Breast Cancer: A Curriculum Module

An Honors Thesis (HONRS 499)

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Abstract

This module responds to Senate Enrolled Act No. 129, an addition to the Indiana Code. The act states that each school corporation’s high school health education curriculum is now required to include lessons on breast cancer. In consultation with the state department of health, this module develops educational materials on breast cancer to assist teachers assigned to teach the material. The module provides a rationale for cancer education, teacher background information on breast cancer, and three lesson plans with corresponding student study guides. The teacher is also provided with resource information including an annotated list of print materials. Finally, a set of transparency masters is included to assist in classroom presentations.
Rationale For Education About Cancer

Cancer is second only to heart disease as a chronic killer of Americans generally as well as Hoosiers specifically. It sometimes offers its victims warning signals of its presence. These warning signals, if heeded, can lead to a remission and/or cure of the malignancy. Research continues to make significant advances in developing diagnostic tools and treatments for cancer of specific site areas, yet a general cure is not imminent. This is true because, contrary to public belief, cancer is not one disease but rather 100+ diseases. Thus, a single magic bullet cure for cancer is highly unlikely.

However, the opportunity for saving a great many more lives of those developing cancer is present through education. It is estimated that one third more lives could be saved from cancer each year, if the persons involved only knew the warning signals, the various screening protocols for early diagnosis, and sought prompt medical attention when indicated. Such early intervention would make treatment methods currently known much more effective. The National Cancer Institute in its "Cancer Control Objectives for the Nation: 1985-2000" stated,".....aggressive use of existing knowledge could cut the annual cancer death rate in half by the year 2000....knowledge gained over the years can be used to control a significant portion of the disease which is currently responsible for about 500,000 deaths annually." To achieve such a goal, the schools must be actively involved through their educational programs. In addition, for this national strategy of prevention of
cancer to be successful, cooperation is necessary from the public, industry, the health professions, the media, as well as from government including the schools. Industry can contribute by developing health promotion/disease prevention efforts in the workplace, the media can do a better job of spreading information about cancer prevention. Schools can play a significant role by stepping up their efforts to reduce the incidence of cigarette smoking in the young, drawing the relationships between diet and several forms of cancer, and promoting early and regular use of screening/diagnostic techniques.

We tend to think that cancer is a problem that we can not get a hold on, that we as individuals can not do much about it. This just is not true. It is of paramount importance that those in schools stress the idea that we CAN do something about cancer prevention now without waiting for some major research breakthrough.

In 1990, 11,646 residents of Indiana died from cancer with 987 of those having breast cancer. The SEER (Surveillance, Epidemiology and End Results) program estimates that there were 26,500 newly diagnosed cases of cancer in 1992, 4100 of those being breast cancer. In the United States, death rates for all sites of cancer have changed little since 1950, although there have been significant changes in death rates for some age groups and some cancers. Death rates from all cancers in Indiana, when compared to rates for the United States, were lower from 1953-1962, became similar to the United States rates in 1963 and remained there
through 1977 when they became higher (Transparency).

Overall cancer death rates increased by seven percent in the United States between 1953-1987. During the same period, they increased in Indiana by 14%. Thus, the need exists for education about breast cancer, mandated in Senate Bill #129, as well as education about cancer prevention in general. As stated earlier, there is much that can be done individually and collectively to prevent and/or intervene early with effective treatments for cancer.
Teacher Background Information on Breast Cancer

Education and Epidemiology

About one of every nine women in the United States will develop breast cancer during her lifetime (Transparency). Breast cancer is the second most common cause of cancer deaths among women. Since cancer does not discriminate, it can strike women of any age, race, or ethnic background. These statistics can be alarming, but they can help us to protect ourselves. Until breast cancer can be prevented, the best way women can protect themselves is through early detection and prompt treatment. If breast cancer is detected in its earliest form, 95 percent of the cases can be treated successfully. Public knowledge of warning signals, risk factors, and methods of detection will aid in early diagnosis and treatment. Therefore, it is apparent that the opportunity to save a life will start with education.

The American Cancer Society is insisting that breast cancer should be a focus. This is due to the fact that an estimated 180,000 new cases of breast cancer surfaced in American women during 1992. Four thousand and one hundred of these cases were in the state of Indiana. This earned breast cancer the number one ranking position in cancer incidence rates among women. The Healthy People Objectives for the Year 2000 also stresses the importance of decreasing breast cancer mortality rates. The goal in Indiana is to reduce breast cancer deaths to achieve a rate of no more than 25.2 per 100,000 women by the year 2000 as compared to
27.2 per 100,000 in 1987 (Transparency). In order to achieve this goal three forms of early detection are recommended: self-breast examinations, clinical breast examinations, and mammograms (Transparency). Research shows that breast cancer deaths could be reduced by 1/3 among women through the use of mammography and clinical breast examination. Yet in 1991 70% of Indiana women age 45-54 had never had a mammogram screening. In 1992, 1,100 Indiana women died of breast cancer. Why is this such a tragedy? Because with proper education and early detection, these increasing numbers could have been reduced drastically. The earlier the detection, the better the survival rate (Transparency). The lack of awareness and use of these early detection methods increases the importance of early education.

