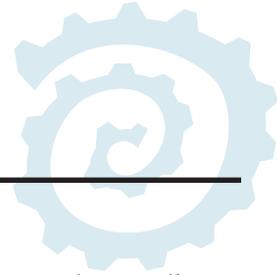




What is Cancer?



Target Audience:

- *Community members*
- *Staff of Indian health programs, including Community Health Representatives*

Contents of Learning Module:

- *Instructor's Guide with Pre/Post Self-Assessment*
- *PowerPoint presentation*
- *Glossary*
- *References*

Length:

- *Introduction of session/module overview (:05)*
- *Pre self-assessment (:07)*
- *Presentation of module including interactive activity (:30)*
- *Optional video: "Cancer in the Great Land" (:17)*
- *Post self-assessment (:05)*
- *Closing (:03)*

Goals

In this session, participants will gain an understanding of the following:

- The meaning of the word "cancer"
- The difference between benign and malignant tumors
- The process by which cancer spreads
- Types of cancer

Objectives

At the completion of Learning Module 1, participants will be able to demonstrate the following:

Section 1

Define cancer by describing the process through which normal cells become cancerous.

Section 2

Describe the difference between benign and malignant tumors.

Section 3

Describe two types of cancers and where they occur in the body.

Measures of Objective Accomplishment

The presenter will administer a pre self-assessment and a post self-assessment to measure participants' knowledge of the module's objectives. The pre self-assessment measures existing knowledge and the post self-assessment measures what was gained through the learning module.

NOTE

- Each major learning point is clearly identified by **boldface** type throughout the guide and emphasized in the PowerPoint presentation.
- See the glossary (at the end of the module) for words that are in *bold italics* throughout the module.

Pre/Post Self-Assessment

What is Cancer?

Do you agree (A) or disagree (D) with these statements, or are you not sure (NS)? Circle Choice A, D, or NS.

1.	A	D	NS	Cancer is a disease that occurs when cells grow (divide) in an orderly fashion.
2.	A	D	NS	Malignant tumors do not spread to other parts of the body.
3.	A	D	NS	A tumor is always cancerous.
4.	A	D	NS	Treatment decisions are based on the type of cancer involved.
5.	A	D	NS	The site where cancer begins in the body is called the "primary site".

Section 1

What is Cancer?



The term “*cancer*” refers to a group of more than 100 different diseases that begin in *cells*, the body’s basic unit of life. Although there is no word for cancer in many tribal dialects, many American Indians and Alaska Natives (AI/AN) are aware of its existence. AI/AN have witnessed the devastating effects of this disease either through their own personal experience or that of a family member or friend. For this reason, mention of the word cancer often generates feelings of fear, sadness and isolation among AI/AN affected by this disease. In addition, some AI/AN view cancer as a form of punishment (Kaur, 1996). There is a critical need to educate AI/AN about cancer in order to move beyond myths toward understanding and knowledge. Education about cancer will assist AI/AN in developing focused interventions that will reduce the risk of developing cancer and ultimately lead to a cancer free existence.

Cancer is a disease that develops when cells grow (divide) and form more cells without control or order. All organs of the body are made up of cells. Under normal circumstances, new cell growth and old cell death are kept in balance. In cancer, this balance is disrupted. This disruption can result from uncontrolled cell growth or loss of a cell’s ability to self-destruct. This process may be easily understood by first considering “normal cell growth”.

Normal cell growth: Take, for example, the skin. The outer layer of normal skin, called the *epidermis* is roughly a dozen cells thick. Cells in the bottom row of this layer, called the basal layer, divide just fast enough to replenish cells that are continually being shed from the surface of the skin. Each time one of these basal cells divides, it produces two cells. One remains in the basal layer and retains its capacity to divide. The other travels out of the basal layer and loses the capacity to divide. The number of dividing cells in the basal layer therefore stays the same.



Abnormal cell growth - the beginning of cancerous growth: During the development of skin cancer, the normal balance between cell division and cell loss is disrupted. The basal cells now divide faster than is needed to replenish the cells being shed from the surface of the skin. Each time one of these basal cells divides, the two newly formed cells will often retain the capacity to divide, thereby leading to an increase in the total number of dividing cells.

This gradual increase in the number of dividing cells creates a growing mass of tissue called a “tumor”. If the rate of cell division is relatively rapid, and no “self-destruct” signals are in place to trigger the cell to die, the tumor will grow quickly in size. If the cells divide more slowly, tumor growth will be slower. But regardless of the growth rate, tumors ultimately increase in size because new cells are being produced in greater numbers than needed. As more and more of these dividing cells accumulate, the normal organization of the tissue gradually becomes disrupted. Tumors can either be benign (non-cancerous) or malignant (cancer).

Section 2

Benign Versus Malignant Tumors

Tumors can be benign or malignant.



Benign tumors are not cancer. They do not spread to other parts of the body and are usually not a threat to life. Benign tumors are often removed because their size may cause a problem or for cosmetic reasons.

