

A Matter of Cancer

**Sunday 9 AM - 4 PM
May 15th, 2011**

**Mirage Banquet Hall
#360, 8170 - 50 Street
Edmonton, AB**

FOR THE WELFARE OF MANKIND



सर्वभूत हितेस्ताः

MAANAW SEVA ASSOCIATION

A Message From Acharya Shiv Shankar Dwivedi



In the present fast pace of life, we are faced with an increasing number of health problems. Cancer has become one of the major challenges facing us. Whenever the balance between mind and body is affected, various diseases invade human body. In addition, the fast changing life style associated with bad habits such as smoking, over-eating and alcohol is detrimental to the health. Diseases like cancer not only cause suffering but there is a tremendous loss of unrealized human potential. Although, much still needs to be discovered about the causes of various cancers, there exists a significant amount of knowledge about various risk factors associated with the development of cancers. This conference is focused on early detection of cancers so that each one of us becomes more vigilant about our health and to hopefully cure many more cancers and alleviate suffering.

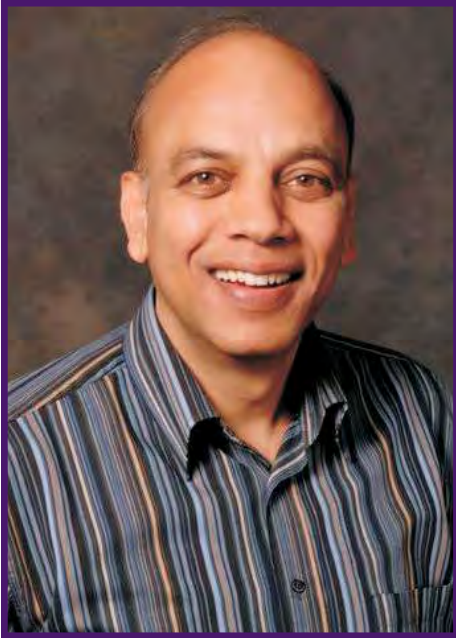
Clearly, a positive change in our life style and habits is needed. Even though we all may be aware of the harmful results of some bad habits, we are unable or unwilling to make the necessary changes to improve our health. Our mind may be acutely aware of the impact of certain habits, but our heart does not cooperate to make the changes required. The law of "Cause & Effect" cannot be changed. We must reap whatever we sow. It is my personal plea to all of you to become more knowledgeable about various aspects of cancer and its early signs and symptoms and make suitable changes in your lives to live a healthy and meaningful life.

Please accept my sincere thanks and best wishes to the speakers, organizers, volunteers and participants for a very successful Matter of Cancer conference. May God bless you all with good health and meaningful life.

Om Shanti Shanti Shanti Om.

Message From the Chairperson

Dr. Naresh Jha MBBS, FRCPC



Cancer is misunderstood by many. Mere mention of the word “cancer” instills fear; as it is commonly perceived a fatal incurable illness associated with suffering. That is not true.

Cancer is often perceived as one illness; it is not. It strikes different parts of body, with a different course, requiring different treatment with variable outcomes. Detected early, many cancers are treatable and curable. To put in perspective, illnesses such as the common cold, diabetes, high blood pressure and arthritis are treatable but incurable.

This conference hopes to raise awareness of common cancers, eliminate false notions and help the community recognize signs & symptoms of common cancers. Early detection of cancer is the key. Today, we are aware of many risk factors that predispose us to cancer. Public awareness and education of these factors are crucial in early recognition and treatment thereby improving outcomes. Our understanding of these risk factors may prevent cancer and sincere efforts in improving our lifestyle may help reduce the occurrence, and possibly eliminate the disease. For our own and for the sake of our loved ones, let us make a conscientious effort to fight cancer and enrich all our lives.

Please help us raise awareness of this devastating illness by attending and encouraging your family and friends to attend this conference. If this conference is able to prevent or help detect even one case of cancer, it would be deemed a great success.

Special Thanks *To All The Speakers*

We, the organizers of “ A Matter of Cancer”, would like to express our sincere thanks to all the speakers who have graciously given their time to participate in this conference. We appreciate all your efforts and dedication for the treatment of cancer in the Province of Alberta. We are extremely fortunate to have the Cross Cancer Institute, recognized as a world class cancer treatment facility, in Edmonton.

With this conference, “A Matter of Cancer”, we hope to raise awareness in the community about cancer, its signs & symptoms, early detection and timely treatments. We will continue to partner with your efforts in alleviating the suffering associated with all forms of this disease which affects so many Canadians. We sincerely hope and look forward to the day when there will be a cure for cancer.

A MATTER OF CANCER - 2011

Speakers and Topics



Dr. Anthony Fields - *Opening Remarks*



Dr. Anil Abraham Joy - *Exercise & Cancer*



Dr. Nadeem Pervez - *Prostate Cancer*



Dr. Kurian Joseph - *Lung Cancer*



Dr. Sanraj Basi - *Breast Cancer*



Dr. Nawaid Usmani - *Cancer Screening Programs*



Dr. Valerie Capstick - *Gynaecological Cancer*



Dr. Naveen Basappa - *Gastro-Intestinal Cancer*



Dr. Tina Korownyk - *GP's Role in Cancer Care*

Master of Ceremonies

Ms Divya Jha

Mr. Mayank Manchanda

Dr. Anthony L.A. Fields

MA, MD, FRCPC, FACP



Dr. Tony Fields is Vice President, Cancer Care, Alberta Health Services and Professor, Department of Oncology and Department of Medicine, University of Alberta.

Dr. Fields is a medical graduate of the University of Alberta. He trained in internal medicine and medical oncology at University of Toronto. He has been in academic practice at the Cross Cancer Institute in gastrointestinal oncology. He has held various administrative positions within the former Alberta Cancer Board, including Director of the Cross Cancer Institute and Vice President, Medical Affairs & Community Oncology. As Vice President, Cancer Care, he is currently responsible for Alberta's tertiary and associate cancer centres and community oncology programs.

Dr. Fields has been very active in cancer control planning and policy making at both the provincial and the national level. He spearheaded the development of Alberta's network of community cancer centres and community oncology programs. He is a past president of the National Cancer Institute of Canada and has served on the boards of the Canadian Cancer Society, the Canadian Breast Cancer Research Alliance, the Canadian Oncology Society and the Canadian Association of Provincial Cancer Agencies, and as a member of the Council of the Canadian Strategy for Cancer Control.

Dr. Fields has been recognized for his work by several awards, including an honorary doctorate of Athabasca University, the Distinguished Alumni Award of the University of Alberta and the R.M. Taylor Medal and Award of the Canadian Cancer Society and the National Cancer Institute of Canada. In Alberta's centennial year he was named one of Alberta's 100 Physicians of the Century.



Maanaw Seva Association gratefully acknowledges
the support of Alberta Blue Cross.

Dr. Anil Abraham Joy

MD, FRCPC

Dr. Joy obtained his Bachelor of Science and Medical Doctorate from the University of Alberta. He is an Internist with subspecialty training in Medical Oncology. He is an Associate Professor of Oncology at the University of Alberta and a Staff Medical Oncologist at the Cross Cancer Institute, in Edmonton, Alberta. His primary clinical care interests include both Breast and Thoracic malignancies. He is actively involved in patient care, clinical research and medical education.

He is the past Chair of the Northern Alberta Breast Cancer Program and also served as a national member on the Steering Committee on Clinical Practice Guidelines for the Care and Treatment of Breast Cancer – Canada. Most recently he was elected to the position of Provincial Chair, for the Alberta Breast Cancer Program in 2010.



Matter of Cancer:
Exercise and Cancer

Anil Abraham Joy, MD, FRCPC
Associate Professor Oncology, University of Alberta
Chair, Alberta Breast Cancer Program

- May 15, 2011 -

**Acknowledgements and
Eternal Gratitude**

Dr. Lee W. Jones, PhD:

Duke University, N. Carolina, USA

Outline

Cancer

What is it? Treatment? Effects?

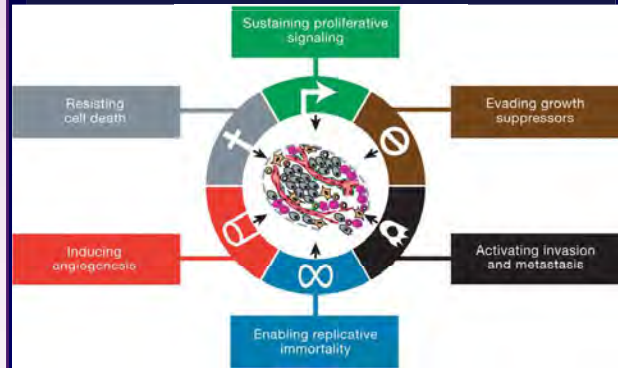
Exercise

What is it? Why is it important?

Exercise and Cancer

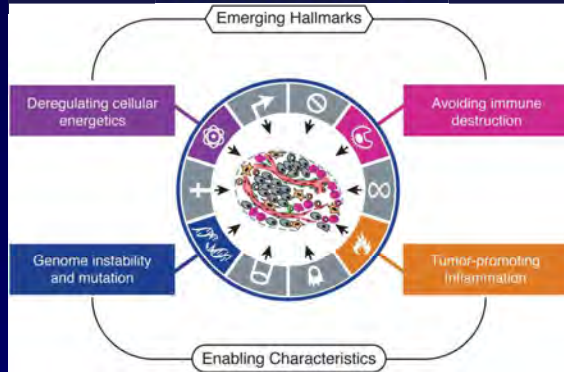
Research and Practical Considerations

Hallmarks of Cancer



Cell 2011

Hallmarks of Cancer



Cell 2011

Types of Treatment

- Surgery
- Radiation Therapy
- Systemic Therapy
 - Chemotherapy
 - Endocrine Therapy (Hormone Therapy)
 - Biologic Therapy
- Clinical Trial

Cancer Statistics

Site	5-year survival rate		
	1975 (%)	2000 (%)	% increase
Overall	50	67	17
Breast	75	91	16
Prostate	67	99	32
Childhood	30	79	50
Colon	49	66	16
Lung	12	16	4

Systemic Therapy

Chemotherapy

- Alkylating (Cyclophosphamide)
- Anthracyclines (Adriamycin)
- Platinum (Cisplatin)
- Taxane (Docetaxel)

Endocrine

- SERMs (Tamoxifen)
- Aromatase Inhibitors (Letrozole)
- ADT (LHRH Ag, flutamide)

"Targeted"

- Bevacizumab (Avastin)
- Trastuzumab (Herceptin)
- Sunitinib (Sutent)
- Tykerb (Lapatinib)
- Iressa (Gefitinib)
- Tarceva (Erlotinib)

Clinical Trial

Supportive Therapy

Anti-Nausea

- Dexamethasone
- 5HT3
- NK-1

Pain control

- Codeine
- Morphine
- Oxycodone

Blood

- Transfusions
- Erythropoetin
- G-CSF

Bone

- Bisphosphonates

GI

- Imodium

Anti-coag

- Heparin

<http://www.canthera.com/home.aspx>

Cancer Toxicity

Physical / Functional

- Fatigue, concentration difficulties
- Nausea, vomiting
- Low blood counts - Anemia, infection, bleeding
- Muscle wasting, swallowing difficulties → weight loss
- Skin and Nerve damage / co-ordination difficulties
- ↓ Heart & lung function