Breast Cancer and Diagnosis

The breasts are organs that produce milk. Each breast has 15 to 20 sections, called lobes, that are arranged like the petals of a daisy. Each lobe has many smaller lobules, which end in dozens of tiny milk-producing bulbs or glands. The lobes, lobules, and bulbs are all linked by thin tubes called ducts. These ducts lead to the nipple in the center of a dark area of the skin, called the areola. Fat fills the spaces between the ribs that lie under the breast, but they are not part of the breast (Transparency).

Woman’s breasts come in many sizes and shapes. This requires a doctor to consider several factors when checking for breast cancer. To start diagnoses a woman’s doctor will perform a careful
physical exam and will ask her about her personal and family medical history. A woman's risk is higher if she:

1. Is over 50 years old
2. Has a family history of breast cancer
3. Had her first child after the age of 30.
4. Had her first period at an early age.
5. Has never been pregnant.
6. Has a high fat diet.

Once the doctor has received this type of background information, he may perform one or more of the following exams.

**Palpation** - By carefully feeling the breast, the doctor can tell a lot about a lump in the breast - its size, texture, and whether it is movable. This will give the doctor a better idea of what needs to be done.

**Aspiration** - The doctor may use a thin needle to remove fluid or a small amount of tissue from a breast lump. This will show if the lump is fluid filled or a solid mass.

**Mammography** - This is a low dose X-ray of the breast that can find changes too small to be felt or seen. Two sets of X-rays are usually taken for each breast - a side view and a view from above. Mammograms are ordered for women who show symptoms of breast cancer. Women with no symptoms should have a baseline mammography at 35. Women ages 40-49 should have a mammogram every 1-2 years. Women age 50+ should have a
mammogram every year.

**Biopsy** - A biopsy is surgery to remove part or all of a lump or suspicious area. The tissue will be examined under a microscope by a pathologist, a doctor with special training in diagnosing disease from samples of tissues. A biopsy is the only certain way to diagnose breast cancer. At the time of a biopsy, a woman has two choices if cancer is found 1) to have surgery to remove the cancer right then 2) to wait and have treatment within the next few weeks. The second choice gives a woman more time to research treatment options and to prepare herself for her stay in the hospital.

**Prevention/Early Detection**

A women has a variety of options to help detect breast cancer early. The three most common forms of early detection are self-breast exams, clinical breast exams, and mammograms. The most effective plan of action to detect breast cancer early is to use a combination of all three methods.

Breast-self exams (BSE) should begin as soon as a woman starts her menstrual cycle. BSE is a way women can take charge of their own health. A BSE should take place once a month preferably a week after her period. This is due to the fact that the breasts will not be tender or swollen at this time. Also a consistent time of
the month will give a women a baseline definition of what is the "normal" feel of her breasts. BSE is important because most breast lumps are discovered by the women themselves. There are several methods of BSE. A woman needs to find the most comfortable method for herself. A simple three-step procedure could save a woman's life. First a woman should examine her breast monthly during a bath or shower. This will allow a woman's hands to glide more easily over her breast. A woman should use the sensitive pads of the three middle fingers. With fingers flat, a woman presses firmly over every part of each breast. She might choose one of several patterns that will make sure this happens. She could choose a grid form, a circular pattern, or a section pattern. No matter the method, the most important aspect is to cover the entire breast. A woman is checking for a lump, hard knot, or thickening in the breast.

The second step is a visual inspection of the breasts. A woman should stand in front of a mirror and look at the shape and contour of her breasts. First with her arms at her side and then with her arms raised overhead. She should be looking for changes in shape, dimpling of the skin, or changes in the color of her breasts.

The third step would be to examine the breast while lying down. To examine your left breast lie flat on your back, left arm over your head and a pillow under your left shoulder. This position flattens the breast and makes it easier to examine. Use the same pattern of examination as the one chosen for the shower.
Finally a woman should squeeze the nipple gently to look for a discharge. Then she repeats the process on her right breast. If a woman would find a lump, thickening, or discharge, then it will be necessary to see the doctor as soon as possible. Most breast lumps (80%+) are not cancer, but it is important to find out for sure. A woman should not be hesitant to ask a doctor how to perform a breast self-exam. Doctors can quickly and correctly show a woman how to perform this early detection method.

A clinical breast exam means to routinely have a professional check ones breasts. Often a skilled hand can find problems quicker than an unfamiliar one. The American Cancer Society suggests that women age 40 and over should have a clinical breast examination yearly, while young women should have a clinical exam at least every three years.

Finally, a mammogram should be used to detect breast cancer. As mentioned earlier, mammograms are the best method to detect breast lumps early. A Healthy People 2000 Objective is to increase the number of women age 40 or more who have ever had a clinical breast exam and a mammogram to 80%. Indiana has not yet met this objective. Behavior Risk Factors Surveillance System data shows that in 1990, only 63% of women in Indiana age 40 or more have ever had a mammogram. The occurrence of ever having a mammogram is dependant on several variables including age, race, income level and level of education. Another barrier to getting a mammogram may be the quality. One sign of quality is to determine if the facility is accredited by the American College of Radiology. This
means that the facility has had their equipment, personnel and procedures evaluated and approved. According to the Breast and Cervical Cancer Task Force, as of March 1992, only 36% of mammography facilities in Indiana had been accredited. To determine if a facility is accredited, one only needs to call the cancer information service at 1-800-4-CANCER. There are also several questions one can ask the individual facilities (Transparency). Cost is often another barrier in receiving a mammogram. The price ranges between $50-100. Some health insurance plans cover the cost of a mammogram. There are also health services agencies and some employers that provide mammograms free or at low cost. One should ask her doctor or the local chapter of the American Cancer Society for information directing one to low-cost programs in the local area. If a woman has gone through all these tests and has discovered breast cancer, she must then become aware of her treatment options.

