New Jersey Commission on Cancer Research

INFORM

A SPECIAL RESEARCH REPORT OF THE NEW JERSEY COMMISSION ON CANCER RESEARCH

CANCER SCREENING AND YOUR HIGH RISK PATIENT

AN UPDATE FOR PRIMARY CARE PHYSICIANS

SUMMER 2003

Dear Colleagues:

This report was written to help primary care physicians understand how increased risk of breast, colorectal and prostate cancer might affect screening practices. The authors are experts in their fields and have summarized screening practices based on major government and professional organizations. It must be pointed out that screening recommendations do change as research studies provide more definitive information. Therefore, primary care physicians should review the literature on an ongoing basis to stay current. Ideally, patients who are suspected of having genetic predisposition to breast and colorectal cancer should be referred to a high cancer risk assessment program for consideration of genetic testing. Genetic testing for prostate cancer is not yet available, but physicians should discuss potential risks and options with patients who have a family history of the disease or African American men over the age of 40 years.

In addition, this report provides summary results from a survey on screening practices by New Jersey family practitioners conducted in 2002.

We are grateful to all the physicians and health care professionals who participated in this survey. Your time and effort is greatly appreciated and your answers have provided valuable information in the area of cancer screening.

Sincerely,

Frederick B Cohen, MD

Frederick B. Cohen, M.D.
NJCCR Chair

Cancer Screening Guideline Preference: A Survey of New Jersey Physicians

by

Sharon Smith, MPH, Rutgers University; Ann Marie Hill, MBA, New Jersey Commission on Cancer Research; & Dona Schneider, PhD, MPH, Rutgers University

Screening is widely accepted as being important for cancer control. Cancer screening guidelines, however, differ across professional medical organizations as to who should be screened, with what tests, and at what ages and intervals. The United States Preventive Services Task Force (USPSTF) developed screening guidelines based on scientific methodology with the expectation they would serve as the gold standard for cancer screening. Previous studies, however, have found that few physicians have adopted the USPSTF guidelines.

In 2002, the New Jersey Commission on Cancer Research (NJCCR) and Rutgers University conducted a research project to determine which cancer screening guidelines New Jersey family physicians currently follow and why. A secondary goal of the project was to determine if *Best Practice Guidelines* issued by the NJCCR would assist family physicians with cancer screening.

A one page, 11-item survey was sent to approximately 2,000 family physicians and general internists in the State of New Jersey. The survey included questions regarding physician and practice characteristics, cancer screening guideline preference,

and reasons for choosing specific guidelines. Only responses from active physicians involved in cancer screening were used in the analysis. A total of 443 eligible responses were received (response rate, 26.5%). The majority of respondents were male, in practice for 15-24 years, untrained in a subspecialty, and in solo practice.

Results of this study indicate that The American Academy of Family Physicians (AAFP) and American Cancer Society (ACS) are the most frequently followed guidelines with 80 percent of respondents citing use of one or the other. Less than 10 percent of physicians said they follow USPSTF, NCI and subspecialty group guidelines. The primary reason given for guideline choice was the physician's own experience. The next most common reasons for choosing guidelines were the belief they are evidence-based and subspecialty recommendation. With regards to statewide guidelines, 80 percent of respondents agreed that uniform, *Best Practice Guidelines for Cancer Screening* would be helpful to their practice.

The study found that the AAFP and ACS guidelines are the ones used most commonly. The majority of physicians indicated that *Best Practice Guidelines* would be beneficial to their practice; however, they also indicated that they choose guidelines based on their own experience. For this reason, it is uncertain that an additional set of guidelines would actually be used. Additional education on the USPSTF guidelines, however, may assist physicians with cancer screening. A summary of the USPSTF guidelines is included below. A complete set of guidelines and supporting evidence can be found at www.ahrq.gov or in The U.S. Preventive Services Task Force, Guideline to Clinical Preventive Services, Second and Third Editions.

Table 1. Summary of USPSTF Cancer Screening Guidelines.