Symptoms typically 'peak' during treatment

- Most resolve
- But some can persist for months → years

The Other Cancer "Toxicities"

Financial - \$\$\$

"Rest of Life" Scheduling

Psychological / Emotional

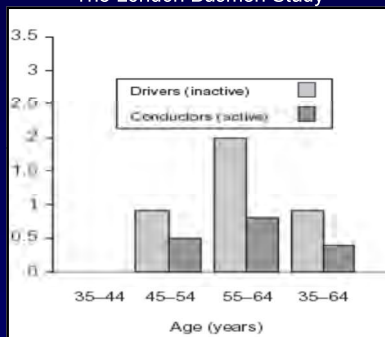
Depression, Anxiety, Distress,
↓ Self-esteem, Loss of control

Importance of Physical Activity in the General Population

Occupational Activity & Heart Disease

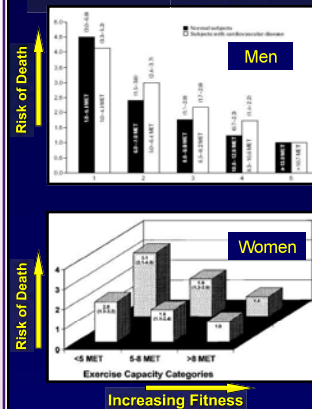
The London Busmen Study

HEART DISEASE RISK ↑



Morris et al. Lancet, 1953

Survival of the Fittest



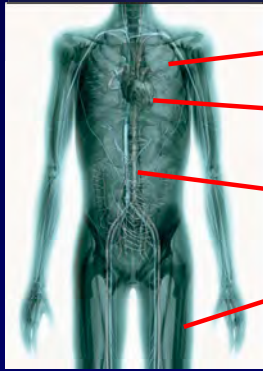
Exercise Capacity is a more powerful predictor of mortality than other established CV Disease risk factors

J Myers et al. NEJM 2002

Tool development:
Predicting exercise capacity
→ predictive of survival

M Gulati et al. NEJM 2005

Components of "Fitness"



Lung Function:

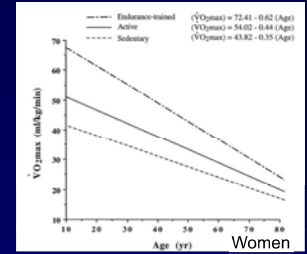
Heart Function:

Blood Vessel Flexibility:

Skeletal Muscle Function:

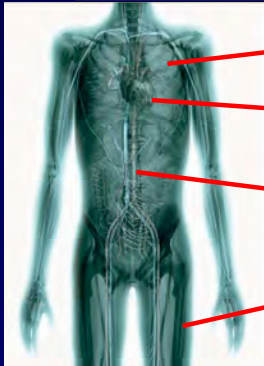
Measuring Fitness in the Lab

- Symptom-Limited, Cardiopulmonary Exercise Test (CPET)
- Peak Oxygen Consumption ($\text{VO}_{2\text{peak}}$ mL.kg.⁻¹.min⁻¹)



Fitzgerald et al. *J Appl Physiol* 1997; Wilson & Tanaka, *Am J Physiol Heart Circ Physiol* 2000

How Exercise Improves $\text{VO}_{2\text{ peak}}$



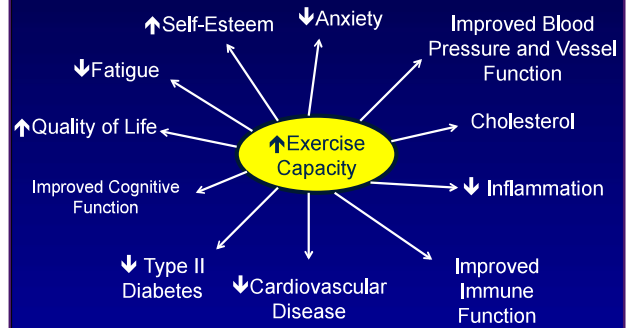
Oxygen spread via lung:
No Major Effect

Heart Function:
Stronger, more efficient heart beat
→ Improves Blood Delivery

Blood Vessel Function:
Relaxes (less stiff)

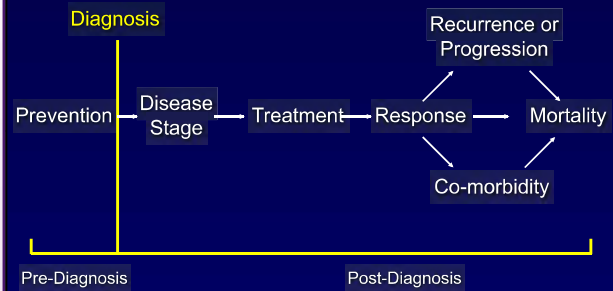
Skeletal Muscle Function:
↑ muscle bulk, strength,
muscle metabolism

Value of Improved Exercise Capacity



Cardiorespiratory Fitness and Cancer

Studies in Exercise Oncology



Courneya, Jones et al. *Cancer Ther* 2004

Exercise for Cancer Prevention

Physical Activity and Cancer Incidence

Cancer Site	Risk of estimate (range)	Average risk reduction	Dose response	Level of evidence
Colon	0.3 – 1.0	40-50%	25 of 29	Convincing
Breast	0.3 – 1.6	30-40%	20 of 23	Convincing
Prostate	0.5 – 2.2	10-30%	9 of 13	Probable
Endometrium	0.1 – 1.0	30-40%	5 of 6	Possible
Lung	0.4 – 1.3	30-40%	4 of 5	Possible

Friedenreich & Orenstein *J Nutr* 2002

Cardiorespiratory Fitness: Risk of Causing or Death from Cancer

	Level of Cardiorespiratory Fitness				P (trend)
	Bottom quarter	2 nd quarter	3 rd quarter	Top quarter	
No. of deaths	50	36	20	17	
Age-adj death rate (10,000 person yrs)	12.4	9.4	5.5	5.0	
Age-adjusted RR	1.00	0.79	0.46	0.44	<0.001
Multivariate RR*	1.00	0.75	0.43	0.41	<0.001

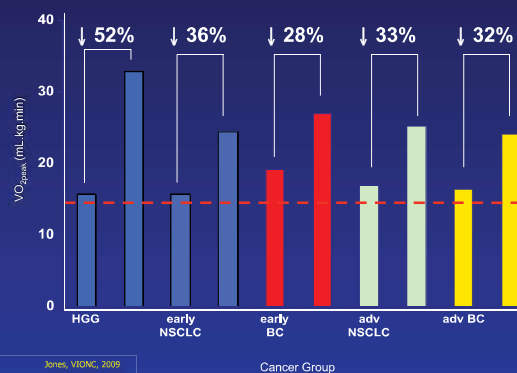
*adjusted for age, BMI, systolic blood pressure, alcohol intake, and smoking

Sawada et al. *Med Sci Sports Exerc* 2003

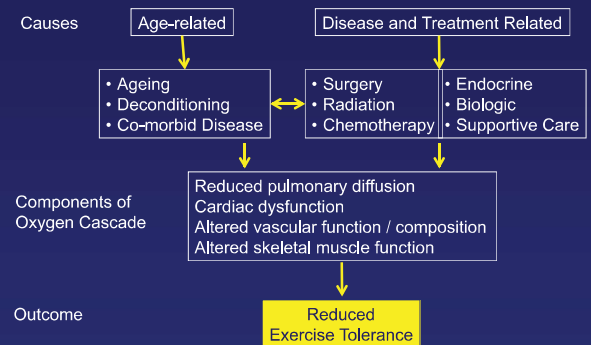
Exercise During Cancer Treatment

Does it Make a Difference?

Cancer Patients Have Low Fitness



Exercise Intolerance in Cancer Patients



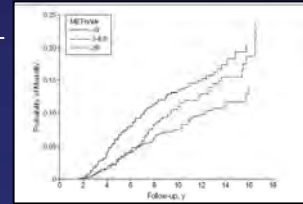
Exercise During Treatment: Bottom Line

Studies report benefits + few adverse effects

- **↑ Physiologic Outcomes** – cardiorespiratory fitness (VO_{2peak}), metabolic, immune, inflammatory
- **↓ Treatment Related Symptoms** – fatigue, pain, nausea, diarrhea, platelet transfusion, hospital stay
- **↑ Quality of Life**

Exercise & Cancer Mortality

- ~12 studies examined association btwn exercise & cancer recurrence / overall survival **in cancer pts**
- Holmes et al. examined assocⁿ between exercise levels & recurrence & OS among 2987 post adjuvant therapy BC patients
- Women engaging in 9+ MET hrs/wk (30 mins walking, 5d.wk) 50% ↓ mortality vs. inactive women
- Mechanisms unknown



Holmes et al., JAMA, 2005

Summary

- Cancer patients have markedly reduced exercise capacity (VO_{2peak}) both during and years following therapy
- Level of Fitness (VO_{2peak}) is associated with metabolic profile, QoL, fatigue, and possibly even cancer survival
- VO_{2peak} excellent therapeutic target
- **Exercise Training**

Exercise: Key Issues

1. Should oncology professionals be recommending exercise to cancer patients?
YES!!
2. What *specifically* should oncology professionals be telling patients?

Not known

Points To Consider:

Cancer Type, Stage, Performance Status, Current Treatment, Side-effects, Co-morbidities, Indication, etc.

Which is the Best Type of Exercise for Me?

Answer: One that you will actually do!!

- Walking
- Swimming
- Cycling
- Weight Training



Exercise Prescription: Frequency & Intensity

Frequency:

- More !
- Minimum 3-5 days / wk
- Ideally something everyday



Intensity:

- Moderate intensity
- 50-75% age-predicted max HR;
- ↑ intense / ↓ duration



Jones, VICNIC, 2009

Exercise Prescription: Duration & Progression

Duration

≥20 - 60 mins / day

~20 mins v. hard bouts

≥30 mins moderate bouts

≥45 mins easy bouts



Progression

Mix up your routine / keep your body surprised / "confused"

Excuses for Not Exercising

1. Lack of time

- 168hr/wk
- Exercise 5x/30mins = 1.5% of total time

2. No-one to exercise with me...

- Spouses / parents / friends / children
- Go make some new friends !

3. It's Too Cold / Warm / Wet / Dry...

- Mall walking programs / gyms
- Change the time of day - early morning, late afternoon

"Several excuses are always less convincing than one."

- Aldous Huxley, 1894-1963

No More Excuses



Maanaw Seva Association gratefully acknowledges the support of the Alberta Culture and Community Spirit.

Dr. Nadeem Pervez

MD, FRCPC



Dr. Nadeem Pervez did his medical school training from University of Karachi, and Internship from Jinnah Hospital, Karachi, Pakistan. He trained as a Radiation Oncologist from Royal College of Surgeons in Ireland. He then moved to Canada to do clinical research fellowship from Cross Cancer Institute, Edmonton, Alberta. He is currently an Assistant Professor of Oncology at the Cross Cancer Institute/University of Alberta. He specializes in the treatment of Genito-urinary malignancies including Prostate Brachytherapy and breast cancer.

