



NON COMMUNICABLE DISEASES

Cancer, Diabetes, Hypertension
Arthritis, COAD



By Dr. Mutuma GZ



Title & Footnote: Non-Communicable diseases: Cancer, Diabetes, Hypertension, Arthritis.
COAD

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The Zambezi Hospital 2016

1. **First publication** 1000 copies 2013
2. **Second publication** June 2016 2000 copies
3. **Third publication** November 2016 4000Copies



Acknowledgment





The Zambezi Cancer and General Hospital is one of The Leading Healthcare Institutions that's mainly focused on The Prevention, Diagnosis, and Treatment of Cancer & Non-Communicable Diseases.

Health and Wellness

Eat well, live healthy; Preventing diseases through a healthy lifestyle.

'You are what you eat' came into the English language by quite a meandering route. **“Dis-Moi ce que tu manges, Je te dirai ce que tu es.”** {Tell me what you eat and I will tell you what you are}. A proper and healthy diet can prevent us from the numerous emerging Non-Communicable Diseases we face today; Cancer, Diabetes, Chronic fatigue syndrome, Arthritis, Hypertension, and chronic obstructive Air-way Diseases.



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RECOMMENDED NORMAL HEALTH AND WELL NESS CHECK UP BY AGES..... 103

Any meaningful preventive and control measures needs to cover the following known risk factors:

- Tobacco use,
- Unhealthy Diet and nutrition (low intake of Whole grain, fruit and vegetable Intake
- Overweight and obesity
- Physical inactivity
- Lack of adequate Screening and late Diagnosis
- Poor Dietary supplementation.





PREAMBLE:

There is increasing awareness that Kenya is experiencing the epidemiological transition in which causes of death shift from primary infectious diseases and under nutrition to non-communicable diseases (NCDs) such as Cancer, Diabetes mellitus and cardiovascular diseases.

For centuries, Infectious diseases were the main causes of death around the world and life expectancy was often limited by uncontrolled epidemics. NCDs started causing major problems in industrialized countries a few years ago. Heart disease, cancer, diabetes, chronic pulmonary and mental disease became a real burden for the health systems in developed countries. For a while, these diseases were associated with economic development and so-called –diseases of lifestyle. Over the past decade, there has been an increasing concern about the impact of chronic non-communicable diseases on the health of the developing world populations and as the main cause of disability and mortality among adults.

Non-communicable diseases have already presented a substantial burden because their overall age-specific rates are currently higher in sub-Saharan Africa than in developed countries. This has been shown by the rapid increase of diabetes, hypertension, cancer and renal diseases in Kenya. Although research is needed to guide improvement in the clinical care of Non-Communicable Diseases, prevention, early detection diagnosis remains the mainstay to reduce the upcoming epidemic.

Prevention and control of chronic, non-communicable diseases is a key activity for each individual, co-operate community and the country as a whole. This book gives a simple outline of cancer and other chronic disease prevention and nutrition. Few hints on healthy nutritional supplementation have been covered with a special interest in natural and herbal products.

It has been simplified for easy reading and understanding, only where inevitable medical terms have been used.

BASIC CANCER UPDATE

THE ZAMBEZI CANCER AND GENERAL HOSPITAL

- Every person has cancer cells in the body. These cancer cells do not show up in standard tests until they have multiplied to a few billion. When doctors tell cancer patients that there are no more cancer cells in their bodies after treatment, it just means the tests are unable to detect the cancer cells because they have not reached the detectable size
- Cancer cells occur between 6 to more than 10 times in a person's Lifetime
- When the person's immune system is strong, the cancer cells will be destroyed and prevented from multiplying and forming tumors.
- When a person has cancer it indicates the person has multiple nutritional deficiencies. These could be due to genetic, environmental, food and lifestyle factors.
- To overcome the multiple nutritional deficiencies, changing diet including supplements will strengthen the immune system.
- Chemotherapy involves poisoning the rapidly-growing cancer cells and also destroys rapidly-growing healthy cells in the bone marrow, gastro-intestinal tract, etc., and can cause organ damage, like liver, kidneys, heart, lungs, etc.