Cancer Type	Summary of Guideline
Breast	Women aged 40 and older: Screening mammography, with or without clinical breast exam, every 1-2 years.[1]
Cervical	Women who are or have been sexually active: Regular Pap test at least every 3 years. Pap tests may be discontinued after age 65 in women who have had regular, consistently normal prior screenings.[2]
Colorectal	Men and women aged 50 and older: Periodic fecal occult blood testing, sigmoidoscopy or a combination of both.[1]
Prostate	Evidence is insufficient to recommend for or against routine screening using prostate specific antigen (PSA) or digital rectal exam (DRE).[1]
Oral	Evidence is insufficient to recommend for or against routine screening for oral cancer. All patients should be counseled to discontinue the use of all forms of tobacco and to limit the consumption of alcohol. Clinicians should remain alert to signs and symptoms of oral cancer and premalignancy in persons who use tobacco or regularly use alcohol.[2]
Skin	Evidence is insufficient to recommend for or against routine screening for skin cancer using a total-body skin examination for the early detection of cutaneous melanoma, basal cell cancer, or squamous cell skin cancer. Clinicians should remain alert for skin lesions with malignant features when examining patients for other reasons, particularly patients with established risk factors. Appropriate biopsy specimens should be taken of suspicious lesions.[1]

[1] The United States Preventive Services Task Force, Guideline to Clinical Preventive Services: Third Edition, 2002.
[2] The United States Preventive Services Task Force, Guideline to Clinical Preventive Services: Second Edition, 1996.

The New Jersey Commission on Cancer Research would like to thank *Dr. Deborah M. Capko, MD, Director of the Institute for Breast Care at Hackensack University Medical Center, Steven J. Shiff, MD, The Unilever Chair for the Study of Diet & Nutrition in the Prevention of Chronic Disease at The Cancer Institute of New Jersey and Professor of Medicine at the University of Medicine and Dentistry-Robert Wood Johnson University Hospital, and Dr. Robert Weiss, MD, Associate Professor of Urology, UMDNJ-Robert Wood Johnson Medical School* for contributing to this special report on **Cancer Screening & Your High Risk Patient.** We also wish to thank *Sharon Smith, MPH and Dr. Dona Schneider, Professor of Urban Studies at the Bloustein School, Rutgers University* for their work on screening practices of New Jersey primary care physicians that laid the groundwork for this update.

Please send comments or questions to Ann Marie Hill, Executive Director, New Jersey Commission on Cancer Research, 28 West State Street, 5th Fl, PO Box 360, Trenton, NJ 08625-0360 or email njccr@doh.state.nj.us

Assessment of Breast Cancer Risk for the Primary Care Physician

by
Deborah M. Capko, MD, Institute for Breast Cancer, Hackensack University Medical Center

Several studies have recently been published which raise issues concerning the standard medical practice aimed at middle aged women. In the past, primary care physicians recommended that women should have their mammography yearly after the age of forty and, in general, hormone replacement therapy protected women from heart disease, was beneficial for the side effects of menopause and was "safe". Both of these practices have come under question. The role of the primary care physician has been expanded. After reviewing these controversial studies, they must assess whether Hormone Replacement Therapy (HRT) or mammography is appropriate for their patient, and explain this in terms of breast cancer risk and what options are available to reduce this cancer risk.

Mammography remains the single most important test for early detection of breast cancer. Recommendations remain the same, a baseline mammography by age forty and then annually. Women with breast cancer in their family should have their baseline mammography 10 years prior to the youngest family member who developed breast cancer. A recent study questioned the accuracy of mammography in detecting breast cancer and it concluded by stating the results were widely varied and offered several conclusions. A mammography should be done in a facility, which does a high volume and should be read by a specialist who reads at least 400 but closer to 2600 mammograms a year. At the present time, digital mammography, ultrasound, and MRI should be used as adjuncts to mammography. The primary care physician should know the quality of the mammogram and the radiologist interpreting it when recommending a facility to their patients.