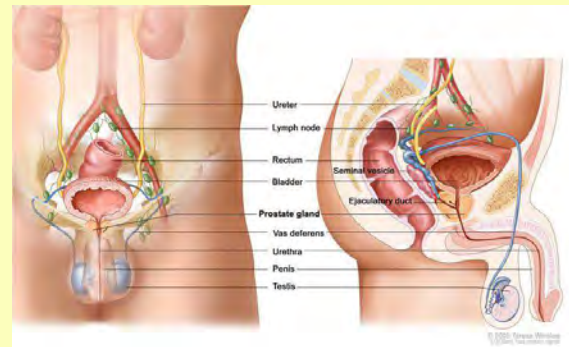


Prostate Cancer

Facts That Every Man Over 40 Should Know
By
Dr. Nawaid Usmani

WHAT IS THE PROSTATE GLAND?

- The prostate is part of the male reproductive system
- Its major function is to secrete a fluid to nourish semen during intercourse
- The prostate is about the size of a walnut but it can grow with age
- It is located below the urinary bladder, in front of the rectum surrounding the urethra (the canal for the discharge of urine that extends from the urinary bladder to the outside)



WHAT IS CANCER AND PROSTATE CANCER?

- Cancer is a cellular disease
- It is a disordered and abnormal cell growth
- In prostate cancer, as in other types of cancer, cells grow out of control and form tumors
- If the tumor is within the gland, the cancer is said to be localized and curable
- If the cancer escapes the gland it is considered incurable
- Early detection before the cancer escapes the gland becomes very important

EARLY DETECTION AND EFFECTIVE TREATMENT WHEN THE CANCER IS LOCALIZED CAN POSSIBLY SAVE YOUR LIFE

What are the symptoms of prostate cancer?

- You might not have any at all!
 - Often there are none, or they are not recognized
- Major symptoms:
 - Urinary frequency
 - Slow urinary flow
 - Painful urination
 - Blood in urine or semen
 - Impotence
 - Lower back or thigh pain

How Significant Is Prostate Cancer?

- In the Canada, about 25000 (27.5% of all male cancer) men were diagnosed with prostate cancer in 2010.
- Prostate cancer deaths are estimated at 4300 (10.8% of all male cancer related death, 3rd leading cause after lung and colorectal cancer) in 2010.
- In Alberta, an estimated 2500 new cases were reported in 2010 and 440 were died of it.

Source: Canadian Cancer Society – Canadian Cancer Statistics 2010.

Prostate cancer risk factors:

- **Age:** The risk increases with age, but 25% of diagnoses are made under age 65.
- **Race:** African-Americans have a rate of incidence **double** that of Caucasian men
- **Family history of prostate cancer:** Men with a family history have two- to three-fold increase in the risk of prostate cancer
- **Diet:** A diet high in saturated animal fat can double the risk of developing prostate cancer.

Risk Factors

AGE	RISK
45 – 49 :	23 per 100,000
50 – 54 :	103 per 100,000
55 – 59 :	273 per 100,000
60 - 64 :	568 per 100,000
65 + :	1,000 per 100,000

Source: SEER Incidence rates 1992 - 1996

Risk Factors

RACE

	<u>Incidence</u>	<u>Death</u>
Afr.-Am.	230.3	55.0
Cauc.	153.5	24.1
Hisp.	106.7	16.8
Asian	91.3	11.1

Source:

Rates per 100,000 and age-adjusted, SEER incidence and U.S. cancer death rates, 1990-95, in Cancer 82: 1197-207, 1998 (SEER = NCI Surveillance, Epidemiology, and End-Results Program)

Risk Factors

FAMILY HISTORY

2.4 times increased risk for men with a first-degree relative

(Spitz, et al, "Familial patterns of prostate cancer: A case-control analysis", J Urol, 1991, 146:1305-1307)

Risk Factors

DIET

- Eating red meat increases the risk of developing prostate cancer 2.64 times
- Red meat and dairy products are high in saturated fat rich in arachidonic acid (a fatty acid)
- Vegetable oil is rich in alpha linolenic acid (a fatty acid)
- By-products of these fats promote the growth and seriousness of prostate cancer
- Eating a diet high in fats also lowers the body's defenses

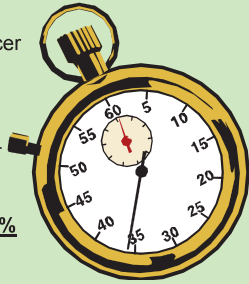
So what CAN I eat?

- A balanced diet rich in fruits and vegetables!
(5 servings/day)
- Lower your intake of red meat, processed and fried foods. Eat more plant-based food like soy protein.
- Watch portion sizes
(3 oz meat/serving)
- Eat foods with lycopene (**tomatoes, watermelon and red grapefruit**) which may be associated with a decreased risk of prostate cancer



How does early detection help?

- Survival rate at 5 years is **99%** for those whose cancer is still just in the prostate gland (localized).
- Survival rate at 5 years for those whose cancer has spread beyond the gland (late diagnosis) is **only 31%**



How to Avoid an Advanced Stage Diagnosis:

Early Detection is the Answer

Men Assuming Responsibility for Their Health

PSA

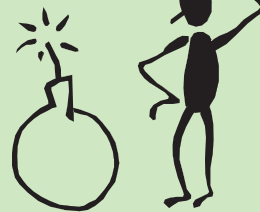
DRE

No Warning!



- Since symptoms can be caused by other conditions annual testing is KEY!
- Prostate Specific Antigen (PSA), a blood test
- Digital Rectal Examination (DRE), a physical exam
- Basic tools to find Prostate Cancer EARLY!
- Ultrasound guided biopsy used for final diagnosis.

Be a man!



- Take responsibility for your health!
- Ask your doctor for a copy of your results. The normal range for PSA is 0.0 to 4.0 ng/ml. (This is just a guideline range)
- Knowing your "PSA number" lets you help track your own health.
- Do not accept "your PSA is fine" from your doctor without getting a copy of the real number.

What if my PSA is high?

- Infection needs to be ruled out
- Antibiotics are prescribed to rule out infection
- **Free-PSA ratio test** - Ordered if PSA remains high after antibiotics. It helps detect the presence of prostate cancer. A free-PSA ratio of 15% or less indicates a high probability of prostate cancer
- **Ultrasound** and **biopsy** examination may be ordered if the Free-PSA ratio indicates possible cancer

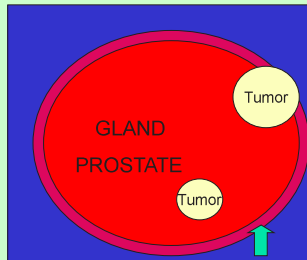
In Case of a Diagnosis With a Positive Biopsy...

Staging investigations:

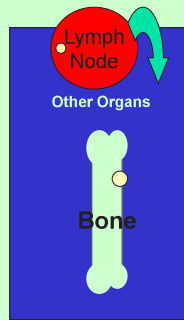
CT/MRI Scan
Bone scan

Possible Levels of Prostate Cancer At Diagnosis

Local-Regional Disease Spread



Systemic Spread



Management options

- Watchful waiting:
 - BIAS study
- Radical interventions:
 - Brachytherapy: Permanent seed implant
 - Radical external beam radiation
 - Radical Surgery
 - Cryosurgery
 - HIFU

Management options

- Palliative options:
 - TURP
 - Hormonal therapy
 - Palliative Radiotherapy
 - Palliative Chemotherapy
- Investigational agents:
 - Ongoing trials (consult Oncologist)



Maanaw Seva Association gratefully acknowledges the support of the Alberta Wild Rose Foundation.

Dr. Kurian Joseph

MD, FRCPC



Dr Joseph completed his schooling and obtained undergraduate medical degree from the Calicut Medical College, Kerala, India. He completed Radiation Oncology training from the Faculty of Radiology of the Royal college of Surgeons in Ireland and Princess Margaret Hospital in Toronto. He is currently working as Radiation Oncologist at Cross Cancer Institute and has affiliation as Assistant Professor at the department of Oncology, Univ. of Alberta. His areas of clinical interests are malignancies of Breast, Skin and Gastro-intestinal tract.



Knowing About Lung Cancer

Lung Cancer:
prevention
Recognition of symptoms
timely treatment

Kurian Jones Joseph FFRCSI FRCR FRCPC
Radiation Oncologist / Assistant Professor
Dept. of Oncology, Cross Cancer Institute / University of Alberta
Edmonton, Alberta, Canada

Sunday May 15th, 2011

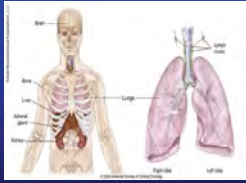


Knowing About Lung Cancer

**“What You Need to
Know About Lung Cancer:
How to prevent & Its Treatment”**



What is the Function of the Lungs?



- There are two lungs
- The lungs consist of five lobes, three in the right lung and two in the left lung
- The main function of the lungs is to allow oxygen from the air to enter the bloodstream for delivery to the rest of the body



What is Lung Cancer?

- Begins when cells in the lung grow out of control and form a tumor
- The leading cause of cancer death among men and women
- There are two main types of lung cancer: non-small cell and small cell



Powerful facts:

- 177,000 cases annually
- Lung cancer is the **#1 cause of cancer-related deaths** by far in North America.

...more than breast, prostate, and colon cancer combined.



"Lung Cancer: How to prevent & How to Treat"



Risk Factors:

- Smoking (90% of all cases)
- Second-hand smoke (25% of non-smoker cases)
- Occupational/environmental
- Most people who develop lung cancer today have either stopped smoking years earlier or have never smoked



How to prevent lung cancer ?

- Quit Smoking (90% of all cases)



What's in a cigarette?

There are 4,000 chemicals in cigarette smoke – 60 of which are cancer-inducing substances



- Nicotine – an intake of 60 mg can kill; each stick has 15-20 mg
- Tar – an irritating & cancer-causing substance
- Ammonia – makes smokers addicted
- Carbon monoxide – also found in car smoke
- Cadmium – highly toxic, found in car batteries that causes liver, kidney & brain damage
- Lead – stunts growth & causes brain damage
- Arsenic – well-known poison



Smoking kills more people each year than

- alcohol
- cocaine
- crack
- heroin
- homicide
- suicide
- car accidents
- fires
- AIDS

COMBINED!!!



Second Hand Smoking

❑ non-smokers who live with smokers are:

➢ at 20-30% increased risk of developing cancer, particularly lung cancer

➢ At 20-30% increased risk of developing heart disease

➢ *Major International reviews on Cancer and Heart Disease*



Steps to quitting smoking

1. Get ready- self motivation
2. Get support : GP
3. Get medication – if recommended by your doctor – and use it correctly
4. (Champex; Nicotine patches)
5. Be prepared for cravings and withdrawal symptoms



How to DETECT early and timely treat lung cancer ?



Lung Cancer and Early Detection

- ❑ No tests are recommended for screening the general population
- ❑ CT or CAT scan is currently being studied for this purpose
- ❑ Any person who is at increased risk due to smoking or asbestos exposure should discuss about screening CT scan with his/her doctor



What Are the Common Symptoms of Lung Cancer?

- Tiredness
- Cough
- Shortness of breath
- Chest pain
- Loss of appetite
- Coughing up phlegm
- Coughing up blood
- If cancer has spread, symptoms include bone pain, difficulty breathing, abdominal pain, headache, weakness, and confusion



How is Lung Cancer Evaluated?

