

Cancer: a General Explanation



March 5, 2004

Cancer is a disease that affects almost everyone you know.

You may have a friend, co-worker or family member with cancer.

Cancer is a disease that affects not only you but your family too.



When someone is given a cancer diagnosis there is a great deal of fear and anxiety that occurs. I will give you a general explanation of cancer and how the disease progresses, in hopes of decreasing your fear and anxiety.



Cancer is a word that describes a malignant condition. **Malignant** means uncontrolled growth with the ability to **invade** or **metastasize**. **Metastasize** means to spread.



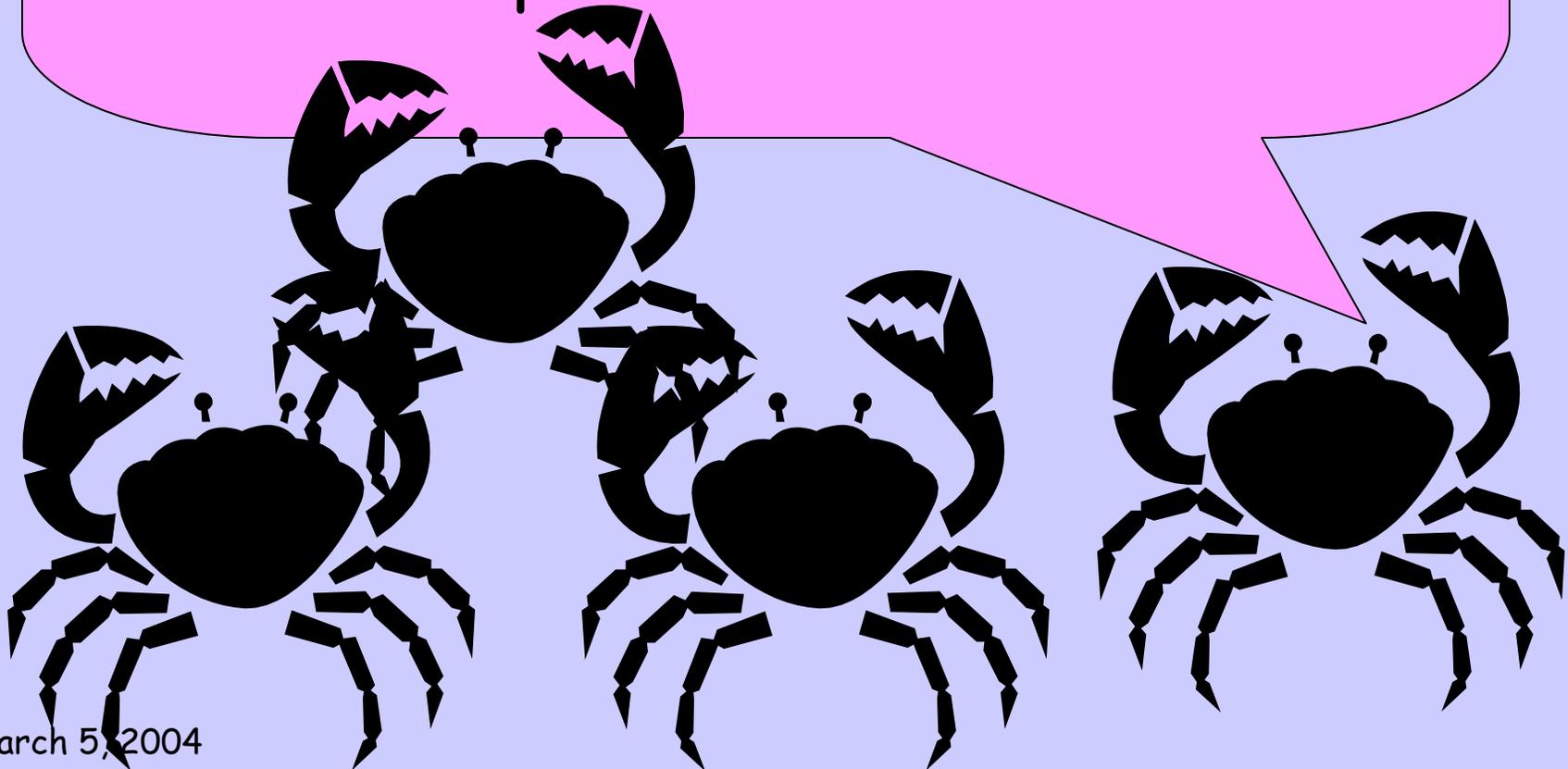
A **tumor** is a mass or swelling. Some tumors are benign. **Benign** means not malignant. A benign tumor can grow in areas of the body or brain where any growth is destructive and can be harmful.



Malignant tumors are groups of abnormal cells. When a normal cell first starts growing it divides into equal sections, 1 into 2, 2 into 4, 4 into 8, 8 into 16, etc...



As a tumor cell develops it divides abnormally, 1 into 2, 2 into 12, 12 into 40, 40 into 200, 200 into 650 as an example.