Risk assessment is part of the history intake that should be included by all primary care physicians. There are several aspects of breast cancer risk. These include present age (risk increases as patients get older), age at first menstrual period, age at first live birth, age at menopause, number of surgical biopsies and number of first-degree relatives with breast cancer. A simple computer program has been developed using the GAIL model that helps calculate relative risk and the likelihood of developing breast cancer over a thirty-year period for women. A detailed family history should also be obtained, including both maternal and paternal histories of breast and other cancers. The CLAUS model can calculate a familial breast cancer risk, again assessing the likelihood of developing breast cancer over time. Each method has flaws and should be used appropriately when counseling the patient. Family history can also suggest a cancer syndrome and that patient should be sent onto a genetic counselor to explore the possibilities of genetic testing with the BRCA-1 and BRCA-2 genes.

Primary care physicians must discuss and inform their patient that they may be at risk for the

development of breast cancer. They can then refer them onto a specialist or offer methods of risk reduction to them including close surveillance, ductal lavage, chemoprevention with tamoxifen, or prophylactic mastectomy and/or oophrectomy. Most elect to have the patient followed by a breast specialist, who will perform bi-annual breast exams, evaluate their mammogram and provide the appropriate complex counseling.

The STAR trial (Study of Taxoxifen vs Raloxifene) should also be considered for postmenopausal women with high risk. The study compares tamoxifen, a drug proven in the Breast Cancer Prevention Trial to reduce breast cancer incidence by 49%, with raloxifene, a drug that has shown the potential to reduce breast cancer incidence. The study is the largest breast cancer prevention trial ever undertaken and will involve over 19,000 women. Eighteen New Jersey sites are offering the STAR trial. *See list at end of article*.

Early data recently published from the Woman's Health Initiative show that postmenopausal women who took the combined estrogen/progestin hormone replacement therapy had an increased risk of developing breast cancer over women who did not. In addition, women did not derive the cardiovascular benefits originally expected. Hormone replacement therapy clearly reduces symptoms (hot flashes, etc.) associated with menopause and may be beneficial to women with osteoporosis in improving bone density. A woman at risk for breast cancer should probably not be placed on hormone replacement therapy unless she is clearly deriving benefits from it, and she must also be informed of her breast cancer risks.

The role of the primary care physician has become much more complicated with the new findings and controversies concerning breast cancer risk, hormone replacement therapy and mammography. Breast cancer risk must be addressed, discussed, and managed. Breast centers have developed high-risk programs specifically designed to address these needs and patient referral should be encouraged.

New Jersey Sites Offering the STAR Prevention Trial

Atlantic City Medical Center Phone: 609-652-1000 ext. 2813 **CCOP, Cooper Cancer Institute**, Voorhees Phone: 856-325-6750 **CCOP, Northern New Jersey/Hackensack University Medical Center** Phone: 201-996-4275 **The Cancer Institute of New Jersey** Phone: 732-235-8867 **Capitol Health System** Phone: 609-815-7043 **Community Medical Center** Phone: 732-557-8294	**Fox Chase Cancer Center at Virtua Memorial Hospital Burlington City** Phone: 609-256-7555 **Monmouth Medical Center** Phone: 732-923-7689 **Newark Beth Israel Medical Center** Phone: 973-926-7230 **St. Barnabas Medical Center** Phone: 973-322-2992 **Hunterdon Medical Center** Phone: 908-788-6514 **Riverview Medical Center** Phone: 732-530-2382	**Englewood Hospital and Medical Center** Phone: 201-894-3125 **Somerset Medical Center** Phone: 908-685-2481 **South Jersey Regional Cancer Center** Phone: 856-825-3344 **Underwood Memorial Hospital** Phone: 856-845-0100 ext. 2522 **Valley Hospital** Phone: 201-634-5791 **Warren Hospital** Phone: 908-213-6654

CRC Screening of Patients at High Risk for Colorectal Cancer Development: A Primer for Primary Care Physicians

by
Steven J. Shiff, MD, University of Medicine and Dentistry-Robert Wood Johnson University Hospital, The Cancer Institute of New Jersey

Many physicians recognize the importance of early detection and prevention strategies to control cancer and routinely recommend these to their patients. This is critically important since studies indicate that individuals are more likely to follow advice concerning screening from physicians than from other sources. Nevertheless, screening rates for many cancers, particularly colorectal cancer (CRC), are still disappointingly low.