- Clinical Examination
- a chest x-ray or CT scan of the chest
- Referral to specialist
- The diagnosis must be confirmed with a biopsy



How is Lung Cancer Evaluated?

- It is important to find out if cancer started in the lung or somewhere else in the body. Cancer arising in other parts of the body can spread to the lung as well
- The additional scans to determine location (s) of all sites of cancer
- Additional tests to stage the disease: I, II, III, IV
- PET scans, and MRI scans



How is Lung Cancer Treated?

- Treatment depends on the stage and type of lung cancer
- Surgery
- Radiation therapy
- Chemotherapy (options include a combination of drugs)



Cancer Treatment: Surgery

- The tumor and the nearby lymph nodes in the chest are typically removed to offer the best chance for cure
- For non-small cell lung cancer, a lobectomy (removal of the entire lobe where the tumor is located), has shown to be most effective
- Surgery may not be possible in some patients



Cancer Treatment: Chemotherapy

- Drugs used to kill cancer cells
- A combination of medications is often used
- May be prescribed before or after surgery, or before, during, or after radiation therapy
- Can improve survival and lessen lung cancer symptoms in all patients, even those with widespread lung cancer



Cancer Treatment: Radiation Therapy

- ❑ The use of high-energy x-rays to destroy cancer cells
- ❑ Side effects include fatigue, malaise (feeling unwell), loss of appetite, and skin irritation at the treatment site
- ❑ Irritation and inflammation of the lung; occurs in 15% of patients

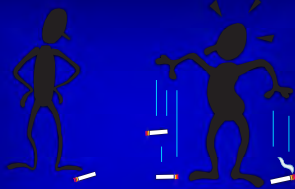


So

Continue smoking and get Lung Cancer ?

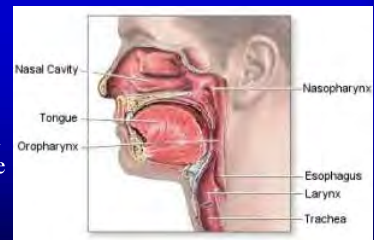


QUIT NOW!



What is head and neck cancer?

Head and Neck Cancer is a group of cancers that includes tumors in several areas above the collar bone.



Risk Factors for Head and Neck Cancer

Tobacco Products:

- ❑ Smoking Tobacco
- ❑ Cigarettes
- ❑ Cigars
- ❑ Pipes
- ❑ Chewing Tobacco
- ❑ Snuff

Other Factors:

- ❑ Radiation
- ❑ Human Papilloma Virus



Warning Signs of Head and Neck Cancer

- ❑ Hoarseness
- ❑ Ear pain
- ❑ Persistent sore throat
- ❑ Nose bleeds
- ❑ Nasal obstruction
- ❑ Ear problems
- ❑ Neck mass
- ❑ Non-healing ulcer
- ❑ Difficulty swallowing
- ❑ Lump



Head and Neck Cancer

Link to chronic infection

- ❑ HPV
- ❑ Epstein Barr virus



Epidemiology of HPV

- ❑ The most common STD worldwide
- ❑ 80% sexually active adults in the north America infected with at least one HPV type by age 50¹
- ❑ Common in adolescence and young adulthood
- ❑ HPV 16 is the most common HR type

1. Centers for Disease Control and Prevention, Rockville, Md: CDC National Prevention Information Network, 2004



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- ❑ Common in adolescence and young adulthood
- ❑ HPV 16 is the most common HR type

1. Centers for Disease Control and Prevention, Rockville, Md: CDC National Prevention Information Network, 2004



Prevention of Head and Neck cancer

- ❑ Increasing incidence among south east Asian community
- ❑ Main Causes :
Tobacco , Smoking, Paan, Betal nut, Paan parag, snuf and
Oral sex



Maanaw Seva Association gratefully acknowledges
the support of Alberta Health Services.

Dr. Sanraj Basi

MD, FRCPC

Dr. Basi did her medical school training from University of Saskatchewan. She completed residency in Internal Medicine and then Medical Oncology from University of Alberta in 2001. Currently she is a Medical Oncologist at the Cross Cancer Institute. Her primary interest includes treatment of patients with breast cancer.

An overview of Breast Cancer

Dr. Sanraj K. Basi
Medical Oncologist
Cross Cancer Institute
University of Alberta

Breast Cancer

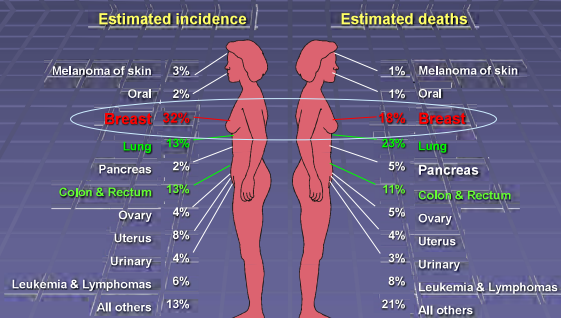
- Diagnosis
- Risk factors
- Pathology
- Treatment
- Take home points
- Contacts

Sobering Facts

(Canadian Statistics Estimates for 2010)

- 23,200 women diagnosed with breast cancer (180 men)
- 5,300 will die because of breast cancer
- 1 in 9 women will be diagnosed with breast cancer
- 1 in 28 women dies of breast cancer
- Breast cancer specific death rate is going down (due, at least in part, to screening mammograms, timely & effective treatment)

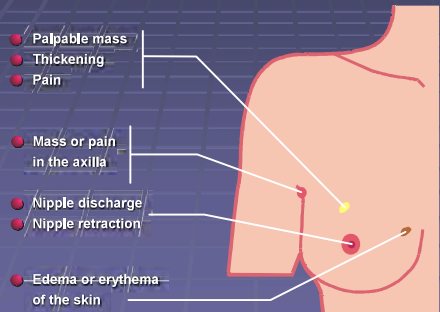
Cancer Statistics Female



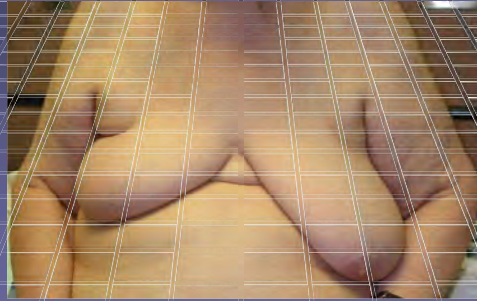
US data/Adapted from Cancer Journal for Clinicians, 1994

Diagnosis?

Clinical Presentation



Asymmetry



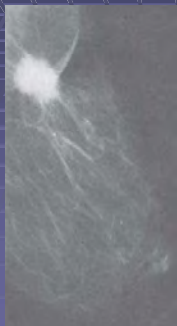
Nipple Eczema



Palpable Breast Lump

- **Mammogram**
 - Harder to pick up an abnormality in younger women because they have dense glandular breast tissue, but remains useful
 - Establishes extent and size of lesion
 - Detects any other clinically occult lesions in either breast
- **Ultrasound**
 - distinguishes between cystic and solid lesions, and guides core biopsy
- **MRI** in highly selected patients

Mammographic Abnormality



Spiculated Mass



Calcifications

Risk Factors?

Risk Factors

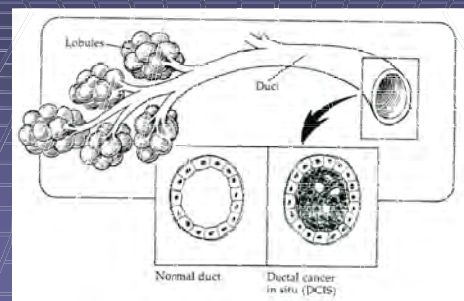
- personal history of breast cancer
 - family history in 1st degree relatives
 - early menarche / late menopause
 - never being pregnant or late age of 1st pregnancy
 - taking estrogen pills (HRT)
 - previous suspicious breast biopsy
 - BRCA 1 & 2 gene mutation
 - other hereditary cancer syndromes } accounts for only 5%
- 70% of women have no risk factors!**

Pathology?

Pathology

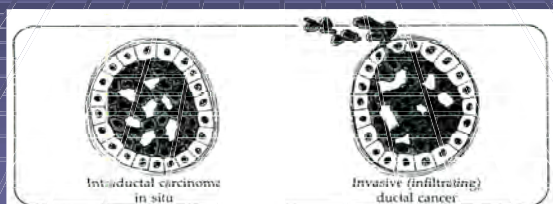
- **Non-invasive disease**
 - "Pre-malignant" condition or "Pre-cancer"
 - Common subtypes
 - Ductal carcinoma *in situ*
 - Lobular carcinoma *in situ*
- **Invasive disease**
 - Confers "true" diagnosis of cancer
 - Subtypes
 - Invasive ductal carcinoma
 - Invasive lobular carcinoma

Pathology



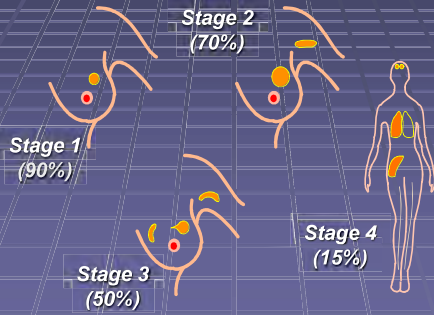
Ductal carcinoma *in situ* represents pre-malignant condition (but still warrants same local considerations as invasive disease)

Invasive Ductal Carcinoma



Treatment?

Breast Cancer Staging (5-Year Survival)



Predictive Factors

What is *the* best way to treat *this* cancer?

Early Stage Breast Cancer

Early Stage: Goals of Therapy

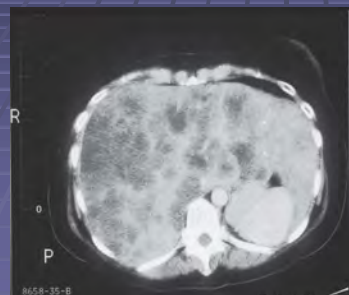
Potentially curable!!!

Multimodality Therapy

1. Surgery
2. Radiation Therapy
3. Systemic Therapy
 - Chemotherapy (intravenous)
 - Hormonal therapy (pills)
 - Biologic therapy (intravenous)

Late Breast Cancer or Stage IV

Metastatic Disease Stage IV



• breast cancer can spread to distant sites like:

bone
liver
lung
skin

Goals of Therapy for Stage IV

PALLIATION – not curable

Goals:

- curative therapies not available
- improve symptoms and quality of life
- modest survival benefit
- systemic therapy is main treatment
 - choose treatments with low side effects
- Try experimental therapies (clinical trials)

Take Home Points?

Summary

- If you feel a new lump in your breast you should see your family doctor.
- After the age of 40 women should go for yearly mammogram screening for breast cancer.
- Early stage breast cancer is potentially curable.
- The treatment of breast cancer is **multimodality** – surgery, radiation therapy, systemic therapy..

Summary

- Prognostic factors help to determine the risk of relapse and which patients should receive therapy after surgery.
- Predictive factors help to tailor treatment decisions.
- Systemic therapy after surgery improves survival in early stage disease.
- The treatment of metastatic disease (stage IV) is not curable but it is treatable. Choose treatment with maximal effect for minimal side effects.
- The use of new agents in the metastatic (stage IV) setting provides important information on future therapy options

Contacts?