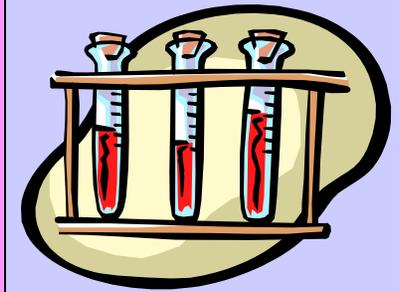
Cancer cells can develop in any body tissue at any age. The exact cause of cancer is unknown. You may also hear the word oncology.



Oncology is the study of cancer.

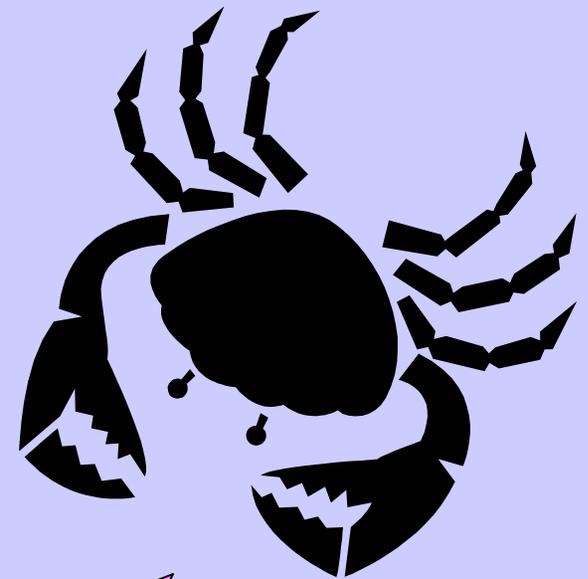


When you are first diagnosed, your doctor may perform special blood tests or x-rays to determine how far the tumor has invaded. These tests will reveal the **STAGE** of your disease based upon their findings.



There are 4 stages of disease progression, don't worry about these now because I will be explaining them to you. They are:

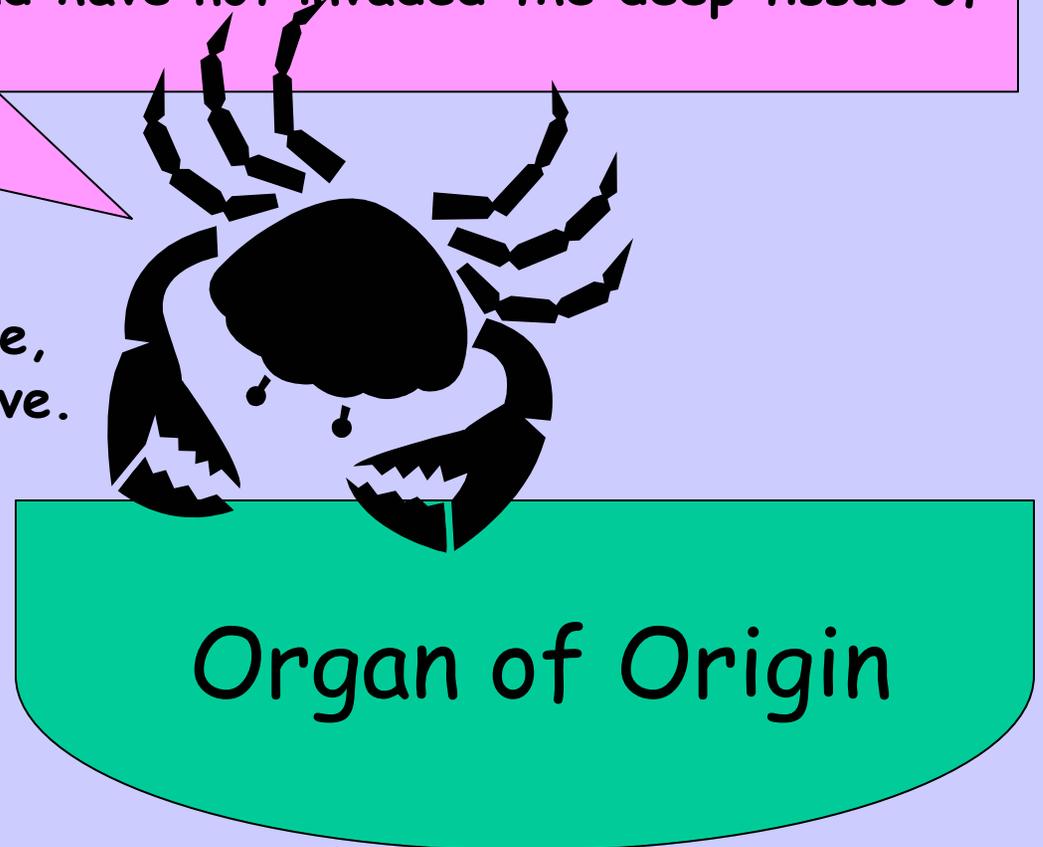
- In-situ
- Localized
- Regional
 - Direct extension
 - Lymph nodes
- Distant
 - Lymph nodes
 - Blood vessels
- Seeding or implantation



Stage 1 - Carcinoma in situ

When a tumor is diagnosed in its earliest stage before it has invaded an organ or tissue, this is known as in-situ or non-invasive. For example, if you were diagnosed with an in-situ tumor of the lung, this means the cancer cells are sitting on the outer edge of the tissue and have not invaded the deep tissue of the lung.