Due to modern technology, treatment options do not necessarily mean removing the entire breast. Depending on the severity and location of the cancerous lump, a woman may have several available options. The four basic types of treatments for breast cancer are surgery, radiation, chemotherapy, and hormone therapy. The doctor may use one or more methods depending on the patient’s needs.

Surgery is the most common treatment for breast cancer. There are several types of breast surgery. Based on the size and location of the lump, the doctor will recommend the type of surgery that offers the best chance of successful treatment. The following
are different types of breast cancer surgery.

**Modified Radical Mastectomy**—This operation removes the breast, underarm lymph nodes, and the lining over the chest muscles. Breast reconstruction is easier with this method and can be planned before surgery.

**Lumpectomy**—This operation removes only the breast lump and is usually followed by radiation treatment.

**Partial or Segmental Mastectomy**—This procedure will remove the tumor, and some of the normal breast tissue around it. This is also followed by radiation therapy. Many surgeons will also remove some or all of the underarm lymph nodes to check for the possible spread of cancer.

**Radical Mastectomy**—This type of surgery will remove the breast, the chest muscles, all of the underarm lymph nodes, and some additional fat and skin. This form of treatment was common 70 years ago, but for most patients today less extensive surgery is just as effective.

Radiation therapy will destroy cancer cells by injuring the cell’s ability to divide, while causing the least possible damage to other cells. High energy X-rays will be beamed to the breast and possibly the underarm lymph nodes. The advantage of this form of therapy is that the breast is not removed, and there is not a
lot of deformity within the surrounding tissues. The disadvantages are that it requires short daily visits to the hospital, and patients may become very tired as treatment continues. Skin reactions in the breast area, such as redness or dryness, are common. Radiation therapy as a primary treatment is a promising technique for women who are in the early stages of breast cancer.

In addition, chemotherapy or hormone therapy should be considered after primary treatment for patients in the early stages of breast cancer. Chemotherapy is the use of strong drugs to damage cancer cells and not normal cells. It is most often used when cancer cells have entered into the lymph nodes. Some side effects of chemotherapy may include nausea, loss of appetite, hair loss, and fatigue. A woman with breast cancer should discuss with her doctor how chemotherapy may help her case. Hormonal therapy involves changing the levels of hormones that help or inhibit the growth of cancer. This therapy affects the entire body and is used along with other methods of treatment.

Women who have been treated for breast cancer should continue to receive follow-up examinations throughout their life, since it is possible that breast cancer may return even 30 years after it was first found. A woman should ask her doctor how frequently these follow-up examinations should be done. Generally it will depend on the severity, type of breast cancer as well as the form of treatment.

**Breast Reconstruction**

For many years women who had to receive breast surgery were
forced to live with the physical scars left behind. Today women who have had all or part of a breast removed are finding that breast reconstruction can be a step toward restoring their bodies and their former lifestyles. The decision to have plastic surgery is a personal one. It depends on the individual’s physical and emotional outlook. Many women do not want to go through surgery again or are satisfied with wearing a breast prosthesis. A prosthesis is an artificial breast form that can be worn under clothing. Other women feel breast reconstruction would help them regain their sense of femininity and make them feel more attractive. In making a decision about breast reconstruction, a woman should consider her personal benefits and risks, talk with other women who have had reconstructive surgery, and discuss her concerns with family members and friends. After this process, she must be given the freedom to choose what she feels is the best for her situation. Breast reconstruction should always be mentioned to patients as an option within recovery.

Dealing with the physical aspects of breast cancer treatment is only one part of the healing process. Understanding and coping with the emotional side is another. Some women find that having breast cancer changes the things they value, sharpens their appreciation of life, brings them closer to people they love and leads to insights about the meaning of their lives. A woman should discuss her experiences and fears openly with family and friends. The support she will receive will be an invaluable resource for her recovery. She should feel free to ask for additional help from
professionals such as nurses, social workers, and psychologists. During treatment she had daily contact with her treatment team, now a woman may feel abandoned without their support. A woman should always remember that the qualities that made her a good friend, valuable worker, a loving mate, and a caring mother have not changed because she had cancer. She is still the same person she was before she underwent treatment. A woman may seek a support group to find out how other women coped. Such support groups are usually available locally. Dealing with the emotional aspects of breast cancer is a long uphill battle for many women. She should feel free to ask for help in dealing with her emotions.

Breast cancer will occur in about one out of every nine women in their lifetime. It is important to understand the warning signals, risk factors, and early detection methods. The earlier breast cancer is detected the better the survival rate. Teachers hold the key to save many lives from breast cancer. The information presented will be a tool they use throughout their lifetimes. By providing this information, teachers will let students know that they care. Do not let your students become faceless breast cancer statistics. Educate.
Teacher Lesson Plan Unit 1:
Breast Cancer, Warning Signs and Risk Factors

Objective: At the conclusion of this unit, the student will be able to describe breast cancer, its warning signs, and risk factors.