- Radiation while destroying cancer cells also burns, scars and damages healthy cells, tissues and organs.
- Initial treatment with chemotherapy and radiation is usually the first-line treatment/therapy that has worked best in many clinical trials for people who have the same type and stage of cancer. The second line of therapy is introduced if the first may not have worked. However, the chances that the second or even third line of treatment will yield good results are usually lower than the first-line therapy and may equally have more adverse side effects.
- When the body has too much toxic burden from chemotherapy and radiation the immune system is either compromised or destroyed, hence the person can succumb to various kinds of infections and complications.
- Chemotherapy and radiation can cause cancer cells to mutate and become resistant and difficult to destroy. Surgery can also cause cancer cells to spread to other sites.
- An effective way to battle cancer is to starve the cancer cells by not feeding it with foods it needs to multiply
- Sugar is cancer- feeder. By cutting off sugar it cuts off one important food supply to the cancer cells. Sugar substitutes like NutraSweet, Equal, Spoonful, etc., are made with Aspartame and it is harmful. A better natural substitute would be Manuka honey or molasses but only in very small amounts. Table salt has a chemical added to make it white in color. A better alternative is Bragg's Aminos or seasalt.
- Milk causes the body to produce mucus. By cutting off milk and substituting with unsweetened soy milk, cancer cells are being starved.



- Cancer cells thrive in an acidic environment. A meat-based diet is acidic; it is best to eat fish and a little chicken rather than beef or pork. Meat also contains livestock antibiotics, growth hormones, and parasites, which are all harmful, especially to people with cancer.
- A diet made of 80% fresh vegetables and juice, whole grain, seeds, nuts, and little fruits helps put the body into an alkaline environment. About 20% can be from cooked food including beans. Fresh vegetables, juices provide live enzymes that are easily absorbed and reach down to cellular levels within 15 minutes to nourish and enhance the growth of healthy cells. To obtain live enzymes for building healthy cells try and drink fresh vegetable juice (most vegetables including bean sprouts) and eat some raw vegetables 2 or 3 times a day. Enzymes are destroyed at temperatures of 104 degrees F (40 degrees c)
- Avoid coffee, tea, and chocolate, which have high caffeine. Green tea is a better alternative and has cancer-fighting properties. Water-best to drink purified water or filtered, to avoid known toxins and heavy metal in tap water. Distilled water is acidic, avoid it.
- Meat protein is difficult to digest and requires a lot of digestive enzymes. Undigested meat remaining in the intestines become purified and leads to more toxic build-up.
- Cancer cell walls have a tough protein covering. By refraining from or eating less meat it frees more enzymes to attack the protein walls of cancer cells and allows the body's killer cells to destroy the cancer cells.
- Some supplements build up the immune system (IP6, Florescence, anti-oxidants, vitamins, minerals, etc., to enable the body's own killer cells to destroy cancer cells.



- Other supplements like vitamin E are known to cause apoptosis, or programmed cell death, the body's normal method of disposing of damaged, unwanted, or unneeded cells
- Cancer is a disease of the mind, body, and spirit. A proactive and positive spirit will help the cancer warrior be a survivor. Anger, unforgiveness, and bitterness put the body into a stressful and acidic environment. Learn to have a loving and forgiving spirit. Learn to relax and enjoy life.
- Cancer cells cannot thrive in an oxygenated environment. Exercising daily, and deep breathing help get more oxygen down to the cellular level. Oxygen therapy is another means employed to destroy cancer cells.





UNDERSTAND YOUR **HISTORY** – UNDERSTAND YOUR **RISK**

5-10% OF CANCERS ARE DUE TO HEREDITARY FACTORS¹

Genetic mutations that are harmful may increase a person's risk of developing cancer.

15 MILLION PEOPLE ARE APPROPRIATE FOR **HEREDITARY CANCER TESTING**²

Genetic testing can be vitally important for the people who have certain types of cancers that run in their family.