A tumor that is not invasive, it may be called pre-invasive.



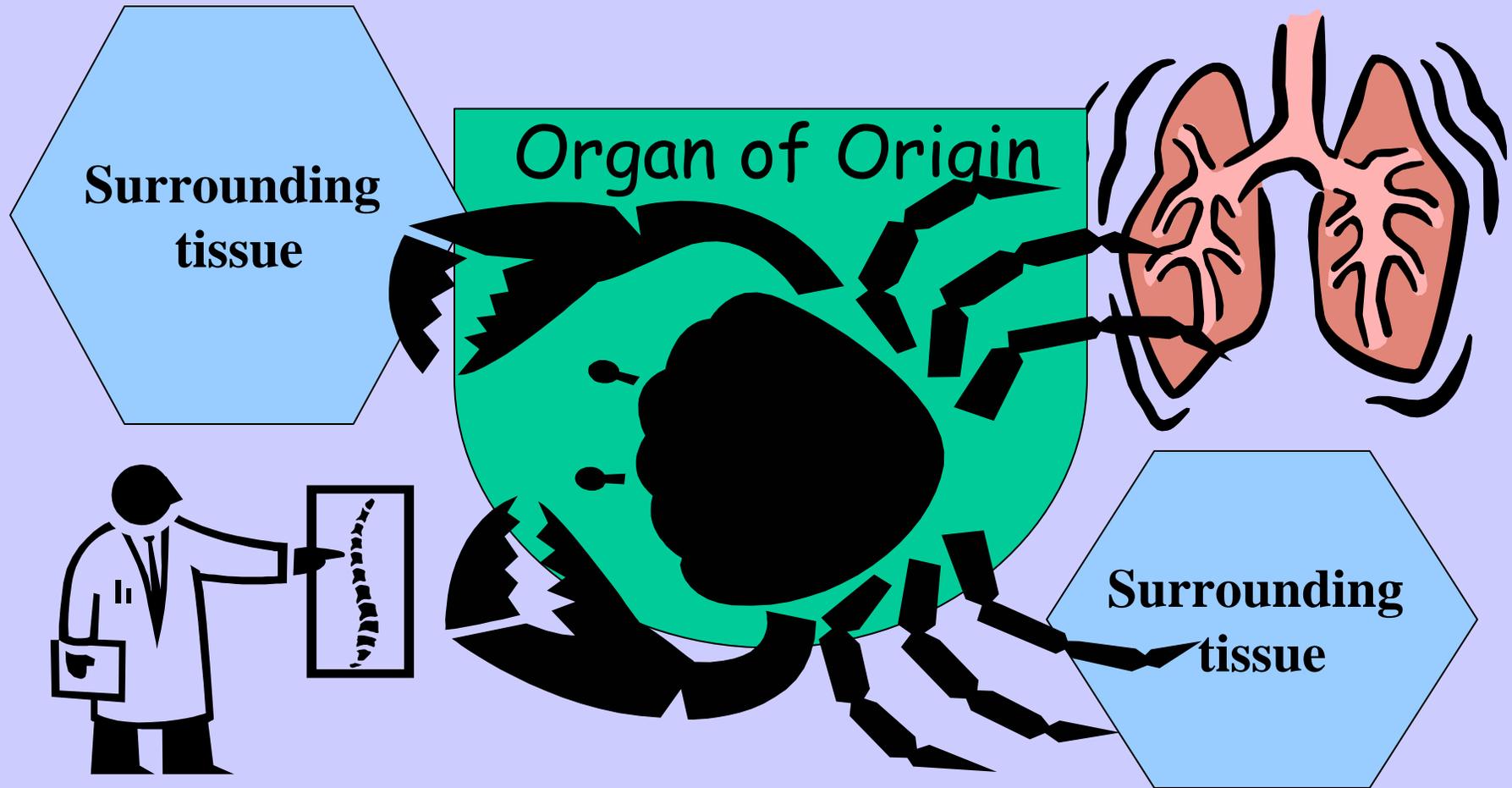
Stage 2 - Localized

When a tumor is diagnosed as localized, this means that the tumor has invaded into the organ of origin. For example, if you were diagnosed with a localized tumor of the lung, the tumor would have invaded into the tissue of the lung but would be confined to one lobe or section of the lung. The tumor would not have invaded directly through the lung, anywhere else in that lung or anywhere else in an area outside the lung.

A tumor that is confined to the organ of origin.



Stage 3 - Regional by Direct Extension



A tumor that has extended beyond the limits of the organ of origin and has invaded adjacent organs or surrounding tissue by direct extension.