For more Information

- Reliable info on breast (and other) cancers:
 - <http://www.albertabreast.com>
 - <http://cancer.gov>
- Ask your family physician for a mammogram
 - Referral to Comprehensive Breast Care Program (CBCP) if abnormality detected

Dr. Nawaid Usmani

MD, FRCPC



Dr. Usmani is a Radiation Oncologist at the Cross Cancer Institute and treats patients with cancers of the Genito-Urinary tract and Gastro- Intestinal tract. He completed his MD at McMaster University and residency in Radiation Oncology at Queen's University. He then did a fellowship in prostate brachytherapy from Vancouver. He is an active member of the training programs for medical students and residents at the University of Alberta. His main area of research is in prostate brachytherapy, an increasingly popular treatment option for men with localized prostate cancer. His research focuses on understanding current brachytherapy techniques and developing strategies to improve implants in the future.



Screening for Cancers: The Early Detection of Cancer



Nawaid Usmani
MD, FRCPC



Outline

- What is screening?
- Why is screening helpful?
- What cancers can we screen for?
- What screening tests should men and women have?



Cancer

- The best chance of successfully treating cancer is to prevent it or detect it early.

What is Cancer Screening?

- Cancer screening is looking for a cancer before a person has any symptoms.
- Screening tests are tests that can help find a cancer at an early stage, before symptoms appear.

Purpose of Cancer Screening

- The purpose of screening is to detect a cancer early, when it may be easier to treat and cure.
- By the time a cancer causes symptoms, the cancer may have grown and spread, making it harder to treat or cure.
- If a doctor suggests a screening test, it doesn't mean that they think you have cancer.

Types of Screening Tests

- Physical examination and history.
- Laboratory tests.
 - Samples of tissue, blood, urine or other substances from the body.
- Imaging procedures.
 - To take pictures of areas inside the body.
- Genetic tests.
 - Look for certain genes that are linked to cancer.

Screening Tests for All Cancers?

- Why don't we have screening tests for all cancers?
 - Some screening tests have disadvantages:
 - Not easy to perform.
 - Expensive.
 - Not acceptable to patients.
 - Cancers are too rare for test to be practical.
 - Not able to detect cancers earlier.
 - Do not improve cure rates.

Screening Tests Have Risks

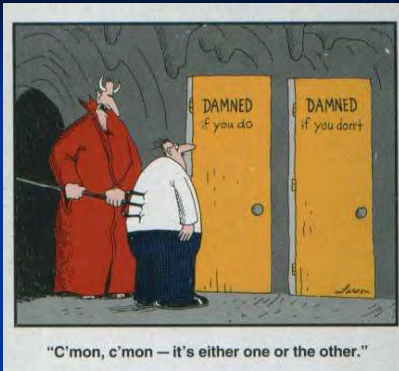
- Not all screening tests are helpful.
- Some screening tests can cause problems for patients.
 - Blood tests
 - Bleeding.
 - Colonoscopy (camera of colon)
 - Patient fears.
 - Very small risk of tear in lining of colon.

Screening Tests are Not Perfect

- False positive tests are possible:
 - A screening test may appear to be abnormal, even though there is no cancer.
 - May cause anxiety for patients and lead to more tests and procedures (which may have added risks).
- Example:
 - Elevated PSA.

Screening Tests are Not Perfect

- False negative tests are possible:
 - A screening test may be normal, even though there is cancer.
 - May delay a person seeing a doctor, even though they have symptoms.
- Example:
 - Stool test for blood.



Why Screen?

- Scientists and doctors study screening tests and determine which screening tests should be used.
- Despite the risks and harms that a screening test may have, the recommended screening tests are tests that have a proven benefit that is greater than the risks associated with it.

Canadian Cancer Society

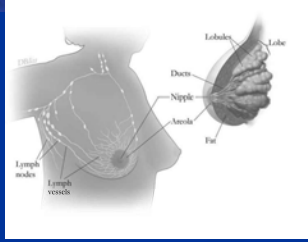
- Breast cancer deaths in Canada could be reduced by as much as one quarter (25%) if the majority of women eligible for screening were tested.
- Colorectal cancer deaths could be reduced by one-fifth (17%) if the majority of eligible people had screening.

Which Cancers to Screen

- Women:
 - Breast cancer.
 - Cervical cancer.
 - Colorectal cancer.
- Men:
 - Prostate cancer.
 - Colorectal cancer.

Breast Cancer

- Most common cancer in Canadian women and second leading cause of cancer deaths in women.



Breast Self Exam

- Woman should examine their own breasts every month.
 - Best time to examine breasts is 1 – 2 weeks after your period starts.
- Let doctor know if:
 - Unusual thickening of breasts.
 - Sticky or bloody discharge from the nipple.
 - Changes in the skin of your nipples or breasts.
 - One breast is larger than other.

Breast Cancer

- Clinical breast exam:
 - Doctor carefully feels the breasts and under the arms for lumps or anything else that is unusual.
 - Should be performed once a year.



Breast Cancer

- Mammogram:
 - X-ray of the breast.
 - Able to find tumors that are too small to feel.



Breast Cancer Screening

- Alberta Guidelines.
 - Breast self exam in all women above 30 yrs.

Breast Cancer Screening

- Alberta Guidelines.
 - Woman aged 50 – 69 years of age:
 - Mammogram and clinical breast examination every 2 years.
 - Other women:
 - Under 40 years: Not recommended unless high risk.
 - 40 – 49 years of age: Optional.
 - Above 70 years of age: Continue if healthy.

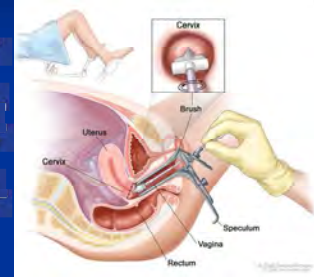
Cervical Cancer

- Cervix is the lower, narrow end of the uterus (organ where the baby grows) that is above the vagina (birth canal).
- Cervical cancer is a common cancer of woman 45 – 70 years of age.
- Worldwide, 3rd most common cancer and 2nd leading cause of cancer death in women.



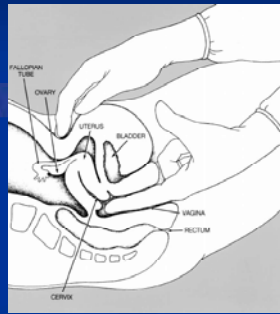
Cervical Cancer

- Pap smear:
 - A procedure to collect cells from the surface of the cervix and vagina.
 - A piece of cotton, a brush, or a small wooden stick is used to gently scrape cells from the cervix and vagina.
 - The cells are viewed under a microscope to find out if they are abnormal.



Cervical Cancer

- Pelvic examination:
 - Doctor carefully feels inside the vagina with their finger to make sure that nothing unusual is felt.



Cervical Cancer Screening

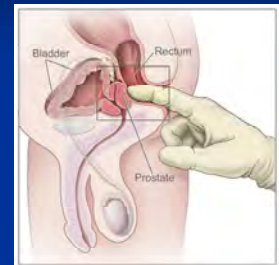
- Alberta Recommendations:
 - Pap test and pelvic examination:
 - Starts at age 21 or 3 years after first sexual activity.
 - To start:
 - One test every year for three years.
 - If first three tests are normal:
 - Then testing every three years.
 - Continue testing until at least age 70.
 - Use of Pap screening has led to the number of cervix cancer cases in Canada being dropped by one-half and death rates by two-thirds.



"Hey! Whats that clown think hes doing?"

Prostate Cancer

- Most common cancer in Canadian men.
- Digital rectal examination (DRE):
 - The doctor inserts a lubricated, gloved finger in the lower part of the rectum to feel to prostate for lumps or anything else that is unusual.



Prostate Cancer

- Prostate specific antigen (PSA) test:
 - A blood test that measures the level of PSA in the blood.
 - PSA is a substance made mostly by the prostate that may be increased in the blood of men with prostate cancer.
 - PSA can also be high in men with an infection of the prostate or an enlarged (non-cancerous) prostate.

Prostate Biopsy

- If PSA or digital rectal examination abnormal, prostate biopsy necessary to look for prostate cancer.

Prostate Cancer Screening

- Alberta Recommendations:
 - Digital rectal exam and PSA testing every year:
 - Men above age 50.
 - Continue until life expectancy < 10 years.
 - Some situations to consider prostate screening earlier:
 - Family history of prostate cancer or African descent.
 - Controversial, as some research shows no benefit from these tests.



Colorectal cancer

- Colorectal cancer is the second leading cause of death from cancer in men and women.
- One in five colorectal cancer deaths can be prevented by screening.



Colorectal Cancer Screening

- Four tests for colorectal cancer screening:
 - Fecal occult blood test (FOBT).
 - Sigmoidoscopy.
 - Double Contrast Barium Enema.
 - Colonoscopy.

Fecal Occult Blood Test

- Test to check stool for blood that can only be seen with a microscope.
- Small samples of stool are placed on special cards and are returned to the laboratory for testing.
- Blood in the stool may be a sign of polyps or cancer.



Sigmoidoscopy

- A test to look inside the rectum and sigmoid (the lower part of the bowels).
- The camera is inserted through the rectum and into the bowels.
- The camera is a thin, tube-like instrument with a light and a lens for viewing.



Colonoscopy

- A test to look inside the entire large bowel (colon).
- The camera is inserted through the rectum and into the bowels.
- Both sigmoidoscopes and colonoscopes also have a tool to remove polyps or take tissue samples for testing.



Other Tests

- Other tests sometimes used, but not recommended for screening.
- Barium Enema
- Virtual Colonoscopy



Colorectal Cancer Screening

- Alberta Recommendations:
 - All people over age of 50 years of age, if healthy.
 - Screening at age 40 years or younger:
 - Family history.
 - Previous polyps or cancers removed or inflammatory bowel disease.

Colorectal Cancer Screening

- Alberta Recommendations:
 - Fecal occult blood test every 1 to 2 years; or
 - Flexible sigmoidoscopy every 5 years; or
 - Colonoscopy every 10 years.
- In some situations, colonoscopy recommended more often.

Screening for Women

- At age 21, or when sexually active, Pap smear and pelvic exam every year for 3 years.
 - If first three normal, then every year.
- At age 30, breast self exam every month.
- At age 50, mammogram and clinical breast exam every 2 years.
- At age 50, colorectal cancer screening:
 - Fecal occult blood test every 1 – 2 years; or
 - Flexible sigmoidoscopy every 5 years; or
 - Colonoscopy every 10 years.
- Continue all screening until healthy (i.e. 70 years).

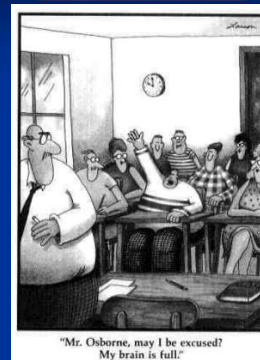
Screening for Men

- At age 50:
 - Digital rectal exam and PSA every year.
- At age 50, colorectal cancer screening:
 - Fecal occult blood test every 1 – 2 years; or
 - Flexible sigmoidoscopy every 5 years; or
 - Colonoscopy every 10 years.
- Continue all screening until healthy (i.e. 70 years).

