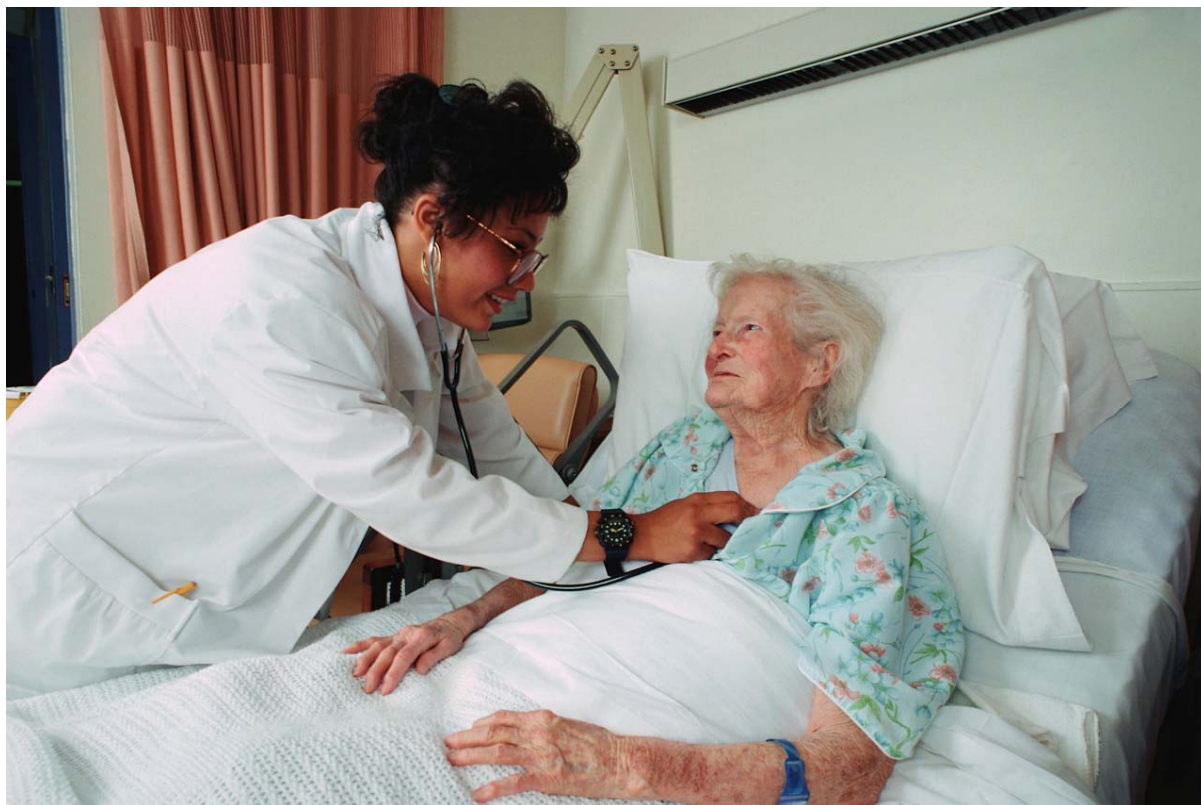


Genitourinary Issues in ElderCare



Part of the ElderCare Series

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Introduction/Purpose Statement

The quality of life and the self-esteem of elders can be greatly affected by the changes occurring within the genitourinary system through aging. In this educational offering we will take a look at some particular issues related to disease and disorders in the geriatric genitourinary system.

The purpose of this home study is to review the changes that may occur in the genitourinary system with aging and describe measures that can be taken to prevent or treat disease in this body system.

Target Audience

This home study was designed for nurses with no familiarity with genitourinary issues in eldercare; however, all health care professionals are invited to complete this packet.

Content Objectives

1. Identify the physical, psychological, and social changes that may occur due to the aging genitourinary system.
2. Describe methods to assist the geriatric patient in prevention and/or treatment of disease and disorder in the genitourinary system.

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Contact Hour Information

For completing this Home Study and evaluation , you are eligible to receive:	2.0 MN Board of Nursing contact hours / 1.66 ANCC contact hours
	Criteria for successful completion: You must read the home study packet, complete the post-test and evaluation, and submit them to TCHP for processing.
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Introduction

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What is the Genitourinary System?

The genitourinary system includes all organs that are involved with urination and reproduction.

Problems of the Urinary Tract

Urinary Incontinence

Urinary Incontinence (UI), when experienced by the elderly, can lead to loss of self-esteem, depression, decreased social interaction, pressure sores, urinary tract infections, falls, and risk of institutionalization.

UI is approximately twice as prevalent in older women as in older men. In some women, stress incontinence and urge incontinence, the two most common forms of UI, may coexist.

While age itself is not a cause of UI – age-related changes such as diabetes, sleep disturbance, restricted mobility, chronic cough, hormonal changes, and altered mentation, have been found to contribute to UI.

Treatment

Stress incontinence can be treated with Kegel exercises to help strengthen the muscles that control the bladder.



Some people with urge incontinence use bladder training to lengthen the time between urges to go to the bathroom. A gradual lengthening of the time between urination is accomplished by urinating at set intervals whether the need to go is felt or not.