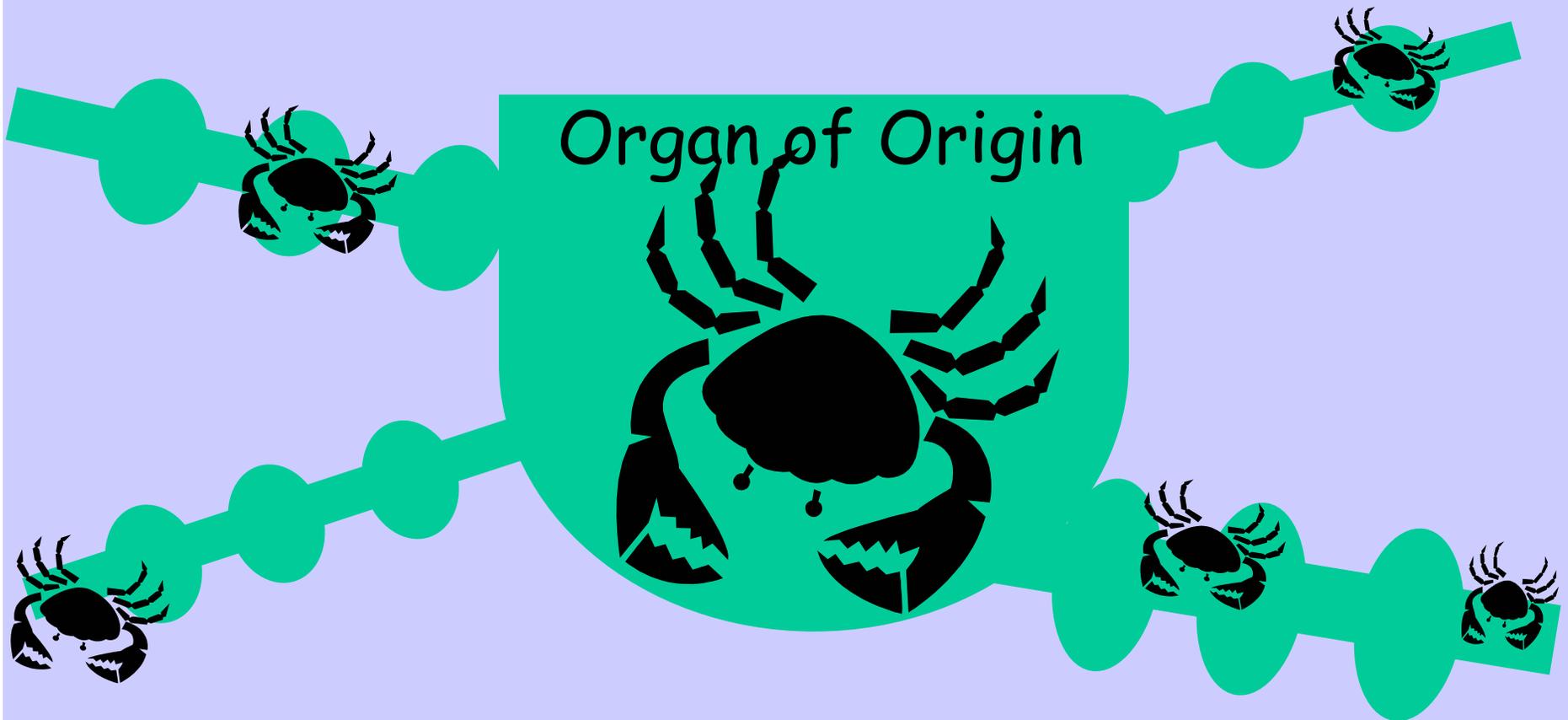
DIRECT EXTENSION

When a tumor is diagnosed as regional by direct extension, this means that the tumor has now grown through the organ of origin and has invaded the tissue or organs directly surrounding it.

For example, if you were diagnosed with a regionally invasive tumor of the lung, the tumor would have grown from one section or lobe of the lung directly into another section or lobe of the lung.

The tumor could also have grown from one lobe or section of the lung to grow outside the lung into a rib or the lining of the lung. This lining is called the pleura. These are examples of direct extension.

Stage 3 - Regional by Lymph Node



A tumor that has *extended* beyond the limits of the organ of origin and has traveled through the lymph vessels to invade regional lymph nodes.