Total Classroom Time: 1 Class (50 minutes).

Subject Areas: Health Biology


### Content and materials

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### Terms To Teach

- Areola
- Benign
- Breast
- Breast Cancer
- Cancer
- Lobes
- Lobules
- Malignant
- Mammary Ducts
- Metastasis

### Lecture and written classwork

**The Breast**

The breast is made up of lobes, ducts, fat and underlying muscle and bone.

(Handout: Diagram of the breast with blanks to be completed by students)

The function of the breast is to produce milk to nourish an infant.

Each breast has 15 to 20 sections called lobes, within each lobe are glands called lobules. **Lobules** are what produces the milk.

Then the milk is carried to the nipple located in the center of a dark area known as the **areola** by slender tubes known as **mammary ducts**.
Cancer

Cancer cells resemble renewing cells. However, cancer cells do not stop dividing. Instead they grow in an uncontrollable pattern.

Groups of cells that divide too much will form masses. These masses/tumors can either be benign or malignant.

A **benign** tumor is a growth that is not cancer. It does not spread to other parts of the body.

A **malignant** tumor is cancerous.

**Cancer** is a term for more than 100 diseases that have uncontrolled, abnormal growth of cells. Cancer cells can spread through the bloodstream and lymphatic system to other parts of the body. These cells will destroy healthy body tissue.

**Metastasis** is when a cancer cell breaks away from a tumor and enters the bloodstream causing the spread of cancer to other parts of the body. (Transparency)

**Breast cancer** is when the cancer cells are located in the breast. Breast cancer most often begins as a painless lump or thickening in the ducts. (Transparency)

**Risk Factors**

Every woman is at risk of developing breast cancer simply because she is a woman.

In fact 1 out of every 9 women will develop breast cancer during her lifetime.

There are risk factors that will further increase a woman’s chance to develop breast cancer.

Risk factors include:

* Age- older than age 40, especially older than 50.
* Family History - Previous incidence of breast cancer in a family will increase a woman’s risk
* Individual history- personal history of breast cancer
* Childbearing- first child after 30 or never having children
* Menstrual History- If menstrual cycle started at an early age
* Diet- a high fat diet is more likely to increase the chance of breast cancer
Warning Signals

If breast cancer is detected in its earliest form, 90% of these cases can be treated successfully. (Transparency)

Warning signals to watch for include:
* A lump or thickening in breast or underarm
* A change in size or shape of the breast
* Discharge from the nipple.
* A change in color or feel of the skin of the breast or areola

Pain is usually not an early warning signal of breast cancer

Reinforcing Key Points

1. Breast cancer is one of more than 100 types of cancer. It's cause is uncontrolled, abnormal growth of cells.

2. Every woman is at risk for breast cancer. Some factors such as age, family history, and menstrual history will increase that risk.

3. If breast cancer is detected early 90% of these cases can be treated successfully.

4. A woman should watch for warning signals such as a lump, discharge, or a change in size or shape of the breast.

Homework
Student Study Guide Unit 1: Breast Cancer: Causes, Risk Factors and Warning Signals

Fill in the Blank

1. The breast is made up of ________, ________, ________, and ________. (Hint: diagram)

2. A ________ tumor is cancerous.

3. ________ is the term for more than 100 diseases that have uncontrolled, abnormal growth of cells.

4. ________ is when a cancer cell breaks away from a tumor and enters the blood stream causing the spread of cancer to other parts of the body.

5. ____ out of every ____ women will develop breast cancer during her lifetime.

True and False

1. Every woman is at risk for breast cancer.


3. Discharge from the nipple is not a warning signal of breast cancer.

4. The function of the breast is to produce milk to nourish an infant.

5. Pain is an early warning signal of breast cancer.

6. A high fat diet is a risk factor for breast cancer.

Short Answer

1. Name three risk factors for breast cancer.

2. Name three warning signals of breast cancer.

3. Name one reason a woman should monitor her risk and warning signals of breast cancer.
Answer Key for Student Study Unit 1

Fill in the Blank

1. Lobes, lobules, fat, and underlying muscle and bone
2. Malignant
3. Cancer
4. Metastasis
5. One out of every nine women

True or False

1. True
2. False
3. False
4. True
5. False
6. True

Short Answer

1. The risk factors for breast cancer are:
   Age - older than forty, especially older than 50
   Family history of breast cancer
   Personal history of breast cancer
   First child after 30 or never having children
   Menstrual cycle started at an early age
   A high fat diet

2. Warning signals of breast cancer include:
   A lump or thickening in the breast or underarm
   A change in size or shape of the breast
   Discharge from the nipple
   A change in color or feel of the skin of the breast or areola

3. Name one reason a woman should monitor her risk and warning signals of breast cancer.

   If she does monitor her risk and warning signals, she can detect breast cancer in its early stages. By doing so she will have a 90% chance that it can be treated successfully.
Teacher Lesson Plan Unit 2:
Early Detection of Breast Cancer

Objective: At the conclusion of this unit, the student will be able to describe the breast self-examination, health care provider examination, and tests for detecting breast cancer.