Summary

- Chances of curing a cancer can be improved if detected early.
- Screening tests are tests to find cancers in a person before a person has any signs or symptoms of the cancer.
- Important to have regular check-ups with your family doctor and ensure that they are doing the screening tests that you need.

Questions



Dr. Valerie Capstick

MD, FRCSC

Dr. Capstick is a specialist in gynecologic cancers based at the Cross Cancer Institute and the Royal Alexandra Hospitals in Edmonton. She is an Associate Professor in the Department of Obstetrics and Gynecology at the University of Alberta for over 20 years. Her interests are in Familial Ovarian Cancer and Robotic Surgery.



Objectives of this Talk

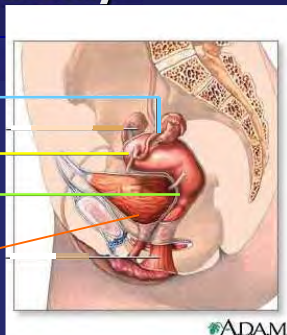
- Raise your awareness of the common and important gynecologic cancers
 - Ovarian (tubal), Uterine, and Cervical
- Risk factors (what increases your chance of developing one of these cancers)
- Symptoms and Signs (what you notice and what your doctor finds on exam)
- Typical Treatments
- Prevention (how to reduce your risk)

Gynecologic Cancers

Dr. Valerie Capstick

Female Anatomy

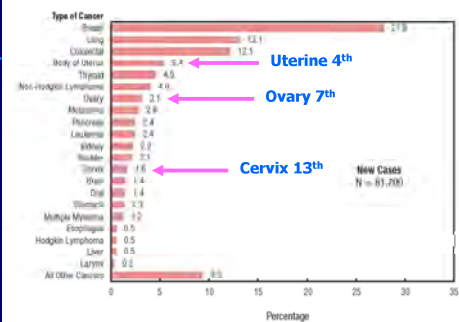
- Ovary/fallopian tube
- Uterus
- Cervix
- Bladder



How common and serious are gynecologic cancers?

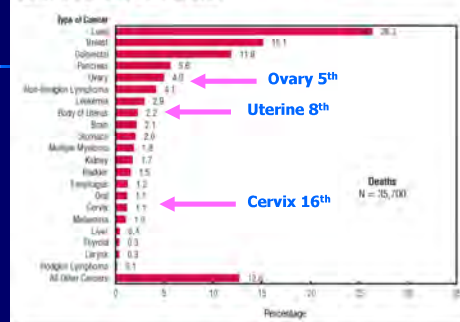
'Incidence' and 'Mortality'

Figure 1.2
Percentage Distribution of Estimated New Cases for Selected Cancers, Females, Canada, 2009



Note: New cases include an estimated 34,000 of non-melanoma skin cancer (basal and squamous).
Analysis by: Chronic Disease Surveillance Division, CCSP, Public Health Agency of Canada
Data sources: Canadian Cancer Registry and Canadian Vital Statistics Death databases at Statistics Canada
Canadian Cancer Statistics 2009

Figure 1.2
Percentage Distribution of Estimated Deaths for Selected Cancers, Females, Canada, 2009



Note: Deaths for 'All Other Cancers' include about 100 deaths with underlying cause 'other malignant neoplasms of sites'.
Analysis by: Chronic Disease Surveillance Division, CCSP, Public Health Agency of Canada
Data sources: Canadian Cancer Registry and Canadian Vital Statistics Death databases at Statistics Canada
Canadian Cancer Statistics 2009

Typical Case history of Ovarian Cancer

- 55 year old woman has a several month history of abdominal bloating. She has vague changes involving her bowels and bladder.
- Her doctor finds a mass in her lower abdomen.
- Tests include
 - **Ultrasound**
 - □ shows both ovaries have solid and cystic (complex) masses measuring 10- 15 centimeters. There is some fluid (ascites) in the abdomen. (CT scan is a possible test)
 - **CA 125 blood test** is elevated (1800)

NEXT Step: Surgery

Surgery

- Cancer is found in both ovaries
- Cancer has spread to surfaces in the abdomen
- Not possible to remove all of the metastatic disease, but ovaries and uterus are removed.
- Final pathology: Stage III 'serous' ovarian cancer

At Surgery



Chemotherapy and long term expectations

- Chemotherapy offered.
- Chance of Cure: 20-30 %
- Chance of responding to chemotherapy: 80+%

Why is Ovarian Cancer important?

- More deaths in Canada from ovarian cancer than any other gynecologic cancer.
- 5th most common cause of death due to cancer in women
- 7th most common cancer diagnosed
 - 1 woman in 70

Why is Ovarian Cancer the Gynecologic cancer that is hardest to cure?

- Hard to diagnose
- Usually widely metastatic (spread) by the time it is diagnosed (3/4 of women)
- Best chance of cure is being diagnosed in early stages

Ovarian cancer: Symptoms and Signs

- **Symptoms: usually quite nonspecific**
 - Abdominal pain, bloating, cramping, indigestion
 - Bladder complaints
 - Bowel Complaints
- **Signs:**
 - Mass in pelvis (requires pelvic exam) or abdomen
 - Fluid in abdomen (ascites)
 - Fluid around lungs (pleural effusion)
 - Bowel obstruction

Survival in Ovarian Cancer

- If cancer confined to ovary (stage 1)
 - 80-90% 5 year
- If cancer has spread
 - 30%, but numerous factors influence each woman
 - Age, ability to tolerate treatment, extent of tumor removal at surgery.

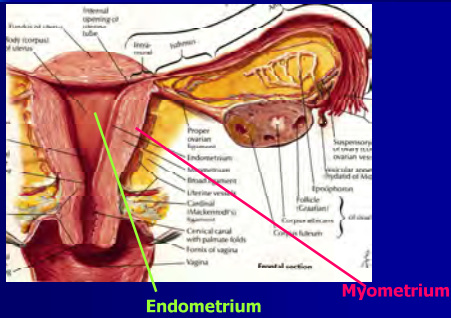
What increases a woman's risk of developing Ovarian Cancer?

- Family History of Ovarian cancer and/or breast cancer
- Living in a developed country
- Never been pregnant

What reduces a woman's risk of ovarian cancer?

- Recognizing a hereditary predisposition in the family
- Pregnancy and/or birth control pill
- Diet low in fats, high in vegetables
- Tubal ligation
- Surgical removal of ovaries
- ??Surgical removal of tubes

Endometrial Cancer



A typical case of endometrial (uterine) cancer

- 65 year old woman develops vaginal bleeding, describes it as 'spotting'.
- Physical exam is normal
- Ultrasound of the pelvis shows a thickened uterine lining (endometrium)
- Endometrial biopsy (office procedure) shows a cancer arising in the endometrium.
 - (Endometrial 'curettage' under anaesthetic is sometimes necessary)

- Next step: Surgery
 - Removal of uterus, tubes, ovaries and pelvic lymph nodes.
 - Pathology shows endometrial cancer confined to the uterus, no spread to lymph nodes.
 - Patient is offered radiation to the top of the vagina.
 - She is well five years later.

Endometrial Cancer Risk factors

- Most common:
Exposure to Estrogen without progesterone – 'Unopposed Estrogen'
1. Failure to Ovulate (release an egg regularly) in reproductive years
 2. Obesity (pre or post menopausal)
 3. Hormone replacement therapy with estrogen only
 4. Estrogen producing tumors (rare)
 5. Tamoxifen use: Breast Cancer treatment

Symptoms and Signs

- Abnormal vaginal bleeding
 - **Postmenopausal bleeding (15%-20% have cancer)
 - Premenopausal – not as common
 - A change in 'periods'
 - Abnormal (more frequent, heavier) bleeding in the 'peri' menopause.
 - Often in women who rarely or never ovulate

Prevention of Endometrial Cancer

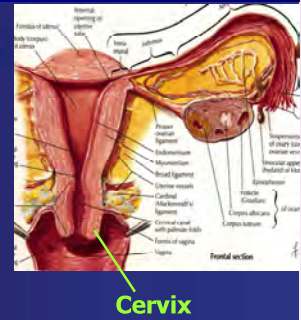
- Avoid risk factors
 - Avoid hormone replacement with estrogen alone, if you have a uterus
 - Avoid Obesity
 - If you have only a couple of periods a year, talk to your physician about progesterone.
 - Don't ignore bleeding in the menopause
 - No screening tests found that are effective or acceptable to patients.
 - If on tamoxifen, have an ultrasound, ?yearly

Cervical Cancer

The preventable cancer.

The Cervix

- The Cervix is the 'neck' of the uterus (womb).



A typical case of Cervical Cancer

- 42 year old woman develops daily vaginal bleeding for several months, which worsens with intercourse.
- Last pap was 10 years ago.
- Examination shows a 5 centimeter bleeding tumor on her cervix, biopsy shows cancer
- It has spread into the tissues next to the cervix
- CT scan (PET scan) shows the cancer, no evidence of spread to lymph nodes.
- Stage 2b cancer of the cervix

Treatment:

- External Radiation to pelvis and internal radiation.
 - Given with weekly chemotherapy
 - 6 weeks to complete
 - Chance of cure is around 60 %

If detected earlier she would have been treated with surgery- Radical Hysterectomy and pelvic lymph node removal

Cancer of the Cervix

- Cancer of the cervix is the **second most common cancer in women worldwide**, with about **500,000 new cases and 250,000 deaths each year.**
 - In Canada,
 - 13th most common cancer,
 - 16th in cause of death.

Cancer of the Cervix

- 80% of cases occur in low-income countries where cervical cancer is the **most common** cancer in women.
 - Usually cervical cancer is diagnosed in advanced stages and not curable.
- **99%** of cases are linked to genital infection with human papillomavirus (HPV).
- **Cervical Cancer is essentially preventable!**

Symptoms

- **None**
 - detected with pap smear
- **Abnormal Bleeding**
 - Post menopausal
 - Post intercourse
 - Inter menstrual (between periods)
- **Abnormal Discharge**
- **Pain**
 - Usually only seen in advanced cases

Cervical Cancer: Survival

- **Early (confined to cervix)- 80 + %**
- **Spread outside of cervix**
 - 75- 20 % chance of cure.

What is better than curing Cervical Cancer?

Preventing it entirely.

Cervical Cancer Prevention

- **Pap smears:**
 - result in diagnosis of a precancerous change that is treated, preserving the uterus
- **HPV (human papilloma virus) vaccines:**
 - Prevent HPV infection and prevent precancer
 - Also expected to reduce anal cancers, vulvar cancers

What is HPV?

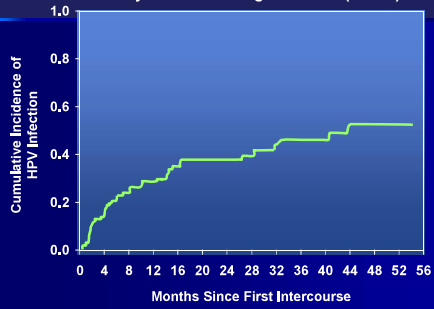
- **Human Papilloma Virus**
 - First recognized as the “Wart Virus”
 - HPV DNA (genetic material) was located in the DNA of cervical cancer in the 1980’s.
 - 99+ % of cervical cancer is caused by HPV (plus other factors working with it, ie. Smoking, immunosuppression)

How Common is HPV?