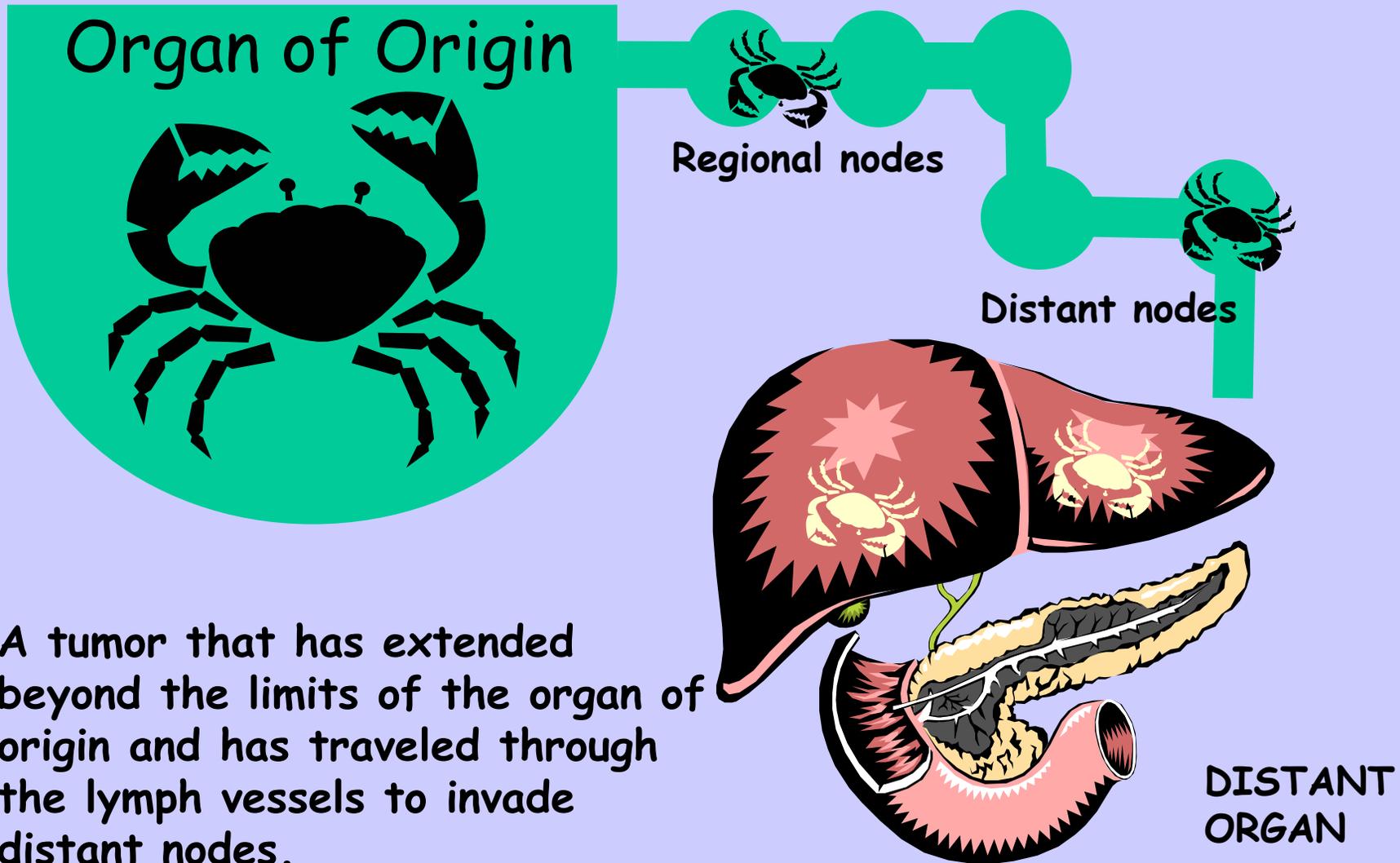
If you have ever had a bad cold or sore throat, you may have felt lumps under your chin. These lumps are lymph glands or nodes that have become enlarged due to infection. Lymph nodes act like filters and they catch germs. Sometimes tumor cells travel through the lymph vessels and get caught in lymph nodes. Lymph nodes are located throughout the body.

Wherever you have blood vessels you have lymph vessels and lymph nodes. The brain does not contain any lymph nodes or glands. Sometimes a tumor will cast off the abnormal cells or cancer cells. These cells can be caught in the lymph nodes that are close to the original tumor.

The lymph nodes that are considered regional are those lymph nodes close to the original tumor.

When these abnormal cells start to grow in a lymph node we say that the tumor has metastasized or spread to the lymph nodes. For example, if you were diagnosed with a tumor of the lung that had invaded regional lymph nodes, a chest x-ray or a CT scan of the chest would show enlarged lymph nodes above the diaphragm.

Stage 4 - Distant by Lymph Vessels



A tumor that has extended beyond the limits of the organ of origin and has traveled through the lymph vessels to invade distant nodes.

Distant Metastasis

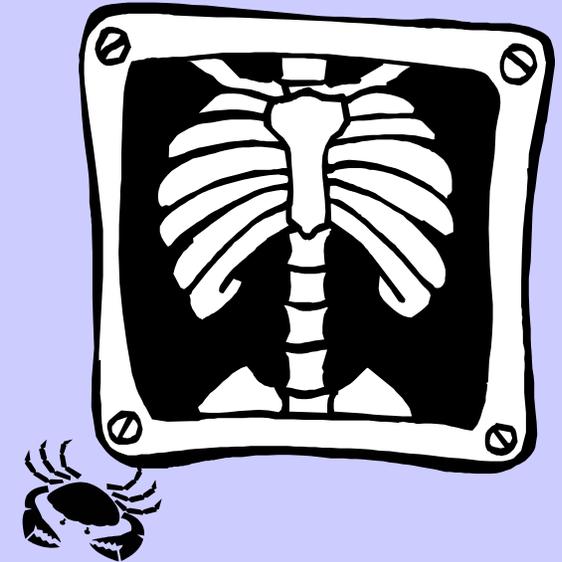
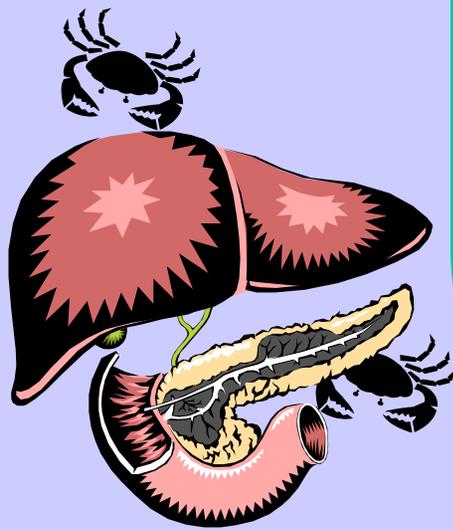
As we explained in the last slide, lymph nodes are located throughout your body. Sometimes the cancer cells travel through the lymph vessels past the regional lymph nodes and get caught in a distant lymph node.