Bladder Cancer

Each year, nearly 55,000 people in the United States learn that they have bladder cancer. About 90 percent of bladder cancers are transitional cell carcinomas, cancers that begin in the cells lining the bladder.

Cancer confined to the lining of the bladder is called superficial bladder cancer. Cancer that spreads through the inner lining of the bladder and invades the muscular wall of the bladder is known as invasive bladder cancer.

Bladder cancer cells may also be found in the lymph nodes surrounding the bladder. If the cancer has reached these nodes, it may mean that cancer cells have spread to other lymph nodes and to distant organs, such as the lungs.

Symptoms

Some common symptoms of bladder cancer include:

- Blood in the urine
- Pain during urination
- Frequent urination or feeling the need to urinate without results.

Diagnosis

To find the cause of symptoms, a physical exam will include a rectal or vaginal exam to check for tumors that can be felt. A urine sample will be ordered to check for blood and cancer cells.

A cystoscopy may be ordered to look directly into the bladder. A cystoscope (a thin, lighted tube) is inserted into the bladder through the urethra to examine the lining of the bladder. A biopsy may be performed through this tube. In many cases, performing a biopsy is the only sure way to tell whether cancer is present.



Treatment

Treatment for bladder cancer depends on the stage of the disease, the grade of the cancer, and the patient's general health.

Early bladder cancer may be treated at the time of diagnosis through a procedure called transurethral resection (TUR). During TUR, the doctor inserts a cystoscope into the bladder through the urethra. The doctor then uses a tool with a small wire loop on the end to remove the cancer or to burn away cancer cells with an electric current.

Surgery to remove part or the entire bladder is called cystectomy. The most common form of surgery for invasive bladder cancer is radical cystectomy – removal of the entire bladder, nearby lymph nodes,

and any surrounding organs that contain cancerous cells. In men, the nearby organs that are removed are the prostate and the seminal vesicles. In women, the uterus, the ovaries, and part of the vagina are removed. When the bladder must be removed, the doctor creates another way for urine to leave the body.

Women who have had a radical cystectomy are not able to have children because their uterus has been removed. In addition, the vagina may be narrower or shallower, which may make sexual intercourse difficult.

Men who have had their prostate and seminal vesicles removed no longer produce semen, so they do not ejaculate when they have an orgasm and are not able to father children.

In some cases, patients may have part of the bladder removed in an operation called segmental cystectomy. This type of surgery may be done when a patient has a low-grade cancer that has invaded the wall of the bladder but is limited to one area of the organ. Because most of the bladder remains intact, a patient urinates normally after recovering from this surgery.

Renal Infections

Urinary Tract/ Bladder Infections

In elderly populations, urinary tract infections (UTI's) are the second most common form of infection. The elderly are predisposed to UTI's by anatomic changes in the genitourinary system, by underlying disease, by instrumentation, and by residing in long-term care settings.

The frequency of bladder infections varies significantly according to age and sex. The male/female ratio of UTI's in adults is 1:50. After age 50, however, the incidence among males increases due to prostate disorders.

Indwelling urinary catheters are a frequent cause of UTI and catheter-associated sepsis in hospitals. Resistant organisms, prevalent in long-term care settings and hospitals, are increasingly responsible for UTI.

Bacteriuria is more common in the elderly because of poor emptying of the bladder, neuromuscular diseases, and increased use of instrumentation and bladder catheters in both sexes. Diabetics who have neurogenic bladders or who have been catheterized

have an increased incidence and severity of infections.

Cystitis is an inflammation of the urinary bladder. Urethritis is an inflammation of the urethra, which is the passageway that connects the bladder with the exterior of the body. Cystitis and urethritis are referred to collectively as a lower UTI. Infection of the upper urinary tract involves the spread of bacteria to the kidney and is called pyelonephritis.

The causes of cystitis vary according to sex because of the differences in anatomical structure of the urinary tract.

Most bladder infections in women are called ascending infections, which means that they are caused by bacteria traveling upward through the urethra to the bladder. The most common bacteria associated with UTI's in women is *E. coli*.

Risk factors for UTI's in women include:

- Sexual intercourse. The risk of infection increases if the woman has multiple partners and uses a diaphragm.
- An abnormally short urethra
- Diabetes or chronic dehydration
- The lack of needed enzymes makes it easier for the vagina to harbor bacteria.
- Inadequate personal hygiene
- History of previous UTI's

The early symptoms of cystitis in women are dysuria, or pain on urination, urgency, and increased frequency of urination. Many female patients experience fever, pain in the lower back, nausea and vomiting, or shaking chills. These symptoms indicate a spread of the infection to the upper urinary tract.

Most UTI's in males are complications of kidney or prostate infections. They are usually associated with a tumor or kidney stones that block the flow of urine and are often persistent infections. UTI's in men are most likely to be caused by *E. coli*.

Risk factors for UTI's in men include:

- Lack of circumcision. The foreskin can harbor bacteria that cause UTI's.
- Urinary catheterization. The longer the period of catheterization, the higher the risk of UTI's.

The symptoms of cystitis and pyelonephritis in men are the same as in women.