- **~ 80 % of the people in this country who have ever had sex will have been exposed. (men and women)**

Infection From Time of First Sexual Intercourse

Study of female college students (N=603)



From Wiener RL, Lee SK, Hughes JP, Adam DE, Kiviat NB, Koutsky LA. Genital human papillomavirus infection: Incidence and risk factors in a cohort of female university students. *Am J Epidemiol.* 2003;157:216-226, by permission of Oxford University Press.

Colposcopy of a cervix : (Pap smear showed severe precancer)



- Cervix looked normal prior to acetic acid (vinegar).

Gynecologic Cancers



Dr. Naveen Basappa

MD, FRCPC



Naveen Basappa is certified by the Royal College of Physicians and Surgeons of Canada as a specialist in Internal Medicine with subspecialty training in Medical Oncology. He completed his medical oncology training at the Cross Cancer Institute in Edmonton. Following that, he attained a fellowship in Experimental Oncology from the Cleveland Clinic with a focus in genitourinary cancers.

Dr. Basappa has been working at the Cross Cancer Institute since August 2010. He was born and raised in Edmonton and is a proud Albertan.



Outline

- *Define 'cancer'*
- *Review gastro-intestinal (GI) Anatomy*
- *Summarize GI cancer epidemiology and risk factors*
- *Outline signs and symptoms of specific GI cancers*
- *Discuss common treatments*



WHAT IS CANCER?

- Billions of cells in our body
- Each cell is capable of growing and making copies of itself (replication)
- Normal cells know when to grow and replicate based on the needs of our body at that time



WHAT IS CANCER?

- Sometimes cells get damaged or changed (mutated) when replicating
- These 'mutated' cells usually self-destruct, but some mutated cells can remain alive
- If these cells continue to grow and replicate, other mutations can occur making these cells more unstable.



WHAT IS CANCER?

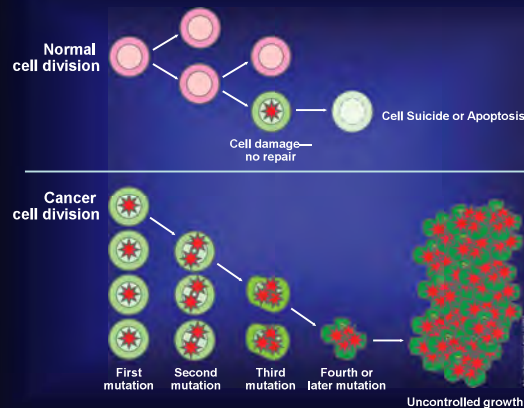
- After a number of mutations, a cell loses its ability to control its growth and/or self-destruct
- This cell starts replicating uncontrollably making copies of itself
- This gradual increase in replicating cells creates a growing mass of tissue called a "tumor" or "neoplasm."
- As these cells accumulate, the normal structures around these cells can become disrupted leading to spread of these cells.



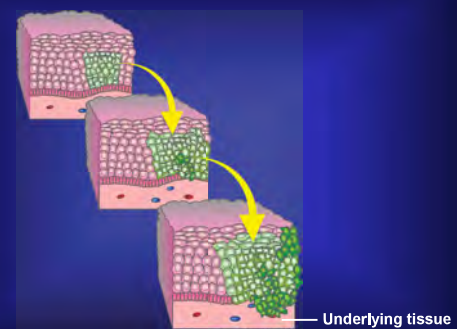
THIS IS CANCER!



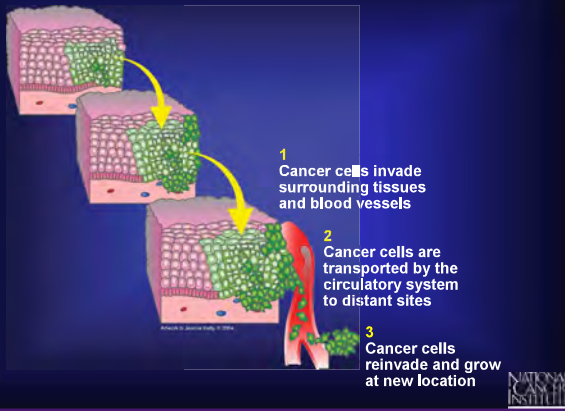
Loss of Normal Growth Control



Tumors (Neoplasms)



Invasion and Metastasis



What is Cancer?

- Cancer can appear anywhere in the body
- Cancer can vary within populations (gender, sex, race, geographic location)



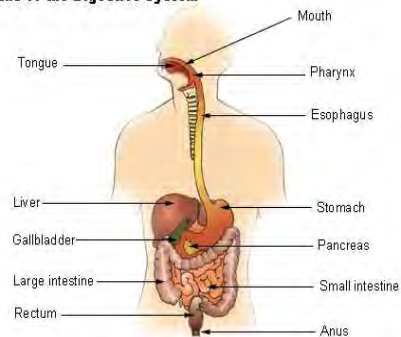
GI ANATOMY

- Gastrointestinal system primary function is to turn food into energy
- Anatomically involves everything from the mouth to the anus
- Cancers can appear anywhere along this tract – but some areas more common than others



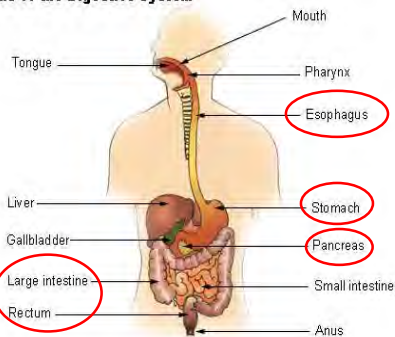
GI ANATOMY

Organs of the Digestive System



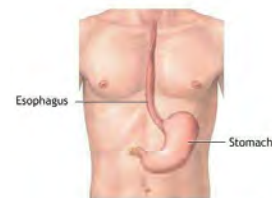
GI ANATOMY

Organs of the Digestive System



Esophagus

- Tube leading from mouth to stomach
- Functions primarily to secrete mucous and transport food to stomach



Esophageal Cancer

- Canadian Statistics 2010
 - Expected 1700 new cases and 1800 deaths
 - 15th most common cancer in males and 19th in females
 - 7th leading cause of cancer death for men and 14th for women



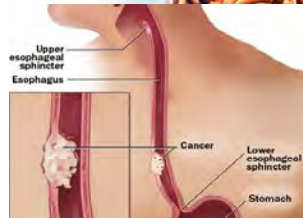
Esophageal Cancer

- Risk Factors
 - Long term alcohol and tobacco use
 - Poor vegetable and fruit intake
 - Chronic reflux (heartburn)
 - Obesity



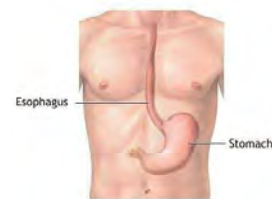
Esophageal Cancer

- Signs/Symptoms typically are related to obstruction
 - Difficulty swallowing (solids → liquids)
 - Pain with swallowing
 - Unexpected weight loss
 - Regurgitation of food
 - Cough
 - Hoarseness of voice



Stomach

- J-shaped bag that esophagus empties into
- Functions to mix food, act as a reservoir and also begin food breakdown and absorption



ADAM

Gastric Cancer

- Canadian Statistics 2010
 - Expected 2900 new cases and 1850 deaths
 - 10th most common cancer in males and 15th in females
 - 9th leading cause of cancer death for men and 10th for women



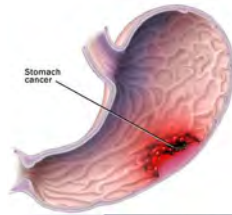
Gastric Cancer

- Risk Factors
 - Consumption of large amounts of salt and salt-preserved foods
 - Poor fruit and vegetable consumption
 - Poor/decreased acid production in stomach
 - Previous stomach surgery
 - Smoking
 - Obesity



Gastric Cancer

- Signs/Symptoms
 - Weight loss
 - Loss of appetite
 - Fatigue
 - Vague stomach pain
 - Pain with swallowing/eating
 - Vomiting
 - Fluid build up in abdomen
 - Palpable mass in abdomen
 - Dark red or black sticky stool

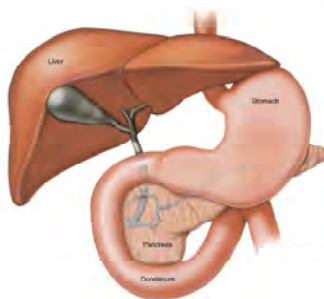


Pancreas

- Small organ near and sitting behind the lower part of the stomach and beginning of the small intestine.
- Two main functions
 - produces enzymes to digest food allowing absorption in intestines
 - Produces hormones (eg: insulin) to maintain normal function in the body



Pancreas



Pancreatic Cancer

- Canadian Statistics 2010
 - Expected 4000 new cases and 3900 deaths
 - 9th most common cancer in males and females
 - 4th leading cause of cancer death for men and women



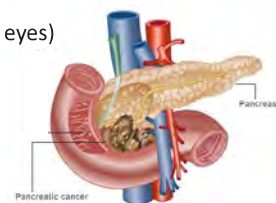
Pancreatic Cancer

- Risk Factors
 - Smoking
 - Obesity
 - Repeated damage to the pancreas (chronic pancreatitis – alcohol and inherited)



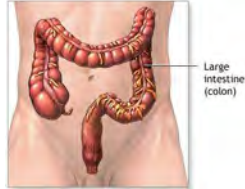
Pancreatic Cancer

- Signs/Symptoms
 - Weight loss
 - Abdominal pain
 - Nausea and vomiting
 - Jaundice (yellowing of skin, eyes)
 - Fluid in abdomen
 - Lump in abdomen



Colon and Rectum

- Large floppy tube extending from end of small intestine to the anus
- Functions to further digest food, absorb water and vitamins
- Also concentrates and stores feces for elimination



Colorectal Cancer

- Canadian Statistics 2010
 - Expected 22,500 new cases and 9100 deaths
 - 3rd most common cancer in males and females
 - 2nd leading cause of cancer death for men and 3rd for women

Colorectal Cancer

- Risk Factors
 - Strong family history of inherited colorectal cancer (HNPCC, FAP)
 - Personal or family history of sporadic colorectal cancer or polyps
 - Inflammatory Bowel Disease
 - Smoking
 - Obesity
 - Low fibre diet

Colorectal Cancer

- Signs/Symptoms
 - Blood in your bowel movements
 - Abdominal pain, cramping, bloating
 - Changes in your bowel habits
 - Constipated
 - Diarrhea
 - Thin stools
 - Feeling weak or tired
 - Decreased appetite, weight loss

Colorectal Cancer



Treatment

- Surgery
- Chemotherapy
- Radiation Therapy
- Combinations of the above

Summary

- Cancer is invasive, uncontrolled growth of mutated cells and can occur anywhere in the body
- Within the GI tract, a cancer can appear anywhere from the mouth to the anus
- GI cancers have common presenting symptoms that fit with their site of origin
- Treatment of GI Cancers is variable and can involve one or more different modalities.