Total Classroom Time: 1 Class (50 minutes)

Subject Area: Health

Classroom Student Materials: Transparencies

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Early detection and prompt treatment can increase the survival rate of women with breast cancer over 95%.

The National Cancer Institute recommends a three-fold early detection plan. It includes breast self-examination, clinical breast examination, and mammography.

Breast Self Examination

(Six Transparencies for steps of breast self examination.)

Examine breasts monthly, a week after the flow ceases.

Learn breast self examination technique at a doctors office or from a specially trained technologist.

Examine in shower
  * Fingers flat press firmly over every part of breast
  * Check for hard knot, lump, or thickening

Examine in mirror
  * Look at breast with arms overhead and at sides
  * Check for swelling, dimpling of skin, or changes in the nipple

Examine lying flat
  * Place towel under shoulder, arm overhead
  * Examine with pads of fingers the entire breast
  * Squeeze nipple to check for discharge
  * Check for lump, hard knot, or thickening

If a woman finds any warning signals she should check with her doctor as soon as possible
Clinical Breast Exam

A clinical breast examination is when a trained professional examines the breast.

Women over 40 should have a clinical exam once a year, while young women should have a clinical exam at least once every three years.

If a woman is unsure about breast self-examination she should have the professional teach her the correct method.

Mammography

A mammogram is a low dose x-ray technique that can detect a lump to small to be felt or seen.

Two sets of x-rays are taken, a side and a top view.

Women who show warning signals of breast cancer should receive a mammogram immediately.

A baseline mammogram should be taken between ages 35-39. Women age 40-49 should receive one every one to two years. Women age 50+ should receive one annually.

Review Guidelines/Questions about Mammography Transparency.

Diagnosis Methods

Palpation is when a physician carefully feels the breast lump to determine it's size, texture, and whether it moves.

Aspiration is when a doctor uses a thin needle to remove fluid or tissue from the lump. This will determine if the area is a cyst or a lump.

Biopsy is the only certain way to diagnose breast cancer. A biopsy is surgery to take out all of a lump or suspicious area. Then this tissue is inspected by a pathologist, a doctor specially trained in diagnosing disease from tissue.

Show video titled "A Special Touch: BSE" Available free from the American Cancer Society.

Reinforcing Key Points

1. 95% of breast cancer cases can be treated successfully if women would employ early detection procedures.

2. A three part detection plan consisting of self breast examination, clinical breast examination, and mammography will reduce a woman's risk of breast cancer.

3. Women should practice breast self examination once a month.

4. A mammogram can detect a lump too small to be felt or seen.

5. A biopsy is a surgical procedure that is the only certain way to diagnose breast cancer.
Student Study Guide Unit 2: Detection of Breast Cancer

Fill in the Blank

1. A ________ is a low dose x-ray technique of detection that may find a lump too small to be felt or seen.

2. ________ is used by a physician to determine a breast lump size, texture, and whether it is moveable or not.

3. A young woman should have a ________ at least once every three years.

4. A doctor uses ________ to remove fluid or tissue from a suspicious area. This procedure will determine if the area is a cyst or cancerous.

True or False

1. A woman should examine her breasts monthly in the mirror, the shower, and while lying flat.

2. If a woman does not know the correct method for a self breast examination, she should not practice it at all.

3. A woman who shows warning signals of breast cancer should not get a mammogram.

4. A biopsy is the only certain way to diagnose breast cancer.

5. About 50% of breast cancer cases can be treated successfully if a woman would practice early detection.

Short Answer

1. List the three elements of an early detection program supported by the National Cancer Institute.

2. Name three methods to diagnose breast cancer.

3. Why would it be important for a woman to receive a baseline mammogram?
Fill in the Blank

1. Mammogram
2. Palpation
3. Breast Clinical examination
4. Aspiration

True or False

1. True
2. False
3. False
4. True
5. False

Short Answer

1. List the three elements that the National Cancer Institute supports for an early detection program.

   Breast Self-examination
   Clinical Examination
   Mammogram

2. Name three methods to diagnose breast cancer.

   Palpation
   Aspiration
   Biopsy

3. Why would it be important for a woman to receive a baseline mammogram between ages 35-39?

   It would be important because a doctor would keep that mammogram on file. Then for future reference he would have a normal x-ray to compare other mammograms with.
Teacher Lesson Plan Unit 3:  
Breast Cancer: Treatment, Reconstruction, and Support

Objective: At the conclusion of this unit, the student will be able to describe proven methods for treating breast cancer and specify types of rehabilitation and community resources.

Total Classroom Time: 1 Class (50 minutes)

Subject Areas: Health

Classroom Student Materials: Transparencies. Class Discussion Guide.

Terms to Teach

Breast Reconstruction  Mastectomy
Chemotherapy  Prosthesis
Hormone Therapy  Radiation Therapy

Lecture 20 min.

Treatment Options for Breast Cancer

Surgery is the most common treatment for breast cancer.

A surgeon will remove the tumor in the breast and possibly the lymph nodes under the arms.

Mastectomy:

A mastectomy is surgery to remove the breast. There are four types of mastectomy surgeries.

Modified Radical- will remove breast, lymph nodes, and lining of chest muscle

Partial- will remove tumor and some surrounding normal breast tissue.