- As of 2015, less than 10 percent of people at risk have been tested.²

CANCER RISK CAN BE REDUCED

You cannot change your genetic makeup, but knowing your family history and having genetic test results can help you take steps to reduce your risk of developing cancer.

ALL RESULT TYPES HELP INFORM MEDICAL MANAGEMENT

The hereditary test results – positive or negative – help provide guidance in tailoring medical management plans to each person's specific risk level.²

POSITIVE RESULT MEANS **50% CHANCE** OF SAME MUTATION IN CERTAIN RELATIVES

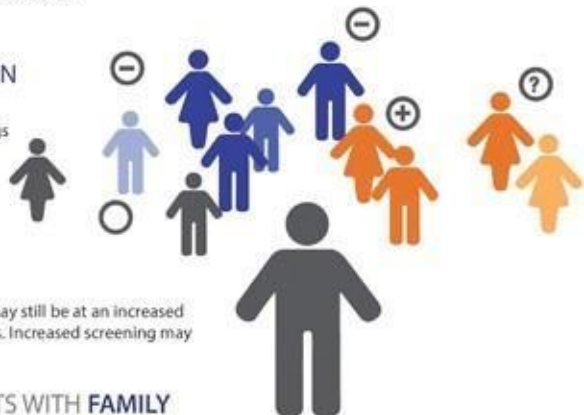
If your results are positive, then your children, siblings and parents each have a 50% chance of having the same genetic mutation.²

NEGATIVE RESULT MAY STILL MEAN **INCREASED RISK** – DUE TO OTHER FACTORS

Even with a negative result, you and your relatives may still be at an increased risk for cancer due to family history and other factors. Increased screening may still be suggested by your doctor.¹

IT'S IMPORTANT TO SHARE RESULTS WITH FAMILY

Genetic testing may help them determine if they're at risk.



HEREDITARY CANCER RISK ASSESSMENT AND **GENETIC TESTING DELIVERS CRITICAL ANSWERS**

An important thing to remember is that hereditary cancer risk assessments and genetic testing delivers critical answers – providing you with power and control over your future. These cost-effective, interventional steps can reduce lifetime risks of developing cancer.²

PART I: **TIPS ON A HEALTHY LIFESTYLE**

1. Recommendations for the Prevention of Cancer and Other Diseases

Introduction

Changes in diet could prevent up to:-

- Half of all cases of breast cancer
- Three out of four cases of stomach cancer
- Three out of four cases of colon and rectal cancer

The sequence of events that leads to cancer is complex and varied. Perhaps the greatest hope in the fight against cancer lies in prevention.

Cancer prevention is about getting the balance right in terms of diet and lifestyle. Plant-based foods can protect you against cancer.

You should be aiming for plant-based foods to take up at least two-thirds of the room on your plate.

2. Keep Your Weight in Check

Maintaining a healthy weight is a matter of balancing your calorie intake with your level of physical activity. When hungry opt for wholesome foods such as wholegrain bread, cereals, and pulses.

3. Stay Active

Physical activity is important throughout your life. To reap the full benefits of physical activity you need to achieve the recommended level. Discuss with your doctor on your personal level, different individuals have different abilities.

4. Focus on Vegetable and Fruits

Eating plenty of vegetables and fruits protects against many common cancers. Always aim for more than five portions of vegetables and fruits a day.



5. Give Meat a Lower Priority

Fish and poultry make healthy alternatives to red meat. A diet rich in pastries vegetables and wholegrain should provide more than adequate amounts of iron.

6. The Fat Factor

Lowering the total amount of fat that you eat is important in reducing cancer risk in general. Eat lots of foods that are naturally low in fat.

7. Taken Without a Pinch of Salt

We currently consume more salt than is good for our overall health. Check the sodium content of processed foods and avoid tinned food products with added salt.