Colorectal cancer is the third leading cause of cancer death in the US in both men and women (second if men and women are combined). Recent estimates indicate a lifetime risk for CRC development of about 6% in the average individual. The American Cancer Society projects there will be 147,500 new cases of and 57,100 deaths from colon and rectal cancer in 2003 nationwide. 4,800 of these new cases and 1,900 of the deaths are expected to occur in New Jersey. The incidence and mortality is higher in NJ than in many other states.

Why screen for colorectal cancer?
Because it:

- Is very common (highly prevalent)
- Is more curable when diagnosed at early stages
- Is virtually incurable when disseminated
- Develops through a multistep process over many years, perhaps even decades
    - Including an identifiable and treatable premalignant intermediary step

The goal of CRC screening is to diagnose, then treat (i.e., remove) premalignant polyps or early stage carcinomas in asymptomatic individuals through periodic maneuvers including digital rectal examinations, stool fecal occult blood testing, flexible sigmoidoscopy, colonoscopy or barium enemas. CRC screening is effective in the general population and in high risk subjects with HNPCC or FAP. Fecal occult blood testing has been shown to reduce colorectal cancer mortality by about a third in the general population over 50 years in several large randomized clinical trials. Furthermore, data indicates that endoscopic screening prevents CRC development and mortality in patients with HNPCC.

This article summarizes key concepts in screening for colorectal cancer in asymptomatic high risk patients. For the purposes of this discussion, high risk designates individuals with risk factors for CRC development by virtue of salient features of their medical histories.

ATTENTION:

PHYSICIANS INTERESTED IN CHEMOPREVENTION STUDIES
for their high risk patients for colorectal, breast or oral cancers should contact Dr. Steve Shiff at the Cancer Institute of New Jersey at 732-235-8078.

Who needs to be screened for colorectal cancer?

I. Patients with Genetic Predisposition:

Syndrome	Phenotype	Gene/Inheritance Pattern	Lifetime risk of CRC
Familial adenomatous polyposis (FAP) Classical	Hundreds to thousands of adenomas Extraintestinal manifestations (EIM)	Adenomatous polyposis coli gene (APC)/ Autosomal dominant (AD)	Nearly 100%
Attenuated FAP	<100 adenomas, often right-sided EIM possible	Distal 5' or 3' ends of APC AD	≈80%
FAP without APC mutations	100-1000 adenomas EIM possible	Subset with Mut Y Homolog (MYH)	?
Multiple Colorectal Adenomas	15-100 Adenomas	MYH Autosomal Recessive others likely	?
Hereditary Nonpolyposis Colorectal Cancer (HNPCC)	Synchronous and metachonous adenomas EIM possible	DNA mismatch repair genes (hMLH1, hMSH2, MSH6, hPMS1, or hPMS2) AD	≥80%
Juvenile polyposis	≥10 colonic "juvenile polyps" (fluid-filled cystic polyps)	SMAD4, PTEN, or BMPR1A AD	as high as 50%?
Peutz-Jeghers Syndrome	GI hamartomas Mucocutaneous Pigmented lesions-perioral, oral, other locations EIM possible	STK11 (aka LKB1)-others likely AD	2-13% perhaps as high as 39%?

II. Patients with Family history but no genetic syndrome:

Blood Relative	Lifetime Risk (-fold above Average)
1 second or third degree with CRC	≈1.5
1 first degree with an adenoma	≈2
1 first degree with CRC	2-3
2 second degree with CRC	≈2-3
2 first degree with CRC	3-4
1 first degree with CRC, Dx <50 yrs	3-4

III. Patients with inflammatory bowel disease

A. Ulcerative colitis, key risk factors:

- Duration; the most important risk factor
- Extent of colonic involvement;
- Family history of CRC—increases risk at least 2-fold;
- Primary sclerosing cholangitis;
- Young age of onset
- Activity of disease is *not* an independent risk factor.
- CRC rare before 7 yrs duration.
- Cumulative risk for CRC by duration:
  2% at 10 yr
  8% at 20 yr
  18% at 30 yr

B. Crohn's colitis:

- patients with at least 1/3 of the colon for at least 8 years
- 16% had dysplasia or cancer over 16 year period.