This means that the cancer cells have traveled to a lymph node away from the original tumor. Now the original tumor has metastasized or spread to a distant lymph node.

For example, if you were diagnosed with a cancer of the lung and your doctor found an enlarged lymph node under your chin or in your groin, a biopsy of that lymph node may reveal cancer cells from the lung tumor.

This is known as distant metastasis or distant spread of disease through the lymph nodes.

Stage 4 - Distant by Blood Vessels



A tumor that has extended beyond the limits of the organ of origin and has traveled through the blood vessels to invade distant organs.



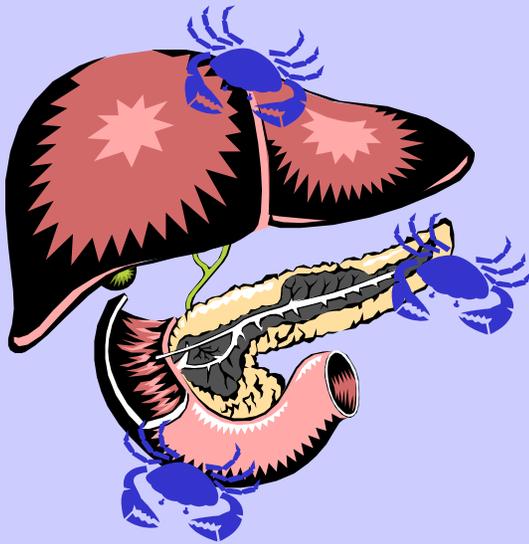
Distant Metastasis through the blood stream

Cancer cells from a tumor can also travel through the blood stream. The lungs and the liver filter all the blood and so it is not uncommon for cancer cells to stop in the lungs or the liver and start to grow there.

Tumor cells also can spread to the bones. This means that the cancer cells leave the original tumor and invade or metastasize to the bone.

For example, if you were diagnosed with a malignant tumor of the prostate, your doctor might find a tumor growing in your lung, liver or a bone. A biopsy of that area might reveal that the tumor has metastasized or spread to the lung, liver or bone by traveling through the blood stream to the prostate.

Stage 4 - Distant Metastasis by Seeding or Implantation



A tumor that has released cells directly into a body cavity where the tumor cells then attach themselves to other organs and tissues.

Distant Metastasis by seeding or implantation

Some cancer cells spread or metastasize by seeding or implantation. This means that the tumor cells perforate or break through the original tumor and attach to the lining of other body cavities.

Therapy or treatment

Therapy and treatment of cancer can occur in many different ways

Surgery is the treatment of the disease by cutting out the tumor or malignant growth.

Immunotherapy is the treatment of disease manipulating the interaction of your body's immune system and the tumor.



Chemotherapy is the treatment of disease with chemicals or drugs.

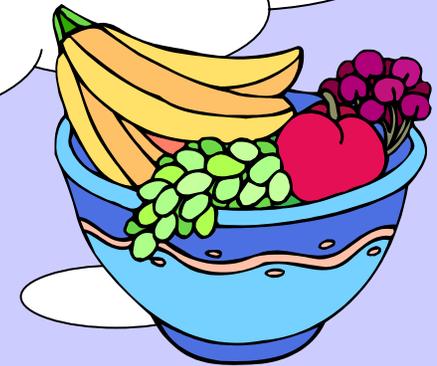
Radiation therapy is the treatment of disease with high-energy radiation or x-rays. Radiation kills abnormal cells by damaging their DNA thereby affecting the ability of the abnormal cell to divide

Hormonal therapy is the treatment of disease by using hormones, which are natural substances produced by your own body. Hormones control reproduction, growth and metabolism.

Nutrition

Maintaining good nutrition is a key to good health. Your body is like a wood burning stove.

The food you eat is the fuel for the stove, if you don't eat, or you eat foods that are not nutritious, the fire will start to go out and may die.



You have to keep adding good fuel to the fire to keep it going. Your body needs good food to keep it going and to fight illness.



Rest

While your body is going through the stages of treatment it is important to get an adequate supply of rest. This rest helps your body heal. Take naps.

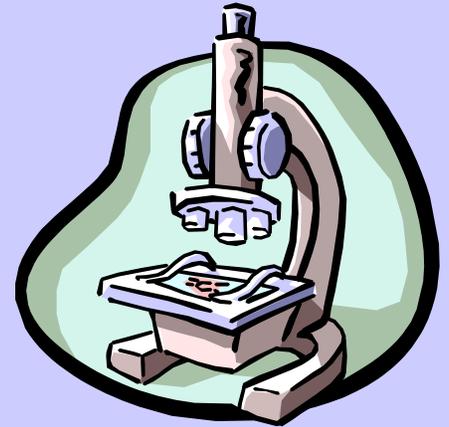


Protect your immune system



Some of the treatments can cause your immune system to weaken. Protect your immune system by using good habits. Wash your hands frequently. Avoid large crowds.