Treatment

Uncomplicated cystitis is treated with antibiotics. Treatment for women is short-term; most patients respond within three days. Men do not respond as well to short-term treatment and require seven to 10 days of oral antibiotics for uncomplicated UTI's.

Chronic Renal Failure

It is estimated that 3 million Americans will have chronic renal failure by the year 2008.

Diabetes and hypertension account for two thirds of persons with chronic renal failure. Other high-risk patients include those with chronic glomerulonephritis or a family history of renal disease.

Chronic renal failure is caused by a number of diseases and inherited disorders, but the progression of chronic renal failure is always the same. The kidneys, which serve as the body's natural filtration system, lose their ability to remove fluids and waste products from the bloodstream. They also fail to regulate certain chemicals in the bloodstream, and deposit protein into the urine.

Chronic renal failure is irreversible, and will eventually lead to total kidney failure, also known as end-stage renal disease (ESRD). Without proper treatment and intervention to remove wastes and fluids from the bloodstream, ESRD is fatal.

Causes & symptoms

The four most common causes of chronic renal failure include:

- Diabetes mellitus, both insulin and non-insulin dependant. Diabetes may cause the glomeruli, the filtering units located in the nephrons of the kidneys, to gradually lose functioning.
- Glomerulonephritis is a chronic inflammation of the glomeruli, or filtering units of the kidney. Certain types of glomerulonephritis are treatable, and may only cause a temporary disruption of kidney functioning.
- Hypertension is both a cause and a major symptom of kidney failure. The kidneys can become permanently damaged from blood pushing through them at an excessive level of pressure over a long period of time.
- Polycystic kidney disease. An inherited disorder that causes cysts to be formed on the nephrons of



the kidneys. The cysts affect the regular functioning of the kidney.

Other possible causes of chronic renal failure include kidney cancer, kidney stones, pyelonephritis, reflux nephropathy, and sickle cell anemia.

Symptoms of chronic renal failure develop slowly at first. Most symptoms of chronic renal failure are not apparent until kidney disease has progressed significantly.

Common symptoms include:

- Anemia. The kidneys are responsible for the production of erythropoietin (EPO), a hormone which stimulates red cell production. When the kidneys fail, this substance is not made.
- Bad breath or a bad taste in mouth. Urea, or waste products, in the saliva may cause an ammonia-like taste in the mouth.
- Bone and joint problems. The kidneys produce vitamin D, which aids in the absorption of calcium and keeps bones strong. For patients with kidney failure, bones may become brittle.
- Edema
- Frequent urination
- Foamy or bloody urine. Protein in the urine may cause it to foam significantly. Blood in the urine may indicate bleeding from diseased or obstructed kidneys, bladder, or ureters.
- Headaches. High blood pressure may trigger headaches.
- Hypertension or high blood pressure. The retention of fluids and wastes causes blood volume to increase, which in turn causes blood pressure to rise.
- Increased fatigue. Toxic substances in the blood and the presence of anemia may cause feelings of exhaustion.
- Itching. Phosphorus, which is typically eliminated in the urine, accumulated in the blood of patients with kidney failure may cause itching of the skin.
- Lower back pain. Pain where the kidneys are located.
- Nausea, loss of appetite, and vomiting. Urea in the gastric juices may cause upset stomach.

Diagnosis



An extensive blood work-up is needed to assess the levels of creatinine, blood urea nitrogen, uric acid, phosphate, sodium, and potassium in the blood. Urine samples will also be collected, to assess protein loss.

A full assessment of the kidneys is necessary to determine if the underlying disease is treatable and if the kidney failure is chronic or acute.

Treatment

Chronic renal failure is an irreversible condition. Hemodialysis, peritoneal dialysis, or kidney transplantation must be used to replace the lost function of the kidneys. In addition, dietary changes and treatment to relieve specific symptoms such as anemia and high blood pressure are critical to the treatment process.

Early diagnosis and treatment of kidney failure is critical to improving length and quality of life in chronic renal failure patients.

Problems of the Female Reproductive System

Uterine Prolapse

Aging and menopause can weaken the tissues, musculature, and ligaments of the pelvic floor because of diminished estrogen levels, leading to uterine prolapse.

Uterine prolapse or dropped womb is a condition in which the uterus drops downward in the pelvis below its normal position.

The uterus may drop slightly and remain above the vaginal opening (grade 1), or it may drop further so that the cervix or lower portion of the uterus reaches the region of the introitus (grade 2). In the most severe form, the cervix or even the entire uterus bulges out of the introitus (grade 3).

Symptoms

Symptoms typically are exacerbated by prolonged standing or walking and are relieved by lying down. Thus, patients may feel better in the morning and worse at night.

Mild degrees of uterine prolapse may not require any intervention, especially if the patient has no discomfort. Kegel exercises to strengthen pelvic floor muscles can improve symptoms of urinary stress incontinence, sexual function and pelvic discomfort.

Change in lifestyle such as eliminating heavy lifting or use of a tight girdle, treatment and suppression of a chronic cough, and treatment of chronic constipation, can halt the progression of genital prolapse.