IV. Other miscellaneous factors increasing risk:

Acromegaly? (still debated); History of

gynecological cancer at young age; Obese body habitus; Smokers; Heavy alcohol users; Predisposing diet; Lack of exercise

Which modality is the best for colorectal cancer screening, in average risk individuals and even in some high risk subjects, is complex and beyond the scope of this article. Typically, the higher the risk predisposition of the patient the more likely endoscopy would be recommended as the screening modality of choice.

The recommendations:

Who	When	How	How often
Family History			
1st degree relative with CRC or AP Dx ≥ 60	begin at age 40	Same as Ave risk recommendations	Same as Ave risk recommendations
2 2nd degree relatives with CRC	begin at age 40	Same as Ave risk recommendations	Same as Ave risk recommendations
≥2 1st degree relatives with CRC	Start age 40 OR 10 yr younger than youngest age at Dx	Colonoscopy	every 5 yr
1st degree relative with CRC or AP Dx <60	Start age 40 OR 10 yr younger than youngest age at Dx	Colonoscopy	every 5 yr
FAP			
At risk-mutation status unknown	Age 10-15	Sigmoidoscopy	Annual 26-35 biennial 36-50 every 3 yr >50 average risk rec.
At risk-mutation NEGATIVE	18	Sigmoidoscopy	Repeat in 7 yrs (age 25) Then 10 yrs
FAP gene carrier	Age 10-12	Sigmoidoscopy	Annual
FAP gene carrier-attenuated FAP	Late teens to early 20's	Colonoscopy	Annual
HNPCC			
HNPCC-known mutation carriers	Age 20-25 OR (10 yr younger than youngest age at Dx	Colonoscopy	every 1-2 yr Annual >40
HNPCC-no genetic testing available 1st degree relative	Age 20-30	Colonoscopy	every 1-2 yr Annual >40

Where Medical Groups Stand on PSA Screening for Prostate Cancer

by
Robert Weiss, MD, Associate Professor of Urology,
UMDNJ-Robert Wood Johnson Medical School

Prostate cancer is the most common solid tumor in men and the second leading cause of cancer related deaths. Last year there were about 189,000 men diagnosed with prostate cancer and about 30,000 deaths due to the disease. Despite the magnitude of the problem, prostate screening continues to be controversial. As seen in Table A following this article, there is a spectrum of recommendations regarding prostate screening. The American Cancer Society and American Urological Association support screening men for prostate cancer over the age of 50. The American Academy of Family Physicians and American College of Physicians/American Society of Internal Medicine suggest that the patient should be counseled regarding risks and benefits and be allowed to decide whether they wish to undergo screening. The Centers for Disease Control and Prevention state that screening is not recommended, but support the man's right to discuss pros and cons of screening. The US Preventative Service Task Force states that there is no evidence at this time to support prostate screening.

Much of the controversy regarding prostate cancer is related to the variable biology of the disease. It is often a slowly growing cancer, which takes several years or even a decade to progress. However, the number of deaths due to prostate cancer is significant. Therefore when counseling a patient whether he should have a PSA (Prostatic Serum Antigen) test, rectal examination and subsequent work up, the physician must take into account the patients age and overall medical condition. Treatment for prostate cancer can have significant morbidity. Surgical radical prostatectomy can cause incontinence and impotence. External radiation or brachytherapy can cause cystitis, proctitis and impotence.

Currently, the best means for detecting prostate cancer is PSA combined with digital rectal examination (DRE). PSA is a serine specific protease, which is secreted by both benign prostate cells and malignant cells. The malignant cells secrete it at a higher rate. PSA has been responsible for increasing prostate cancer detection between 1986 and 1991 by 82%. DRE may aid in detecting prostate cancer. Often however lesions that are palpable by DRE have already progressed outside the prostate. Prior to 1986, 35% of men who were thought to have cancer confined to the prostate were found to have metastatic disease. These men had their cancers diagnosed with DRE. Since 1986 when PSA became available, less than 5% of men undergoing surgery to remove their prostate have positive lymph nodes.