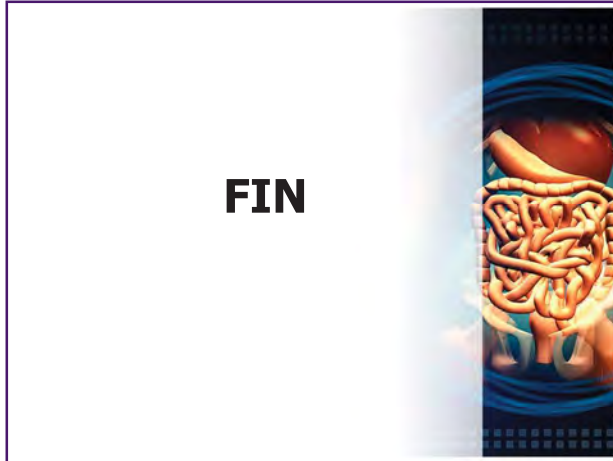


Resources

- ALBERTA GI CANCER GUIDELINES - <http://www.albertahealthservices.ca/1751.asp>
- CANCER CARE ONTARIO - <http://www.cancercare.on.ca/cms/One.aspx?portalId=1377&pageId=10207>
- NATIONAL CANCER INSTITUTE (USA) – <http://www.cancer.gov/cancertopics>



FIN



Dr. Tina Korownyk

MD



Dr. Tina Korownyk is a Family Physician at the Northeast Community Health Centre and an Assistant Professor in the Department of Family Medicine at the University of Alberta. She is actively involved in teaching evidence based medicine to medical students and residents. She regularly contributes to a biweekly evidence based update for the Alberta College of Family Physicians (called Tools for Practice) and is a member of the Alberta College of Family Physician's Evidence Team which provides evidence based Continuous Professional Development to Family Physicians throughout Alberta.



You, Your Family Doctor & Cancer

Your Family Doctor's Role

- Educate patients regarding interventions that may decrease cancer risk, as well as screening tests that are currently available
- Investigate worrisome symptoms or abnormal screening tests
- Facilitate appropriate follow up if cancer is suspected or diagnosed
- Assist in the management of symptoms related to cancer or cancer treatment (including long term complications or palliative care)

Current Screening Recommendations in Primary Care...

- Obesity
- Hypertension
- Lipids
- Diabetes
- Osteoporosis
- Physical Activity
- Alcohol abuse
- Smoking
- Recreational drug use
- Family violence/abuse
- Depression
- Incontinence
- Sexually transmitted diseases...

Cancers with Proven Screening Tests

- Breast Cancer
- Prostate Cancer
- Colorectal Cancer
- Cervical Cancer

A number of screening tests that are presented in the media have no proven benefit and may be potentially harmful.

Smoking Cessation

- Cigarette smoking has been linked with cancer of the lung, head and neck, esophagus, stomach, pancreas, liver, kidney, bladder, cervix as well as myeloid leukaemia
- Decreases risk of lung cancer by 50% in recent quitters & 83% in long-term quitters²
- Risk of cervical cancer quickly returns to the level of a non-smoker after quitting³
- Decreases risk of laryngeal, oral, pharyngeal, pancreatic, renal cell and bladder cancer over a number of years
- Cuts your risk of a heart attack in half by 1 year
- Decreases risk of stroke, respiratory disease, periodontal disease, diabetes, aortic aneurysm, etc...

1) US Department of Health and Human Services 1990 2) JAMA 2005;294:1505-1510. 3) Lancet 2006; 368:348-349.

Alcohol

- Conflicting evidence regarding risks/benefits of alcohol intake¹
- Alcohol has been linked to a number of cancers including cancers of the head and neck (mouth, pharynx, larynx, and esophagus), digestive tract (stomach, colon, and rectum) and breast cancer.
- People who smoke and drink have greater risk than would be expected from either risk alone

1) N Engl J Med 1997;337:1705-1714.

Preventative Measures

Factor	Effect on Breast Cancer
Obesity	Relative Risk Increase 185% ²
Alcohol	No significant risk increase from one drink per day or less Relative Risk Increase 20% for 2 drinks vs. none Relative Risk Increase 40% for 3 drinks vs. None ³
Physical Activity	Relative Risk Reduction 30–40% if vigorous and more than 4 hours per week
Combination HRT	Relative Risk Increase 24% ¹
Diet	Some studies have found that a low-fat diet reduces risk
Smoking	Insufficient evidence

1) JAMA 2002; 288(3):321-333. 2) Cancer Epidemiol Biomarkers Prev 2007; 16(12):2533-2547. 3) Ann Surg 2003; 237(4):474-482. 4) J Natl Cancer Inst 2009; 101(6):384-398. 5) <http://www.cancer.gov/cancerinfo/obesity/prevention>
McMaster Cancer Prevention Module 2010

Determining your Risk

- Review your family history – this could save your life
- Review potential risk factors including co-morbid disease or lifestyle.
- Age is an important risk factor. Generally risk of cancer increases with age.

Dispelling Myths

- Taking hormone replacement therapy for hot flashes = instant breast cancer
- Thermography is a good and less painful way to screen for breast cancer
- All women should have a Ca-125 done to screen for ovarian cancer
- Antioxidant vitamins prevent cancer
- Newer is better (ie MRI for breast Ca screening)

Screening Outcomes 1000 women x 10 years

Event over 10 years	Screening every 2 years , Start at 50	No Screening
Recalled for more tests	242	
Extra Imaging	178	
Biopsy	64	
Breast CA of Any Kind	32.9	20.2
Develop Interval CA	10.4	
Die from Breast CA	4.0	5.9
Total who die	29.3	31.1

1) BMJ. 2005;23:330(7497):936

Further testing

- If your screening test is abnormal, this does not necessarily mean you have a disease, it simply means you will require further definitive testing
- Depending on the screening test and the result this could be immediately or months down the road
- If your family doctor is really worried, he/she will call a specialist to get you seen in a timely matter

If you have worrisome symptoms

- Tell your doctor right away - make an appointment to specifically discuss this issue
- Be clear with what your concerns are
- Do not worry that you are "wasting" their time
- If you feel you are not being heard, be persistent

Follow Up A Balanced Approach

- Your family doctor will liaise with your cancer care specialist
- Assist with management of side effects of cancer or cancer treatment (ie nausea, pain, decreased appetite, constipation, anxiety, depression etc)
- Continue to manage other medical conditions
- Discuss evidence surrounding alternative / complementary therapies

From Cancer Patient to Cancer Survivor: Lost in Transition...¹

- Family physicians provide continuity of care
- Individual and family support
- Organize follow up testing after treatment
 - assess for recurrence or new primary cancers
- Monitor for long term side effects of treatment

1) Committee on Cancer Survivorship, Improving Care and Quality of Life. National Cancer Policy Board, Institute of Medicine, and National Research Council, National Academies Press 2006.

Palliative Care

- When cure is not an option, your family doctor can assist with pain management and end of life planning & care
- Arrange home care involvement
- Hospice care
- Counseling & Support

Thank You



A MATTER OF CANCER - 2011

Maanaw Seva Association

Executive Members

Jiwan Kayande - *President*

Rohit Desai - *Treasurer*

Rajiv Ranjan - *General Secretary*

Directors

Madhu Sehgal

Vasudeo Dhodia

Contact Information

Jivan Kayande

Phone: 780-459-3852

Email: jivan.kayande@gmail.com

Website: www.maanawseva.com

A MATTER OF CANCER - 2011

Organizing Committee

Chairperson

Dr. Naresh Jha

Recording Secretary

Vinod Marwah

Hospitality / Adult Volunteer Coordinating

Charu Ranjan

Praveen Kapur

Youth Volunteer Coordinating

Charu Ranjan

Ruchi Kapur

Kushal Jaisingh

Invited Speakers

Dr. Naresh Jha

Brochure / Poster / Booklet

Arvind Kapur

Dr. Harish Kalra

Registration

Rohit Desai

Charu Ranjan

Dr. Pradeep Kulkarni

Venue

Dr. R. L. Singh

Charu Ranjan

Audio-Visual

Dr. Sunil Desai

Dr. Prem Karbanda

Mukund Mehta

Photography

Munir Mehal

Nand Bhasin

Seating & Floor Management

Dr. Hasu Rajani

Dr. Pradeep Kulkarni

Rohit Desai

Website

Jivan Kayande

Rajiv Ranjan

P. Balamurugan

Communication

Dr. Harish Kalra

Rajiv Ranjan

Dr. M. P. Sharma

Krishan Chawla

Volunteer Certificates

Sunil Desai

Insurance

Rajiv Ranjan

A MATTER OF CANCER - 2011

*In Appreciation of All the
Youth Volunteers*

ACHARYA, Neha

CHATURVEDI, Shaurya

DHUNNOO, Shalni

DWIVEDI, Sudhanshu

GILL, Sukhdeep

GUPTA, Anuja

GUPTA, Ankita

JAISINGH, Kushal

JHA, Divya

JHA, Pranav

JHA, Shankar

KAPUR, Ruchi

KOTAK, Smita

MANCHANDA, Mayank

MUDLIAR, Pooja

NAYDU, Shardha

RAJANI, Vishal

SHARMA, Aanchal

SHARMA, Shorya

ZHILKA, Parikshit

A MATTER OF CANCER - 2011

In Appreciation of All the Adult Volunteers

BAGGA, Rohit
CHAWLA, Bharti
GUPTA, Seema
JAISINGH, Suresh
JAISINGH, Kusum
JOBANPUTRA, Sunita
JOBANPUTRA, Bharat
KAPUR, Arvind
KAPUR, Praveen
MANCHANDA, Puneet
MANCHANDA, Seema
MEHRA, Kiran
RAJANI, Daksha
RAWAT, Hari
SISODIA, Surendra
SISODIA, Monika

Agenda

INTRODUCTION & WELCOME - 10AM	Mr.Jivan Kayande
MASTERS OF CEREMONY	Ms Divya Jha Mr. Mayank Manchanda
OPENING REMARKS	Dr. Anthony fields
SPEAKERS & TOPICS	
<i>Exercise & Cancer</i>	Dr. Anil Abraham Joy
<i>Prostate Cancer</i>	Dr. Nadeem Pervez
<i>Lung Cancer</i>	Dr. Kurian Joseph
<i>Breast Cancer</i>	Dr. Sanraj Basi
PANEL DISCUSSION	Dr. Pradeep Kulkarni
PRESENTATIONS TO SPEAKERS	Mr. Jivan Kayande
LUNCH 12:30 PM - 1:20 PM	
HONOURABLE HEALTH MINISTER	Mr. Gene Zwozdesky
SPEAKERS & TOPICS	
<i>Screening Programs</i>	Dr. Nawaid Usmani
<i>Gynaecological Cancers</i>	Dr. Valerie Capstick
<i>Gastrointestinal Cancers</i>	Dr. Naveen Basappa
<i>Role of General Practitioner</i>	Dr. Tina Korownyk
PANEL DISCUSSION	Dr. Pradeep Kulkarni
PRESENTATIONS TO SPEAKERS	Shiv Shankar Dwivedi
APPRECIATION OF VOLUNTEERS	Mrs. Charu Ranjan Shiv Shankar Dwivedi
VOTE OF THANKS	Dr. Naresh Jha