Malignant tumors are cancer. Cells in these tumors are abnormal and divide without control or order. They can invade and damage nearby tissue and organs by breaking away from a malignant tumor and entering the bloodstream or the *lymphatic system*. This is how cancer spreads from what is called the original or *primary site* to form new tumors in other parts of the body. **The process by which cancer spreads from its original or primary site to another part of the body is referred to as *metastasis*.**

When cancer spreads or metastasizes, the new tumor has the same kind of abnormal cells as the primary (original) tumor and is referred to by the same name as the primary tumor. For example, if colon cancer metastasizes (spreads) to the liver, the cancer cells in the liver are colon cancer cells. The disease is called metastatic colon cancer (not liver cancer).

Section 3

Types of Cancer

As discussed in Section 1, there are over 100 different types of cancer and they can originate almost anywhere in the body. **Treatment decisions are based on knowing the type of cancer involved.** In addition to the primary organ site, cancers are described by the types of cells that become malignant. **Knowledge of the terms used to describe the various types of cancers helps us to better understand information about the cancer diagnosis.**

Cancers are divided into five main groups

Carcinomas are cancers that begin in the *epithelium*, the body's skin and tissues that line the internal organs such as the lung, breast, and colon. Eighty to ninety percent of all cancers are carcinomas.

Sarcomas are cancers that start to grow in bones, fat, muscle, nerve, joint, blood vessel, or deep skin tissues.

Lymphomas are cancers that arise in the *lymph nodes* and *lymphoid tissues* (tissues of the body's immune system.)

Leukemias are cancers of the *white blood cells*.

Myelomas are cancers that start in the blood cells found in the *bone marrow*.

Scientists use a variety of technical names to distinguish among the many different types of cancers. **In general, these names are created by using different prefixes that stand for the name of the cell type involved.** For example, the prefix "oste" means bone, so a cancer arising in bone is called osteosarcoma. Similarly, the prefix "adeno" means gland, so a cancer of gland cells is called adenocarcinoma - for example, a breast adenocarcinoma.

For more detailed information about the glossary terms, please refer to the Dictionary on www.cancer.gov OR call the Cancer Information Service at 1-800-4-CANCER (1-800-422-6237)

Glossary of Terms

Benign A tumor that is not cancerous and does not spread to other parts of the body.

Bone Marrow A soft spongelike material found in the cavities of bones, which has as its principle function the manufacture of red blood cells (cells that carry oxygen to the body tissues, white blood cells (cells that protect the body against infection), and platelets (cells that help the blood clot to prevent bleeding).

Cancer A term for a disease that develops when cells divide and form more cells without control or order. There are more than 100 different types of cancer.

Cells Cells are the basic unit in the organization of living substance. Although cells may be widely differentiated and highly specialized in their function, they have the same basic structure; that is they have an outer covering called the membrane, a main substance called the cytoplasm and a control center called a nucleus.

Epidermis This is the outer most layer of skin.

Epithelium A thin layer of tissue that covers organs, glands, and other structures within the body

Lymphatic System The tissues and organs that produce, store, and carry white blood cells that fight infections and other diseases. This system includes the bone marrow, spleen, thymus, lymph nodes, and lymphatic vessels (a network of thin tubes that carry lymph and white blood cells). Lymphatic vessels branch, like blood vessels, into all the tissues of the body.

Lymph Node A rounded mass of lymphatic tissue that is surrounded by a capsule of connective tissue. Lymph nodes filter lymph (lymphatic fluid), and they store lymphocytes (white blood cells). They are located along lymphatic vessels. Also called a lymph gland.

Lymphoid Tissue Referring to lymphocytes, a type of white blood cell. Also refers to tissue in which lymphocytes develop.

Malignant Tumors which are cancerous; they grow wildly and have the potential to spread.

Metastasis The spread of cancer from one part of the body to another. Cells in the metastatic (secondary) tumor are like those in the original (primary) cancer.

Primary Site The place in the body where cancer originates.

Tumor An abnormal swelling or enlargement of cells or tissues; tumors may be benign or malignant.

White Blood Cells These are cells that protect the body against infection.



References

Kaur, J. S. (1996). The potential impact of cancer survivors on Native American cancer prevention and treatment. Cancer Supplement, 78 (7), 1578-1581.

Kleinsmith, L. J., Kerrigan, D., Spangler, S. (2001). Understanding cancer. [CD-ROM]. National Cancer Institute.

National Cancer Institute (2000). What you need to know about cancer. (NIH Publication No. 00-1566).

Please Note—



- ✓ Use the Curriculum/Training Evaluation located in the Evaluation section, to get valuable participant feedback.



- ✓ The Health Change Checklist, located in the Evaluation section, directs the participants new attitudes towards new actions and may be used as a take home exercise.



- ✓ Please Complete the “Trainer Activity Report” in the Evaluation section of the curriculum. Your feedback allows us to track usage of the curriculum for reporting purposes and ensures you receive any updates to the material.

We look forward to hearing from you.
Thank You.