Hormone replacement therapy has been found to improve the strength of the pelvic floor ligaments and muscles, and bring an improvement in symptoms while increasing the effectiveness of Kegel exercises.

Pessaries are special prostheses of different shapes and sizes that are fitted into the vagina and can effectively prevent the prolapse. The pessary must be fitted according to the type and degree of prolapse. Specialized pessaries can also effectively prevent urinary stress incontinence.

Surgery is designed to repair and reconstruct the weakened pelvic floor and restore normal function. It is indicated only when the prolapse is causing significant symptoms and when conservative non-surgical measures have failed. Surgery is rarely indicated for mild degrees of prolapse.

Cervical Cancer

Cancer of the cervix is different from cancers that begin in other parts of the uterus and requires different treatment. The most common type of cancer of the uterus begins in the endometrial lining.

Most cervical cancers are squamous cell carcinomas. Squamous cells are thin, flat cells that form the surface of the cervix.

Symptoms & Pap Tests

Symptoms usually do not appear until abnormal cervical cells become cancerous and invade nearby tissue. When this happens, the most common symptom is abnormal bleeding. Bleeding may start and stop between regular menstrual periods, or it may occur after sexual intercourse, douching, or a pelvic exam. Menstrual bleeding may last longer and be heavier than usual. Bleeding after menopause also may be a symptom of cervical cancer. Increased vaginal discharge is another symptom of cervical cancer.

Precancerous changes of the cervix usually do not cause pain. In fact, they generally do not cause any symptoms and are not detected unless a woman has a pelvic exam and a Pap test.

If all women had pelvic exams and Pap tests regularly, most precancerous conditions would be detected and treated before cancer develops. Any invasive cancer that does occur would likely be found at an early and curable stage.

Treatment:

When a precancerous lesion requires treatment, the doctor may use cryosurgery (freezing), cauterization (burning), or laser surgery to destroy the abnormal area without harming nearby healthy tissue.

In some cases, a woman may have a hysterectomy, particularly if abnormal cells are found inside the opening of the cervix.

The choice of treatment for cervical cancer depends on the location and size of the tumor, the stage (extent) of the disease, the woman's age and general health, and other factors.

Breast Cancer

Breast cancer remains the most frequent type of cancer in women, with nearly 1 million new cases each year worldwide.

Breast cancer is a hormonally related process; most breast cancer risk factors act through changes in estrogen hormonal levels that influence the breast epithelium.

Family history is the most important breast cancer risk factor. Reproductive factors such as age at first childbirth, parity and age at menarche are well-known factors associated with the risk of breast cancer. Hormone replacement therapy studies suggest an increased risk for breast cancer, especially if long-term use is greater than 5 years.

The association with height and weight are related to breast cancer according to menopausal status. Leanness is positively associated with premenopausal breast cancer, and overweight increases the risk of postmenopausal breast cancer.

Options to reduce the risk of breast cancer include life-style modification, self breast exams, prophylactic surgery and chemoprevention.

Menopause

What exactly do we know about menopause? While the body of knowledge is still growing, women can be assured that it is far more than in 1887.

The following is a quote taken from an 1887 neurological textbook:

“The ovaries, after long years of service, have not the ability of retiring in graceful old age, but become irritated, transmit these irritations to the abdominal ganglia, which in turn transmit the irritation to the brain producing disturbances in the cerebral tissue exhibiting themselves in extreme nervousness or in an outburst of actual insanity.”

Menopause usually occurs around the age of fifty years old. A best estimate as to when a woman will go through menopause correlates strongly with when her mother went through menopause.

Usually by the early 50's, the ovaries run out of eggs and stop making estrogen. This loss of estrogen causes the typical symptoms of menopause. Some symptoms can begin as early as age forty.

Early menopause can be the result of surgery with the removal of the ovaries. This often accompanies a hysterectomy, especially if the woman is over forty years old. Radiation and/or chemotherapy for the treatment of cancer can also cause a woman to enter into premature menopause.

Common Symptoms

Hot Flashes

Those infamous hot flashes are one of the first signs of menopause. Hot flashes are difficult to treat but are usually short-lived, lasting between three and six minutes and may occur up to several times a day.

Generally, hot flashes begin suddenly on the chest, neck and face. They can be associated with profuse sweating, and can be disabling and physically draining.

Associated symptoms such as headache, sleeplessness, nausea, and difficulty with concentration are common.

Infections

Vaginal symptoms including dryness, thinning and shrinking, which increase the risk of vaginal and bladder infections, are common after menopause.

At menopause, the decrease in estrogen affects the bladder. The bladder wall and the supporting ligaments thin out making the lining of the bladder susceptible to bacteria. Bacteria multiply causing inflammation that lead to bleeding and irritation.

The bladder can drop and therefore empty inadequately, causing the residual urine to sit in the bladder for a long time and be prone to infection.

Estrogen therapy creams or unsweetened cranberry juice have been cited as effective treatment options with these symptoms.

Sexual Problems

Low sex drive is a common finding at menopause. The decreases of estrogen and androgens during and after menopause result in a decline in sex drive or sexual desire. These symptoms are often preventable when treated by testosterone supplementation.

