FACTS & DEFINITIONS:

Cancer is the ***second*** leading cause of death in the united states

There are organizations such as “The Lost Chord Club”, “Reach for Recovery” and “I Can Cope” that send volunteers to speak with people facing lifestyle changes due to cancer

***Obese*** patients are at higher risk for Breast, Prostate and Ovarian cancers.

Diets ***high in fat and low in fiber*** cause 1/3 of cancer related deaths

The use of smokeless tobacco still puts patients at higher risk for ***cancer of the mouth, larynx, pharynx and esophagus.***

***20 minutes*** of exercise daily is recommended daily to prevent cancer by the American Cancer Society

They also recommend breast exam by a health care professional ***every 3 years for 20–39***-year olds

Men over 50 should have ***PSA (prostate specific antigen test) and rectal exam every year*** (African American men should start sooner as they are at higher risk!)

* Signs of prostatic enlargement are hematuria and difficulty starting urine flow
* If the PSA is elevated then a Ca-19-9 is ordered to test for hepatobiliary cancers
* If the PSA is elevated and the rectal exam indicates enlargement then a transrectal ultrasound will be done

***Neoplasm:*** uncontrolled or abnormal growth of cells

***Benign*** (non-cancerous tumors that resemble the parent tissue) do not spread to other organs

***Malignant*** (cancerous) tumors do ***NOT*** resemble parent tissue and can destroy surrounding tissues and spread to other parts of the body ***(metastasis)***

Malignant tumors are ***rarely contained within a capsule and the rate of growth varies.***

***Carcinogenesis***: the process of a normal cell turning into a cancer cell

***Immunosurveillance:***  the process of T cells recognizing and destroying abnormal cells

Cancer cells differ from normal cells in the following ways:

* They have larger nuclei
* The have an irregular shape
* They have a different number of chromosomes
* They have a different process for mitosis

Most common sites for cancer:

* Lung
* Colon
* Rectum

Risk factors for cancer:

* Environmental irritants
* Alcoholism
* Hereditary factors
* Exposure to UV light (Sun Exposure or tanning beds)

Many people delay going to the doctor even in the presence of warning signs due to fear of a possible cancer diagnosis…they just hope the symptoms will go away.

***Incisional biopsies*** only remove a piece of the tumor for further examination.

***Excisional biopsies*** remove the entire mass or tumor

***Guaiac*** is the test that screens for occult blood in the stool

Japanese women ***RARELY*** get breast cancer

Cervical cancer is often caused by genital warts (HPV human papilloma virus). Women should use the ***barrier method for protection*** (condoms) and children and adolescent girls should be vaccinated with Gardasil.

Nutrition for cancer prevention:

* Weight loss is common
* Nursing diagnosis would be “Imbalanced nutrition: less that body requirements, related to anorexia”
* Avoid dyes in food (choose white cheese over yellow cheese)
* Increase fiber
* Decrease fat intake
* Good example of a meal would be
* Broiled chicken, cabbage with onions and garlic, and soy milk
* Choose small, frequent, highly nutritional meals over 3 larger meals a day
* Colorectal prevention foods would include skinless chicken, oranges, squash

External Radiation:

* Used to cure or control (shrink) cancer
* Used for lymph nodes and malignancies unable to be surgically removed
* Leave the markings in place and gentle skin care is a must
* Fatigue is common and will improve when treatment is finished
* Encourage patients to take 2 rest periods during the day

Brachytherapy:

* Radioactive implant (internal radiation device) is implanted near the tumor
* Pregnant women cannot be treated with internal radiation therapy
* Used for cancers like prostate and cervical
* Explain to patient the nurses will only be able to spend short periods of time at the bedside but are always available
* If the implant falls out keep your distance and notify the charge nurse

Chemotherapy:

* Drugs used to reduce the size or slow the growth of cancer
* Interferes with the cancer cells ability to replicate and cause cellular death (**Cytoxan** for example interferes with DNA replication)
* Unfortunately, chemotherapy can destroy normal cells in the process causing side effects and irreversible damage

Side Effects of chemo:

* Chemo brain: mental fog or cloudiness that may last for years after treatment
* Leukopenia (⭣WBC less than 4000) must be protected from infection
* Thrombocytopenia (platelets less than 150,000) must be protected from bleeding (soft toothbrush, electric razor, etc) if less than 20,000 they require platelet transfusion (avoid aspirin and NSAIDS)
* Stomatitis: perform regular gentle mouth care and use viscous lidocaine
* Alopecia: hair loss due to destruction of hair follicles (usually temporary)
* Tumor Lysis Syndrome: an oncologic emergency where malignant cells begin to rapidly divide and release their components into the blood stream. This happens 24 hours to 7 days after the **FIRST** dose of chemotherapy or radiation. Renal failure often occurs causing need for ***dialysis*** if initial treatment fails.

Best treatment is recognizing who is at risk and pretreating with:

* Hydration to maintain urinary output of 150ml/hr
* Diuretics to promote excretion of uric acid, phosphate, and potassium
* Allopurinol to prevent uric acid crystals
* Sodium bicarb to maintain urine alkalinity
* Calcium gluconate to correct hypocalcemia
* Aluminum hydroxide to bind phosphate and excrete in stool