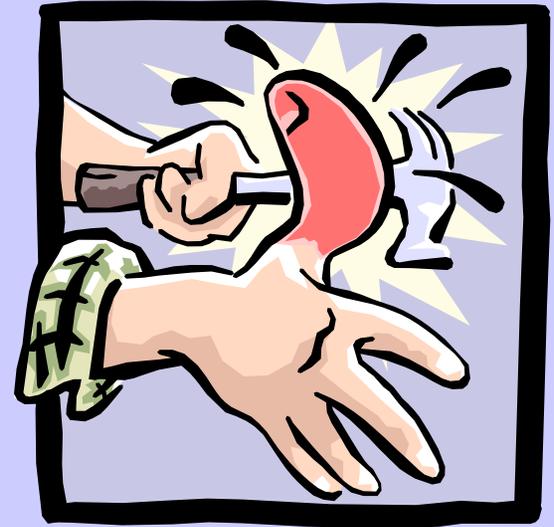
If you attend church, come in a few minutes late after the congregation is seated and leave a few minutes early.



Wash fresh fruits and vegetables. Avoid family or friends who are ill. Shop for groceries later at night or very early in the morning when the stores are less crowded.

Pain Management

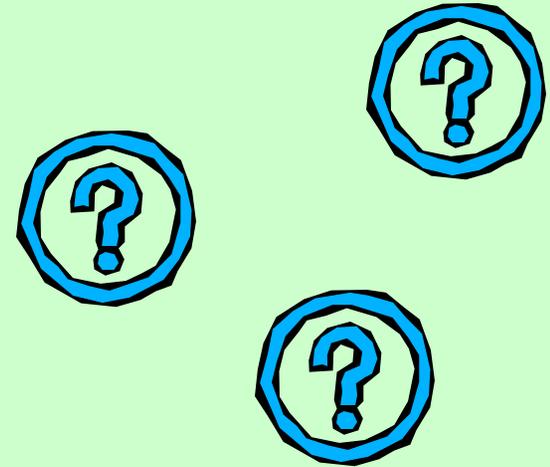
Pain, the fear of having severe pain is also a concern to many patients. There are many medications to treat pain. Radiation therapy is sometimes used to treat the pain of cancer that has spread to the bone.



The incidence of pain increases with progression of disease. Patients sometimes are overly concerned with the addiction and development of tolerance to pain medication. If you are in pain, notify your doctor. Cancer pain can be completely controlled by medication for most patients. Keep a logbook to track the times the pain is worst, the intensity of the pain and the times and doses of medication. Pain can be gauged on a scale of 0 - 10 with 0 being the absence of pain and 10 being the worst pain imaginable. Your doctor can then use your logbook to adjust the dosage and timing or change your therapy. Having uncontrollable pain should not be one of your fears.



Commonly Asked Questions

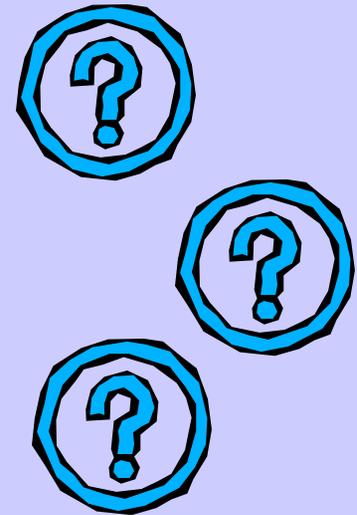


Q = How long do I have?

A = Giving a patient a "set date" for life expectancy is impossible. Doctors do not have "crystal balls" and cannot set a "date". Every patient and every type of disease is different. Your provider will be honest with you and fully inform you about your illness, its prognosis and options for therapy. Candor between you and your provider in discussing your diagnosis creates trust and a positive approach to your disease. A positive attitude is very beneficial to your condition.

Q = Will chemotherapy make me sick?

A = Patients who are to receive chemotherapy will be informed by their oncologist about the medications they will receive, their side effects and the frequency and duration of the treatment. Some drugs do cause nausea but there are very good medications to counteract the side effects or symptoms.

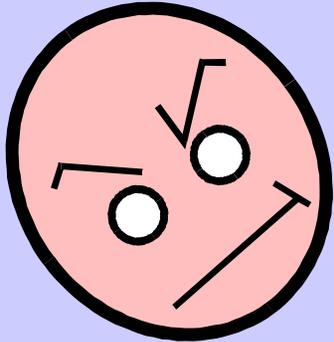


Q = Why did this happen to me?

A = Cancer is no respecter of persons, it affects people of all ages, sex, race and ethnicity. There are some lifestyle choices that contribute to cancer in Americans such as smoking, alcohol consumption, diet and some environmental causes.

Q = Should I get a second opinion?

A = We encourage you to seek a second opinion and become an active participant in your own care.



Q = Why do I feel so angry and sad?

A = Anger is a common reaction. It is the way we cope with learning about the diagnosis. Feelings of anger, anxiety, guilt, denial, isolation, bargaining, depression, blame, dependency and feelings of loss and acceptance are also common.

You may go through cycles with all these feelings at different times.