Patients above the age of fifty with a PSA between 4-10 have a 20% chance of having prostate cancer. Therefore, an elevated PSA will lead to negative biopsies and unwarranted anxiety in the majority of men. PSA, however, also allows diagnosis of prostate cancer at its earliest stages when cure rates are highest. PSA values may be transiently elevated due to prostatitis or recent ejaculation. Cystoscopy, foley catheterization or prostate biopsy will also cause a short-term rise in PSA. Prostatic size may result in an elevated PSA. Men who have persistently elevated PSA values are given the option to undergo a prostate biopsy. Transrectal ultrasonography and prostate biopsy is performed in the office. It can be done with or without local anesthesia (lidocaine) and has a low rate of complications. Complications may include bleeding and infection.

If the patient has a negative prostate biopsy, there are several methods to follow their elevated PSA values. These methods include PSA percent free and bound, PSA velocity and PSA density.

Researchers have shown that there are different forms of PSA. Prostate cancer makes PSA that binds to serum proteins, while benign prostate tissue makes PSA, which is free in the serum. By calculating the percentage of free PSA, we are able to identify patients, which are at higher risk of developing prostate cancer. Currently, patients with free percent PSA that is less than 23% are at a greater risk of developing prostate cancer and therefore, should be followed more closely. The use of percent free PSA is particularly helpful in reducing unnecessary biopsies in men with PSA values between 4.0 and 10.0

PSA velocity is based on following the rate of rise over a period of time. Patients who have a continued rise in PSA are more apt to have cancer, as opposed to those who have an elevated PSA, which stays stable. Patients who have a PSA, which rises more than .75 per year, have a greater risk of prostate

cancer. Therefore, patients with an elevated PSA test should have it repeated on a 6-month or annual basis.

PSA density (PSAD) has been calculated to differentiate men with elevated PSA due to prostate cancer as opposed benign prostatic hyperplasia. PSAD is determined by assessing the volume of the prostate by transrectal ultrasonography. The volume divides the PSA. PSAD greater than 0.15 are at a higher risk for prostate cancer. If the patient has a high PSA, but his prostate volume is very large, the number will be low (<0.15). If the prostate size is small, the PSAD will be higher (>0.15).

Another method to improve the specificity of PSA is to use age specific PSA. PSA values will vary according to age. As men become older, their prostates enlarge which causes their PSA to become elevated. A minimally elevated PSA in a fifty-year-old man is more concerning than the same value in a man who is 75.

Age Specific Ranges:

Age	African-Americans	Whites
40-49yr	0-2.0 ng/ml	0-2.5ng/ml
50-59	0-4.0	0-3.5
60-69	0-4.5	0-4.5
70-79	0-5.5	0-6.5

These values will help to avoid unnecessary biopsies in older men with minimally elevated PSA values.

Patients with persistently elevated PSA and negative prostate biopsies can be imaged with magnetic resonance imaging (MRI). MRI may identify suspicious areas along the prostatic capsule, which can be targeted during ultrasound guided prostate biopsy.

African American men are at greater risk to prostate cancer compared to white men. The national incidence of prostate cancer over the past thirty years was 60% higher in African Americans compared whites. African Americans also tend to present at an earlier age and have higher mortality rates. Therefore, it is recommended that African Americans check their PSA starting at age 45.

Some factors may artificially lower PSA. Finasteride (Proscar) reduces the size of the prostate, but lowers the PSA by 50%. It is important to remember to adjust the PSA value in these patients. Saw Palmetto and other herbal treatments such as PC-Spes may lower the PSA. Luteinizing hormone releasing hormone (LHRH) agonists (Zolodex-goserelin acetate or Lupron-leuprolide acetate) will also lower the PSA value by decreasing serum testosterone levels.

In conclusion, the family physician's decision to order a PSA should be carefully discussed with the patient. Age and medical conditions may influence a physician's decision to order the test. The patient should be aware that an abnormal test may not necessarily indicate cancer and may lead to further testing. Randomized studies are necessary to determine if PSA screening can lower mortality due to prostate cancer.