Mood Swings

Women who suffer from Pre-Menstrual Syndrome (PMS) or depression are more likely to experience mood swings during menopause. With all of these symptoms, it is not surprising women voice feelings of emotional problems at menopause including mood swings, crying spells, and irritability.

One may suffer from depression at menopause. Frequently this requires treatment other than hormone replacement therapy. Poor social support and poor marital relations can contribute to feelings of depression.

Menopause can lead to a self-examination and review of life's ups and downs. However, the downs have a way of overshadowing the accomplishments, especially when all of those other menopausal changes are occurring simultaneously. Some women see menopause as an end of their youth. This is especially true as our society prizes youth and one may feel less attractive.

Irregular Bleeding

Changes in the menstrual flow are common. The most common is a decrease in flow with skipping periods and finally no bleeding. However, it is not unusual to see an increasing flow and longer or more frequent periods.

Hysterectomies were often performed in the past to treat excessive bleeding. Now, a hysterectomy is a last resort and is usually done for bleeding associated with diseases such as fibroids, polyps or cancer.

Most often episodes of excessive bleeding can be treated with hormones.

Endometrial ablation is a new treatment where the endometrial lining of the uterus is destroyed using heat.

Memory Problems

Memory loss is a consistently reported symptom, yet little information has been found into its exact cause or treatment options.

There have been several studies trying to determine if estrogen replacement therapy (ERT) can affect memory – without much conclusive outcome. When looking at women who are sleeping well, with no hot flashes and are not depressed, it was found that estrogen did not improve memory.

Osteoporosis – Major Threat

Osteoporosis has been called the "silent thief" -- robbing bones of calcium, resulting in brittle bones.

There are no early warning symptoms until the disease results in broken bones.

Bones, after menopause, begin to break down. The skeleton becomes weakened and a minor fall can result in a fractured hip or wrist.

Some women are at greater risk of developing osteoporosis. These risks include:

- A family history of osteoporosis
- Age - the older you are, the greater the risk
- Race - white and oriental women are at higher risk
- Small and thin women are at greater risk
- Smoking increases your risk
- Little or no exercise increases your risk
- Medications & diseases - cortisone or thyroid hormone, for example, can increase your risk
- Early menopause, either naturally or from surgery.

There are signs of late osteoporosis. They can include back pain, height loss, a curving spine, a history of broken bones or a recently broken bone.

Osteoporosis is largely preventable for most people. Prevention of this disease is very important because, while there are treatments for osteoporosis, there is currently no cure.

There are four steps to prevent osteoporosis. No one step alone is enough to prevent osteoporosis but all four may. They are:

- A balanced diet rich in calcium and vitamin D. Calcium is needed for the heart, muscles and nerves to function properly and for blood to clot. Inadequate calcium is thought to contribute to the development of osteoporosis. Vitamin D is needed for the body to absorb calcium. Without enough vitamin D, you will be unable to absorb calcium from the foods you eat, and your body will have to take calcium from your bones.
- Weight-bearing exercise. The best exercise for your bones is weight-bearing exercise such as walking, dancing, jogging, stair-climbing, racquet sports and hiking.
- A healthy lifestyle with no smoking or excessive alcohol use.
- Bone Mineral Density Testing (BMD) and medications when appropriate. A BMD is the only way to diagnose osteoporosis and determine risk for future fracture. A BMD measures the density of bones (bone mass) and is necessary to determine whether medication can help maintain bone mass, prevent further bone loss and reduce fracture risk. Bisphosphonates, calcitonin, estrogens, parathyroid hormone and raloxifene are approved by the FDA for the prevention and/or treatment of osteoporosis.



Hormone Replacement

Menopause occurs secondary to failure of the ovaries to produce estrogen and progesterin, which are the female hormones.

This is a gradual process occasionally taking two to three years.

Symptoms vary from the cessation periods to all the annoying symptoms. The most common symptoms will eventually resolve even without taking hormones. Taking estrogen will definitely stop these symptoms. Long-term problems occur with the loss of estrogen at menopause. The bones lose calcium and become thin and brittle. This markedly increases the risk of bone fractures. Estrogen replacement therapy stops this rapid bone loss and reduces hip fractures by 25% and spine fractures by about 50%.

Another long-term problem is the change in cholesterol that occurs with the loss of hormones. The total cholesterol will increase and the good cholesterol, which is called the high-density lipoprotein (HDL) cholesterol, will decrease. Both of these changes result in a higher likelihood of developing coronary artery disease and subsequently having a heart attack. Estrogen replacement therapy prevents these changes and will reduce the risk of dying from a heart attack by about 35%. This is really the most significant advantage to taking hormones after going through menopause.

Unfortunately there are some potential risks from taking Estrogen. Taking estrogen (Premarin) without progesterin (Provera) will increase the risk of endometrial cancer by up to eight fold. A woman who still has her uterus is generally not a candidate for unopposed estrogen therapy, at least not for prolonged use, because the risk of endometrial cancer would be too high.

Another risk of taking estrogen is the increased chance of developing breast cancer.

Several studies have looked at the life expectancy in women taking estrogen versus those that don't take estrogen. In about all situations, the life expectancy is increased if estrogen is taken – mainly because of the lower risk of heart attacks.