Lean on friends and family for support.

Join a support group.

Talk to others and share your feelings.

Hopeful patients spend more time thinking about living than about the diagnosis.



Mike O' Callaghan Federal Hospital
and VA Ambulatory Care Clinic

Cancer Support Group



Every 3rd Wednesday of each month
6:30 pm-8:00 pm
Main Conference Room at the MOFH

Sponsored by: Cancer Registry 653-2057
and the American Cancer Society

March 5, 2004

Palliative & Hospice Care

Sometimes the disease has progressed to the point that therapy or treatments are not choices. A patient may have other illnesses that make therapy or treatment not possible. Sometimes a patient may choose not to receive any therapy or treatment but just wants to be kept comfortable.

This level of care or comfort is known as palliative care. At this level of disease progression the purpose of care is to reduce suffering and prevent untimely death.

Hospice is a form of allowing a patient to be kept comfortable with care at home or in a designated Hospice Unit.



RESOURCES

WEB SITES

AMERICAN CANCER SOCIETY at www.cancer.org

BLOCK, R.A. at www.blochcancer.org

COLON CANCER ALLIANCE at www.ccalliance.org

LUNG CANCER ONLINE at www.lungcanceronline.org

MELANOMA at www.melanoma.com

NATIONAL CANCER INSTITUTE at www.nci.nih.gov

NATIONAL COALITION FOR CANCER SURVIVORSHIP at www.cansearch.org

ONCOLINK at www.oncolink.com

OVARIAN CANCER ALLIANCE of NEVADA at www.ocan.org

QUACKWATCH at www.quackwatch.com

SUPPORT GROUP.COM at www.support-group.com

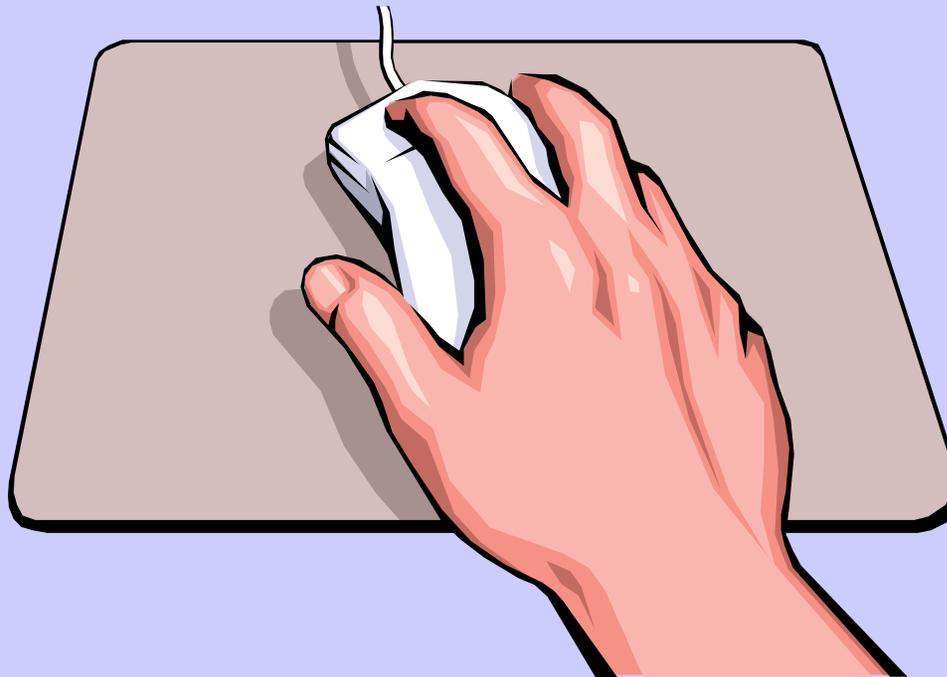


Resources cont.

SUSAN G. KOMEN BREAST CANCER FOUNDATION at www.breastcancerinfo.com

US TOO PROSTATE CANCER SUPPORT GROUPS at www.ustoo.org

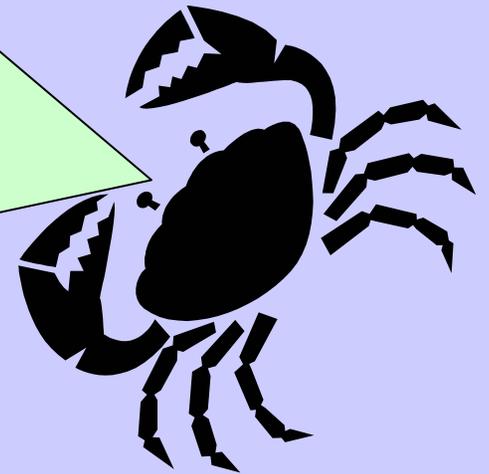
Y-ME, NATIONAL BREAST CANCER ORGANIZATION at www.y-me.org



This presentation has been done in a very generalized manner.

Generalization

Thanks, for taking the time to learn more about cancer. If you have additional questions, please ask your Provider or the Patient Education Coordinator. They will be able to give you more detailed cancer information.



End of presentation on

Cancer: A General Explanation

This educational opportunity has been developed for you by the



CANCER REGISTRY

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