Radical- will remove breast, lymph nodes, chest muscles, fat, and some additional skin.

Lumpectomy- will remove breast lump and will be followed by radiation therapy.

The doctor will recommend the type of surgery that will offer the most successful treatment to a woman's individual case.

Radiation Therapy

Radiation therapy will destroy cancer cells by injuring the cell's ability to divide, while causing the least possible damage to other cells.
Therapy consists of high energy x-rays beamed at the lump or suspicious area.

Radiation Therapy is often used as follow-up care to another method.

Chemotherapy

Chemotherapy is the use of strong drugs to damage cancer cells. This treatment is also used as follow-up care to another method.

Hormone Therapy

Hormone therapy is changing the levels of hormones that help cancer grow.

This type of therapy involves the entire body and not just the tumor or suspicious area.

This method is also used with other methods.

Breast Reconstruction

After surgery a woman may choose to undergo plastic surgery to rebuild the breast. This may or may not necessitate the decision about an implant. Currently silicone implants are undergoing study by the FDA.

If a woman is interested in this option, she should consult her physician before surgery, so this factor can be taken into consideration during surgery.

Many women feel breast reconstruction helps to restore their femininity.

Prosthesis

A prosthesis is an artificial breast form that can be worn under clothing.

This is an option for a woman who does not want to undergo surgery again.

Prostheses come in all shapes and sizes to help a woman find the best match for herself. They even can be custom made.

Emotional Support

A woman should feel free to ask help from professionals even after her treatment is over.

A woman should talk openly about her concerns with family and friends if she feels comfortable.

There are support groups for women who have undergone surgery and are dealing with emotional issues.
ENCORE and Reach to Recovery are two examples for a women to find out how others dealt with the disease.

Follow-Up Care

Women who have been treated for breast cancer should continue to receive follow-up care, since breast cancer may return.

A woman's doctor should tell her how frequently these exams need to be done.

10 min.  

Group Work

Class discussion using case scenario.

Review  
5 min.

Reinforcing Key Points

1. Surgery is the most common treatment for breast cancer, but the type of surgery usually is determined on an individual basis.

2. Radiation therapy, Chemotherapy, and hormone therapy are treatment options for women, but they are often used in conjunction with another method.

3. Breast reconstruction is plastic surgery to a breast, while a prosthesis is an artificial form attached to clothing.

4. A woman who has undergone surgery is dealing with a lot of emotional issues. She may need emotional support from professionals, family, friends, and support groups.
**Class Discussion for Teacher Lesson Unit 3**

To facilitate class discussion, read the following case scenario.

Mary is 27 years old. During a routine self breast exam, she notices a lump in her breast. She also found some discharge from her nipple. Mary decided to go see her doctor right away. During her exam the doctor found that Mary’s family had a history of breast cancer. He also found out that Mary started her menstrual cycle early and had high blood pressure.

1. What were the two warning signals of breast cancer?
2. Identify any risk factors.

After some discussion with her physician, Mary decides she needs to undergo some testing.

3. Name and describe two methods a doctor can use to diagnose breast cancer.

Through a mammogram and a biopsy it was discovered that Mary had a malignant tumor.

4. Suggest 3 types of treatment available to Mary.

After Mary underwent surgery she found herself having a hard time readjusting. She decided she needed some help.

5. Name two support groups Mary can turn to.

Mary now has two healthy children and is back to work. She still does a monthly self breast examination, and has a mammogram once a year. Mary is alive because she practiced early detection and prompt treatment.
Student Study Guide Unit 3:
Breast Cancer, Reconstruction, and Support

Fill in the Blank

1. A __________ is surgery to remove the breast.

2. A __________ is an artificial breast form that can be worn under clothing.

3. ENCORE is an example of a ________________ that a woman can turn to after she has had surgery.

4. __________ is the use of strong drugs to damage cancer cells.

True or False

1. Hormone therapy is changing the red blood cells that help cancer grow.

2. Radiation therapy, hormone therapy, and chemotherapy are treatment options that can stand by themselves.

3. Surgery is not the most common form of treatment for breast cancer.

4. A woman should tell her doctor before surgery, that she is interested in breast reconstruction.

5. After receiving treatment for breast cancer a woman does not need to have any follow-up care.

Short Answer

1. Name and describe three forms of support for a woman who has received treatment for breast cancer.

2. Name and describe two types of mastectomy surgery.

3. Why should a woman practice early detection and prompt treatment?
Fill in the Blank

1. Mastectomy
2. Prosthesis
3. Support group
4. Chemotherapy

True or False

1. False
2. False
3. True
4. True
5. False

Short Answer

1. Forms of support for a woman who has received treatment
   Family
   Friends
   Professionals
   Support Groups-- ENCORE, Reach to Recovery

2. Mastectomy Surgery
   Modified Radical- will remove the breast, lymph nodes, and lining of chest muscles
   Partial- will remove the tumor and some surrounding normal breast tissue.
   Radical- will remove the breast, lymph nodes, chest muscles, fat, and some additional skin.
   Lumpectomy- will remove the breast lump and will be followed by radiation therapy

3. Why should a woman practice early detection and prompt treatment?
   Because she could save her life, increase her chance of survival, she will have some flexibility in her treatment options
Resources: Agencies

Federal:

1. National Cancer Institute, Office of Cancer Communications, Public Inquiries Section, Building 31, Room 10A24, 9000 Rockville Pike, Bethesda, MD 20892

   Respond to written requests and telephone inquiries. Prepares a wide variety of publications on cancer-related topics. Publication lists available.