Heart attacks are the leading cause of death overall in females. Anything that will reduce deaths from heart attacks will save a lot of lives.



On the other hand, if there is a family history of breast cancer then the decision whether or not to take estrogen becomes more difficult.

Hormone replacement therapy is estrogen or combination estrogen/progesterin medication, available only by prescription. Women have traditionally used hormone replacement therapy to reduce the symptoms associated with menopause. For those women who cannot or do not wish to use conjugated estrogen, other therapies are available to deal with menopausal symptoms as well as disease risk.

Non-hormonal therapies are available to reduce the symptoms of menopause, varying from the use of soy products, lubricants, and vitamin supplements, to prescription medications that stabilize the autonomic nervous system.

Reducing cholesterol with a low fat diet, exercise, and drug therapy is useful in reducing risk of heart disease.

Supplemental calcium and vitamin D, weight-bearing exercise, the use of bisphosphonates, and therapy with selective estrogen receptor modulators, like raloxifene, are available for osteoporosis prevention and treatment.

Low dose aspirin therapy reduces risk for both heart disease and colon cancer.

Of course, a healthy diet and regular exercise is always important for maintaining good health.

Dyspareunia

Dyspareunia is genital pain associated with sexual intercourse, from inadequate lubrication, atrophy or vulvodynia.

Urethral disorders, cystitis and interstitial cystitis may also cause painful intercourse.

The location of the pain may be described as entry or deep. Vulvodynia, atrophy, inadequate lubrication and vaginismus are associated with painful entry. Deep pain occurs with the other conditions previously noted.

Problems of the Male Reproductive System

Benign Prostatic Hyperplasia

Benign Prostatic Hyperplasia (BPH) is a noncancerous enlargement of the prostate gland.

Facts:

- BPH is the most common benign neoplasm in the aging human male.
- By the age of 60, more than 50 percent of all men will have microscopic evidence of BPH.
- About one-half of men with BPH will eventually develop macroscopic enlargement of the gland, and approximately one-half of those men will progress to clinical symptoms of prostatism requiring treatment.
- It has been estimated that, by the age of 80, one in every four males in the United States will require treatment for symptomatic BPH.
- Over 300,000 surgical procedures for BPH, mostly transurethral resection of the prostate (TURP), are performed annually in the United States

The dominant risk factors for the development of BPH are increasing age and the presence of androgens. The etiology of the disease remains poorly understood.

BPH affects the urethra as the enlarged prostate tightens around it.

Symptoms include a weakened urinary flow and/or hesitancy during urination with repeated flow starts and stops. Difficulty initiating the urinary stream or stopping the flow (dribbling) also may be a problem.

BPH may prevent a man from completely emptying his bladder, causing urinary retention, thus it can cause frequent urinary tract infections and urge incontinence. Postvoid residuals become very important in the prevention of further complications.

Treatment of BPH

Asymptomatic patients with prostate enlargement due to BPH rarely require treatment. For those BPH patients who have specific complications due to BPH, such as urinary retention, prostate surgery is usually the most appropriate form of treatment.

Prostate Cancer

Prostate cancer develops within the prostate gland, a small chestnut-shaped gland surrounding the beginning of the urethra, or urinary canal.

It is the second most common cancer in men, after skin cancer. Men with a family history of prostate cancer are also more likely to develop prostate cancer.

The cause of prostate cancer is unknown, although medical research suggests a combination of hormonal and inherited factors and perhaps dietary and environmental causes.

Most prostate cancers grow very slowly, and the disease is very manageable -- and even curable, unlike many forms of cancer -- if detected early.

Symptoms

Prostate cancer usually causes no symptoms early in its course and is frequently detected before any symptoms develop. When symptoms do occur, they often begin with a slowing or weakening of the urinary stream, a need to urinate more often, blood in the urine, swollen lymph nodes in the groin area, impotence, and/or pain in the pelvis, spine, hips, or ribs.

PSA

The PSA test is a blood test that is used to screen for the presence of prostate cancer. Prostate specific antigen is a protein found in the fluid portion of blood, called serum. PSA is specific to the prostate. No other human tissue or body part can make it.

PSA is only present in men. PSA is present in all normal prostate tissue. The normal prostate cell holds onto most of the PSA. Very little leaks into the bloodstream. The small amount that leaks out is what is measured by the blood test. Prostate cancer cells actually have less PSA in each cell. However, the cancer cell tends to leak more PSA into the bloodstream. Knowing this fact, experts developed a range of expected values in patients with a normal prostate gland.

If a rectal exam is normal then the following recommendations are suggested:

PSA of 4 or less

If the PSA level has been measured for the first time and is less than 4, repeat testing is recommended on a yearly basis.

PSA between 4 and 10

If the PSA level is greater than 4 but less than 10, a diagnostic ultrasound of the prostate is recommended. If the ultrasound shows no suspicious areas the prostate can be monitored through regular testing and exams. If the ultrasound shows a suspicious area, then biopsy of the area needs to be performed.

