gov

National Coalition for Cancer Survivorship

Phone: 1-877-NCCS-YES (1-877-622-7937)

E-mail: info@canceradvocacy.org

www.canceradvocacy.org

North American Brain Tumor Coalition

(includes all brain tumor organizations)

www.nabraintumor.org

Clinical Trials

Clinical Trials & Noteworthy Treatments for Brain Tumors presented by the

Musella Foundation

Phone: 1-516-295-4740

E-mail: musella@virtualtrials.com

www.virtualtrials.com

Food and Drug Administration (FDA)

List of clinical trials

www.clinicaltrials.gov

National Cancer Institute

Phone: 1-800-4-CANCER (1-800-422-6237)

www.cancer.gov

Caregiver Support

Family Caregiver Alliance

Phone: 1-415-434-3388

E-mail: info@caregiver.org

www.caregiver.org

National Family Caregiver Association

Phone: 1-800-896-3650

E-mail: info@nfcacares.org

www.nfcacares.org

Well Spouse Foundation

Phone: 1-800-838-0879

E-mail: info@wellspouse.org

www.wellspouse.org

Glossary

Anticonvulsant drugs: drugs that prevent convulsions/seizures.

Biopsy: the removal and evaluation of a tissue sample to diagnose disease.

Blood-brain barrier: blood vessels in the brain are lined with cells that make a tighter seal than in the blood vessels in the rest of the body; this seal, known as the blood-brain barrier, does not allow certain substances (for instance, certain forms of chemotherapy) to enter the brain.

Cells: a microscopic part of a living being that is capable of independent function.

Claustrophobia: the fear of being in tight spaces.

Clinical trials: research studies done to test new treatment options.

Cognitive rehabilitation: treatment for retraining or improving brain functions.

Counseling: professional guidance through the use of psychological methods.

Medical oncologist: a doctor who specializes in the management of patients with cancer and who treats them with drugs such as chemotherapy or monoclonal antibodies.

Metastatic tumor: a tumor that arises from cancerous cells that have traveled from their original location to a new location.

Neurologist: a doctor who specializes in the management of patients with diseases of the brain and other parts of the nervous system.

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Neuropsychological evaluation: a series of tests to check mental functioning.

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Neurosurgeon (or brain surgeon): a doctor who specializes in surgery of the brain and the rest of the nervous system.

Nurse: a person trained in the care of patients, providing therapies and monitoring health.

Occupational rehabilitation: education and training on how to be able to continue working.

Patient advocate: a member of an organization whose goal is to provide patients, their families, and loved ones with a greater understanding of their disease and treatment choices. Both ALCASE and NBTF are patient organizations that provide information and support to patients and family members.

Physical therapist: a healthcare provider who teaches and guides you through various exercises to ease pain, reduce disability, and help restore function or help adaptation to new physical limits.

Primary tumor: a tumor in the location where the cancer first started.

Radiation oncologist: a doctor who specializes in the management of patients with cancer and who treats them with radiation therapy.

Radiosensitizer: a medication that enhances the effects of radiation therapy.

Secondary tumor: a tumor that arises from cancerous cells that have traveled from their original location to a new location; the same as a metastatic tumor.

Social worker: a healthcare provider who offers a wide range of services directly to persons with cancer and their families including counseling, support, education, and resource identification.

Speech-language pathologist or speech therapist: a healthcare provider who specializes in the treatment of communication and swallowing problems.

Tumor: the growth of tissue that results when cells multiply abnormally and form cancer.

Notes

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