2. Cancer Information Service. Building 31, Room 10A24, 9000 Rockville Pike, Bethesda, MD 20892 (800) 4-CANCER.

   Toll-free telephone inquiry system supplies information about cancer and cancer-related resources to the general public.


   Disseminates results of cancer research from around the world. The database provides data about prognosis, staging, and treatment for 82 different types of cancer.

4. Centers for Disease Control. Public Inquiries, 1600 Clifton Road NE., Atlanta, GA.

   Responds to inquiries from general public on research conducted by CDC in several areas.

Private Resources

1. American Association for Cancer Education, 401 Community Health Services Building, Birmingham, AL 35294.

   Professional organization working to advance cancer prevention through education. Encompasses faculties from various disciplines.

2. American Cancer Society, 1599 Clifton Road NE., Atlanta, GA 30329 1-800-ACS-2345.

   Major voluntary association providing information and assistance on all topics or concerns related to cancer. Offers information, publications and school and community programs focusing on detection, treatment, and control of cancer. State and local chapters.
1. Indiana State Department of Health
   Epidemiology Resource Center
   Data-Based Intervention Research Program
   P.O. Box 1964
   Indianapolis, IN 46206-1964
   (317) 633-0100

2. Indiana State Department of Health
   Division of Health Education
   P.O. Box 1964
   Indianapolis, IN 46206-1964
   (317) 633-0267

3. American Cancer Society
   Indiana Division, INC.
   8730 Commerce Park Place
   Indianapolis, IN 46268
Resources: Print (Breast Cancer)


This pamphlet focuses on giving the reader a positive outlook to breast care. It discusses risk factors, warning signs, and treatment options. It also gives a detailed description of breast self-exams as well as providing a worksheet for monthly exams.


This brochure gave the reader in depth information as to how to choose an accredited mammography facility. It also gave a woman five questions she should ask the facility before she gets her mammogram.


This brochure gave women age 40 and over reasons why they should get a mammogram every one to two years. It also explained the procedure, the risk, and where to get a mammogram. This would be a good brochure for someone age 40+ who was hesitant to get a mammogram.


This pamphlet gave a detailed overview of breast cancer. It started out with statistics and background information on breast cancer. Then continued to discuss risk factors, detection methods, diagnosis, treatment options, and rehabilitation of breast cancer victims. This is a good resource for a teacher as well as a patient.


This booklet gives detailed information on treatment options for an individual with breast cancer. It gave a visual picture of each method as well as the advantages and disadvantages of each method. This would be a tool for an individual to make a personalized informed decision as to her best method for treatment.


This pamphlet gives information on reconstruction options for a breast cancer patient. It included information on common procedures, questions, and decision making aspects of reconstruction. For a woman or family member seeking reconstruction options this is an invaluable tool.

This resource addresses the emotional aspects of the healing process. It provides a resource section as well as issues a recovering patient is dealing with. It also gives a guide for continuing health care. This would be a tool for the patient as well as family members trying to provide support.


Contains information in print form on early detection, diagnosis and management of breast cancer. Also has information for the professional and listings of available materials.

Krames Communications. "Breast Health". 312 90th Street, Daly City, CA 94015-1898. (415) 994-8800. (1990)

This resource describes the three part early detection plan of breast cancer. It also gives an indepth biological description and diagram of the breast. Warning signals, mammograms, and diagnostic tests are also described in detail. This resource would be for anyone seeking more information on breast cancer.
TITLE: BREAST SELF EXAMINATION: A SPECIAL TOUCH
ACS CODE: 2361.05
TIME: 9:00

This video explains the three part process of early detection: clinical breast exam; breast self examination; and mammography. Explanation of how mammography works. Illustrates principles and processes of breast self examination with three different methods.

TITLE: SELF DEFENSE
ACS CODE: 2396.05
TIME: 12:00

The video is narrated by Mr. David Bailey. Included in this video are several testimonies from a variety of cancer patients with contradicting views from other people. The video’s focus is on combating fear of developing a cancer by utilizing early detection methods. Some of the cancers that are addressed include: breast, cervical, colon, endometrial, prostate, and skin cancer. The importance of early detection and ways to perform them are stressed in this video. The message sent to the viewer, is that early detection can be used in defense against cancer mortality.
Bibliography


Transparency Masters
Total Cancer Mortality Rates* In Indiana

From 1953-57 To 1983-87, Compared to U.S. Rates

Rate/100,000

180
175
170
165
160
155
150


*Age-Adjusted to U.S. 1970 Population
Lifetime Risk of Developing Breast Cancer

Percent of Women

Source: American Cancer Society
Breast Cancer Mortality Rates* in Indiana

From 1963-67 To 1983-87, Compared to U.S. Rates

Rate/100,000

* Age-Adjusted to U.S. 1970 Population
American Cancer Society Recommendations For Breast Clinical Examination and Mammography in Asymptomatic Women