PSA greater than 10

If the PSA is greater than 10, diagnostic ultrasound of the prostate with biopsies is the recommended course. If the ultrasound shows no suspicious areas, then random biopsies of the prostate are taken. If the ultrasound shows suspicious areas, then biopsies of the areas along with random biopsies need to be done.

If previous PSA values are available, test results will be evaluated differently. The PSA level almost always rises if cancer is growing. Any PSA level that is rising is suspicious.

Treatment

There are several types of treatment for prostate cancer. Treatments for prostate cancer include surgery to remove the prostate, radiation, various medications that slow the growth of cancer cells, and sometimes chemotherapy.

Because prostate cancer typically grows so slowly, for some men -- particularly those who are older or who have other medical problems -- a "watch and wait" approach may be taken.

There's no sure way to prevent prostate cancer. But risks can be cut in half, by yearly rectal and prostate exams with PSA results.

Sexual Changes

MYTH: Most old people are not interested in sex.

Although age brings a decline in various aspects of sexual function, sexual satisfaction typically remains stable in later life.

The truth is, sexuality is present throughout life, and a sexual relationship can have as much depth for the elderly as it does for the young. Too often, sexual activity for older adults is seen as unnecessary, impossible or just not nice. The greatest limits of sexual activity and aging are misinformation and negative stereotypes.

Sexual Problems

Women

Low sex drive is a common finding at menopause; often this can be treated by testosterone supplementation. Sexual functions are affected by decreases of estrogen and androgens during and after menopause with a resulting decline in sex drive or sexual desire. With the loss of estrogen, the vagina becomes thinner and shorter making it susceptible to irritation and infection. These symptoms are preventable.

Men

Erectile dysfunction, or ED, can be a total inability to achieve erection, an inconsistent ability to do so, or a tendency to sustain only brief erections.

In older men, ED usually has a physical cause, such as disease, injury, or side effects of drugs. Any disorder that causes injury to the nerves or impairs blood flow in the penis has the potential to cause ED. While the incidence of ED increases with age, it is not an inevitable part of aging. ED is treatable at any age, and awareness of this fact has been growing. More men have been seeking help

and returning to normal sexual activity because of improved, successful treatments for ED

Your post-test will be returned to you with the certificate of completion.

Summary

The old adage that "an ounce of prevention is worth a pound of cure" can be just as true for the elderly as for the young. Appropriate and timely preventive strategies and interventions can improve quality of life, reduce morbidity, and even decrease rates of mortality.

Knowing what symptoms are normal parts of aging, what is not normal, and what can be done to treat these symptoms is essential to the care of the elderly patients.

Interventions later in life can still have long-lasting benefits!

Directions for Submitting Your Post Test for Contact Hours

To obtain a certificate of completion for this home study program, please complete the post-test and evaluation on the next few pages. The date on your certificate of completion will be the date that your home study is received. **Any materials received with a postmark after the expiration will be discarded.**

HealthEast, HCMC, & MVAMC Employees

If you are an employee of HealthEast, HCMC, & MVAMC, you may send the post-test and evaluation to TCHP for processing. Your post-test will be returned to you through your hospital. It cannot be mailed to your home.

Paid Participants

If you are not an employee of one of the TCHP hospitals, please send the post-test and evaluation to TCHP with a check for \$12.00. Please make check payable to **TCHP Education Consortium** and mail to:

**TCHP Education Consortium
Capitol Office Building
525 Park Street, Suite 120
St. Paul, MN 55103**

Resources

Following are some excellent sources that assisted in development of this educational packet:

- American Medical Women's Association. Hormone replacement therapy and breast cancer risk.
- Anonymous, (1997). What you need to know about bladder cancer. United States Department of Health and Human Services Public Health Service, Feb. p. 34.
- Anonymous, (1994). Benign prostatic hyperplasia: diagnosis and treatment. United States Department of Health and Human Services Public Health Service, p.225, Feb.
- Anonymous, (2002). Researchers examine prevalence, quality of life, and treatment of men suffering from prostate problems. *Research Activities*, (262): 9-11Jun.
- Brekelmans, C. (2003). Risk factors and risk reduction of breast and ovarian cancer. *Current opinions in obstetrics and gynecology*, 15(1), p. 63-68.
- File TM, Tan JS. (1989). Urinary tract infections in the elderly. *Geriatrics*, (44)A: p.15-9.
- Ford-Martin, P. (2003). Chronic kidney failure. *Gale Encyclopedia of Medicine*.
- Foxman, B., (2002). Epidemiology of urinary tract infections: incidence, morbidity, and economic costs. *American Journal of Medicine*. (113)1A:5S-13S.
- Guerrero, P. (2002). Urinary incontinence.
- Kripke,C., (1999). Guidelines for managing chronic renal failure. *American Family Physician*.
- Menopause Online, (2002). Health on the net foundation. <http://www.menopause-online.com/problems.htm>
- Moran, D. PSA. *Medical Tests Encyclopedia*
- National Osteoporosis Foundation: <http://www.nof.org/>
- Philpot, C. (2000) Health issues unique to the aging man. *Geriatric nursing* (21) 5, p.234-139.
- Prostate Cancer Research Institute: <http://www.prostate-cancer.org>
- Toaff, M. (2002). Uterine prolapse: <http://www.netreach.net/~hysterectomyedu/>