Table A: RECOMMENDATIONS & GUIDELINES

American Cancer Society: Both the PSA test and digita
at age 50, to men who have at least a 10-year life expecta
Information about potential risks and benefits of screeni

American Urological Association: Men over 50 should
as African Americans and men with a family history of p
testing at age 45.

American Academy of Family Physicians: Physicians

NEW JERSEY SITES OFFERING THE SELECT PROSTATE CANCER PREVENTION TRIAL

SELECT*: A SWOG Phase III randomized study comparing selenium and vitamin E, either alone or together, for the prevention of prostate cancer. Men over the age of 55 years, or African Americans over 50 years, may be eligible. Treatment continues for 7 – 12 years.*

Atlantic City Medical Center
Phone: 609-748-7200

Community Medical Center
Phone: 732-240-8000 ext. 1103

Capital Health System at Mercer
Phone: 609-394-4000 ext. 1691

Cooper Hospital/University Medical Center
Phone: 856-325-6757x

Fox Chase Cancer Center at Virtua Memorial Hospital Burlington County
Phone: 609-267-0700 ext. 43187

Hackensack University Medical Center
Phone: 201-996-5835

Hunterdon Regional Cancer Center
Phone: 908-237-2330

Medical Center of Ocean County
Phone: 732-785-8923

Riverview Medical Center - Booker Cancer Center
Phone: 732-530-2382

St. Francis Medical Center
Phone: 609-599-5060

Shore Memorial Hospital
Phone: 609-926-4200

Somerset Medical Center
Phone: 908-685-2481

Trinitas Hospital-Jersey Street Campus
Phone: 908-994-8070

University of Medicine & Dentistry of New Jersey
Phone: 973-972-2888

Virtua/West Jersey Health System
Phone: 856-325-3671

Veterans Affairs Medical Center - East Orange
Phone: 973-676-1000 ext. 3962

Valley Hospital
Phone: 201-634-5792

Warren Hospital
Phone: 908-213-6654

RESOURCES

The National Cancer Institute Information Center (http://nci.nih.gov)) - provides on-line information about cancer through the National Cancer Institutes's CancerNet resource; access to PDQ (physician data query) information summaries on treatment, supportive care, screening and prevention, and investigational drugs; on-line access to the NIH Guide to Grants and Contracts; access to on-line scientific journals; links to 24 separate NIH Institutes, Centers and Divisions.

The Cancer Information Service: 1-(800) 4-cancer

The **Cancer Information Service (CIS)** is a service of the National Cancer Institute (NCI) to answer questions on prevention, detection, treatment, rehabilitation, medical facilities in your area, home-care assistance programs, financial aid, emotional counseling services, and patient referrals. Written material is also available.

Physician's Data Query 1-(800) 4-cancer

PDQ is a computerized listing of up-to-date and accurate information for patients and health professionals that provides the latest types of cancer treatments, information on research studies, and listings of organizations and doctors involved in caring for people with cancer.

American Cancer Society (800) ACS-2345 (www.cancer.org)

The American Cancer Society provides pamphlets and information on various types and aspects of cancer, information and counseling, resource referrals, equipment and supplies, transportation assistance, financial aid for medications, Reach to Recovery program for women who have had breast cancer, other support groups.

Cancer Care, Inc. (800) 813-HOPE (4673) (www.cancare.org)

Cancer Care, Inc. provides individual, family and group counseling (free of charge) to persons with a history of cancer. Financial assistance (for those who qualify) is available for home care, child care, transportation to treatment, and pain medication. There are several meeting locations in the state Millburn, NJ (973) 379-7500, Ridgewood, NJ, (201) 444-6630, Metuchen, NJ (732) 568-1122, for Jersey City & West New York (Satellite offices) call main office at (973)379-7500

New Jersey Commission on Cancer Research (www.state/nj.us/health/cancer)

National Coalition of Cancer Survivors Web Site (www.cansearch.org)

Information on member groups and national support groups.

ONCOLINK (http://cancer.med.upenn.edu) - Information on specific types of cancer, clinical trials, news articles, pertaining to cancer, access to on-line cancer journals and newsletters, and access to global resources for cancer information are provided.

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