<table>
<thead>
<tr>
<th>Type of Exam</th>
<th>Ages</th>
<th>Frequency</th>
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<td>Breast Clinical Exam</td>
<td>Age 20-40</td>
<td>Every 3 Years</td>
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<tr>
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<td>Over 40</td>
<td>Every Year</td>
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<tr>
<td>Mammography</td>
<td>Age 40-49</td>
<td>Every 1-2 Years</td>
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<td>Over 50</td>
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<tr>
<td>Breast Self Exam</td>
<td>Over 18</td>
<td>Monthly</td>
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## FIVE-YEAR SURVIVAL RATES* FOR SELECTED CANCER SITES

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<tr>
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<th>LOCAL %</th>
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<td>Oral</td>
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<td>85</td>
<td>55</td>
<td>6</td>
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<tr>
<td>Pancreas</td>
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<td>Prostate</td>
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<tr>
<td>Female Breast</td>
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* Adjusted for normal life expectancy  
Source: Cancer Statistics Branch, National Cancer Institute
Cross-Section of the Breast

- Cooper's ligaments
- Third rib
- Chest wall
- Shoulder muscle
- Chest muscle
- Deep fascia

- Fat
- Glands of Montgomery
- Areola
- Nipple
- Milk reservoir
- Mammary ducts
- Connective tissue
- Gland tissue

- Shoulder muscle
- Sternum
- Tail tissue
- Breast quadrants
Questions and Answers About Choosing a Mammography Facility

1. Does the facility use machines specifically designed for mammography?

These are called "dedicated" machines. You should not choose a facility that uses a machine that also takes x-rays of the bones and other parts of the body.

2. Is the person who takes the mammograms a registered technologist?

These people must be trained to position the breast correctly to get a good image. They should be certified by the American Registry of Radiological Technologists or be licensed by the state.
3. Who can I call to find out if a facility is accredited?

You can call the Cancer Information Service at 1-800-4-CANCER.

4. Is the radiologist who reads the mammograms specifically trained to do so?

The radiologist should be board certified and should have taken special courses in mammography.
Questions and Answers About Choosing a Mammography Facility

5. Does the facility provide mammograms as part of its regular practice?

   The ACR suggests choosing a facility that performs at least 10 mammograms each week.

6. Is the mammography machine calibrated at least once a year?

   The machine should be checked against a standard to be sure that its measurements and doses are correct. Adjustments are made if necessary.
Anatomy of a Testicle

- Vas Deferens
- Tunica Vaginalis
- Tunica Albuginea
- Vascular Supply
- Epididymis
- Testis
- Scrotal Skin
Growth of Breast Cancer

Metastasized

Axillary nodes

Cancer spread to adjacent lymph nodes (primarily axillary)
Growth of Breast Cancer

Localized

GROWTH RATE OF BREAST CANCERS IS EXTREMELY VARIABLE

Cancer arising in mammary ducts

Normal ducts

Cancer invading surrounding tissues
Signs of Breast Cancer

DISTRIBUTION OF BREAST CANCERS

FIRST SIGN OR EARLY SYMPTOM:
A painless lump is first symptom
80% of time
Outer upper quadrant is site about
50% of time

LATER SIGNS OR SYMPTOMS:
Local pain
Enlargement of the lump
Lump in axilla
Nipple changes:
soreness
discharge
retraction
ulceration
Skin changes:
dimpling
Breast Self-Examination (BSE)

Step 1

Stand before a mirror. Inspect both breasts for anything unusual such as any discharge from the nipples or puckering, dimpling, or scaling of the skin.

The next two steps are designed to emphasize any change in the shape or contour of your breasts. As you do them you should be able to feel your chest muscles tighten.
Breast Self-Examination (BSE)

Step 2

Watching closely in the mirror, clasp hands behind your head and press hands forward.

Breast self-examination should be done once a month so you become familiar with the usual appearance and feel of your breasts. Familiarity makes it easier to notice any changes in the breast from one month to another. Early discovery of a change from what is "normal" is the main idea behind BSE.
Breast Self-Examination (BSE)

Step 3

Next, press hands firmly on hips and bow slightly toward your mirror as you pull your shoulders and elbows forward.

Some women do the next part of the exam in the shower. Fingers glide over soapy skin, making it easy to concentrate on the texture underneath.
Breast Self-Examination (BSE)

Step 4

Raise your left arm. Use three or four fingers of your right hand to explore your left breast firmly, carefully, and thoroughly. Beginning at the outer edge, press the flat part of your fingers in small circles, moving the circles slowly around the breast. Gradually work toward the nipple. Be sure to cover the entire breast. Pay special attention to the area between the breast and the armpit, including the armpit itself. Feel for any unusual lump or mass under the skin.
Breast Self-Examination (BSE)

Step 5

If you menstruate, the best time to do BSE is 2 or 3 days after your period ends, when your breasts are least likely to be tender or swollen. If you no longer menstruate, pick a day, such as the first day of the month, to remind yourself it is time to do BSE.

Gently squeeze the nipple and look for a discharge. Repeat the exam on your right breast.
Breast Self-Examination (BSE)

Step 6

Step 4 and 5 should be repeated lying down. Lie flat on your back, left arm over your head and a pillow or folded towel under your left shoulder. This position flattens the breast and makes it easier to examine. Use the same circular motion described earlier.

Repeat on your right breast.