Recommended Reading

1. American Nurses Association. *Scope and Standards of Gerontological Nursing Practice*, 2nd ed. Washington, DC: ANA, 2001.
2. Ebersole P, Hess P. *Geriatric Nursing & Healthy Aging*, St. Louis: Mosby, 2001.
3. Eliopoulos C. *Manual of Gerontologic Nursing*, 5th ed. Philadelphia: Lippincott, 2001.
4. Fulmer T, Foreman MD, Walker M, eds. *Critical Care Nursing of the Elderly*, 2nd ed. New York: Springer Publishing Co.; 2001.
5. Hogstel MO, Zembruski CD, Wallace M. *Gerontology: Nursing: Care of the Older Adult*. Albany NY: Delmar, 2001.
6. Lueckenotte A. *Gerontologic Nursing*, 2nd ed. St. Louis: Mosby, 2000.
7. Maas ML, Buckwalter KC, Hardy MA et al. (eds.). *Nursing Care of Older Adults: Diagnosis, Outcomes, and Interventions*. St. Louis: Mosby, 2001.
8. <http://www.nlm.nih.gov>
9. <http://www.nursing.uiowa.edu>
10. <http://www.nyu.edu>

Post-Test: Genitourinary Issues in ElderCare

Please print all information clearly and sign the verification statement:

Name _____
(please print legal name above)

Birth date (required)

M	M	D	D	Y	Y	Y	Y

Format: 01/03/1999

For HealthEast, HCMC, or MVAMC, employees only:
Hospital _____ Unit _____

Personal verification of successful completion of this educational activity (required):

I verify that I have read this home study and have completed the post-test and evaluation.

Signature

- 1) Urinary incontinence is a normal part of aging.
 - a) True
 - b) False
- 2) Symptoms for bladder cancer include:
 - a) Frequent and painful urination
 - b) Frothy urine
 - c) Rebound abdominal pain
 - d) Inability to urinate
- 3) Which of the following elderly would be most at risk for renal infection?
 - a) Elderly male, homecare, with urinary catheter
 - b) Elderly woman, ICU, catheterized
 - c) Elderly woman, NH, diabetic, Hx UTI's
- 4) Diabetes and hypertension account for ? of elderly with chronic renal failure.
 - a) ½
 - b) ¼
 - c) 2/3
 - d) all

- 5) The following interventions would be helpful for women with uterine prolapse?
 - a) Stool softeners/laxatives
 - b) Kegel exercises
 - c) Cough medicine
 - d) All of the above
- 6) Is it true that, if all women had regular pelvic exams and pap smears, invasive cervical cancers would likely all be curable?
 - a) Yes
 - b) No
- 7) Menopausal changes in the GU system of the elderly woman predisposes them to all of the following, EXCEPT:
 - a) Bladder infections
 - b) Insanity
 - c) Osteoporosis
 - d) Dyspareunia
- 8) Benign Prostatic Hyperplasia is one of the few GU changes that age is truly the major risk factor for.
 - a) True
 - b) False
- 9) Prostate specific antigen measurement is obtained through:
 - a) Urine specimen
 - b) Stool culture
 - c) Prostate biopsy
 - d) Serum test
- 10) Which of the following statements about sexuality in the elderly is NOT true?
 - a) Age causes a decline in sexual function.
 - b) Societal stereotypes lead to under treatment of sexual symptoms in the elderly.
 - c) Vaginal thinning can lead to a decrease in sexual desire.
 - d) Normal changes in aging lead to a decreased interest in sexuality for the elderly patient.

Expiration date: The last day that post tests will be accepted for this edition is **December 31, 2017**—your envelope must be postmarked on or before that day.

Evaluation: Genitourinary Issues in ElderCare

Please complete the evaluation form below by placing an “X” in the box that best fits your evaluation of this educational activity. Completion of this form is required to successfully complete the activity and be awarded contact hours.

At the end of this home study program, I am able to:	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Identify the physical, psychological, and social changes that may occur due to the aging genitourinary system.					
2. Describe methods to assist the geriatric patient in prevention and/or treatment of disease and disorder in the genitourinary system.					
3. The teaching / learning resources were effective. <i>If not, please comment:</i>					

The following were disclosed in writing prior to, or at the start of, this educational activity (please refer to the first 2 pages of the booklet).		
	Yes	No
4. Notice of requirements for successful completion, including purpose and objectives		
5. Conflict of interest		
6. Disclosure of relevant financial relationships and mechanism to identify and resolve conflicts of interest		
7. Sponsorship or commercial support		
8. Non-endorsement of products		
9. Off-label use		
10. Expiration Date for Awarding Contact Hours		
11. Did you, as a participant, notice any bias in this educational activity that was not previously disclosed? <i>If yes, please describe the nature of the bias:</i>		

12. How long did it take you to read this home study and complete the post test and evaluation:
 _____ hours and _____ minutes.

13. Did you feel that the number of contact hours offered for this educational activity was appropriate for the amount of time you spent on it?

___ Yes

___ No, more contact hours should have been offered

___ No, fewer contact hours should have been offered.

Expiration date: December 31, 2017