8. Safe Storage

Molds pose a much more serious problem in parts of Africa and Asia. The commonest contamination is Aflatoxin due to poor storage of maize, which caused acute deaths in some parts of Africa in the recent past.

9. Preserve Your Perishables

Follow the storage advice on all the perishable foods you buy. Rotting vegetables contain harmful pathogens that affect our health.

10. Additives, Contaminants, and Residues in Perspective.

Safety limits for food additives, contaminants, and residues are carefully not regulated in most developing and undeveloped countries. Some of these chemicals trigger cancer diseases.

11. Take Care with Food Preparation

Do not overcook meat and fish so that it's burnt at the edges. It is recommended to boil steam or stir-fry food rather than grill, fry or barbecue it.

15. No Place for Tobacco in a Healthy Lifestyle

Alcohol consumption is not recommended in cancer prevention.





However, there is a noted cancer-preventive activity in red wine.

16. Regular screening for health.

It is commendable to maintain regular and frequent health checks. This enables us to identify problems at an early stage for quick and efficient management. A problem detected at its tender age is far much easier to handle and contain than the one identified at its advanced stage. This is true even if we are practicing healthy lifestyles as there are other intrinsic factors that lead to the development of diseases, apart for external factors that trigger disease condition





“ Cancer is a disease of the mind, body and spirit. A proactive and positive spirit will help the cancer warrior be a survivor. Anger, unforgiveness and bitterness put the body into a stressful and acidic environment. Learn to have a loving and forgiving spirit. Learn to relax and enjoy life.



CANCER MYTHS

Myth 1: We don't need to talk about cancer;

Truth: Whilst cancer can be a difficult topic to address, particularly in some cultures and settings, dealing with the disease openly can improve outcomes at an individual, community and policy level.

Myth 2: There are no signs or symptoms of cancer;

Truth: For many cancers, there are warning signs and symptoms and the benefits of early detection are indisputable.

Myth 3: There is nothing I can do about cancer;

Truth: There is a lot that can be done at an individual, community and policy level and with the right strategies; a third (1/3) of the most common cancers can be prevented.

Myth 4: I don't have the right to cancer care;

Truth: All people have the right to access proven and effective cancer treatments and services on equal terms, and without suffering hardship as a consequence.

Myth 5: Cancer is common in elderly people not in youth and children

Truth: Cancer affects all age groups we have childhood cancers and adulthood cancers. We are currently noticing some cancer among youth below 35yrs especially cancer of the breast, colon, and cervix.

Myth 6: The causes of cancer are known.

Truth: Yes, no known cause of cancers but we know risk factors. Cancer has become common because we have more risk factors in Kenya than before due to change of lifestyle especially Diet, Lack of physical activity, alcohol consumption, smoking pollution,

and treat some types of cancer early. Two of the most commonly used screening methods for cancer are a pap smear for cervical cancer and mammography for breast cancer.

Modifying and avoiding risk factors

More than 30% of cancer deaths could be prevented by modifying or avoiding key risk factors, including alcohol and tobacco use, being overweight or obese, an unhealthy diet with low fruit and vegetable intake, lack of physical activity, sexually transmitted HPV-infection, urban air pollution, indoor smoke from household use of solid fuels.

KEY ISSUES ABOUT CANCER

1. Awareness and risk reduction
2. Myths, Misinformation, and Misunderstanding. (Dr. Google)
3. Control, Prevention, and surveillance.
4. Reducing the skills gap.
5. Equity in access to cancer services.
6. Beyond the physical, mental, financial and emotional impact
7. Saving lives saves money
8. Working together as one.

THE MORE WE KNOW ABOUT CANCER, THE MORE LIVES WE'LL SAVE

What are the signs and symptoms of cancer?

Most cancers do not exhibit specific signs or symptoms until well-advanced stages. Some of the possible signs or symptoms are: Rapid and significant weight loss

TREATMENT

Cancer treatment requires a careful selection of one or more interventions, such as surgery, radiotherapy, and chemotherapy. The goal is to cure the disease or considerably prolong life while improving the patient's quality of life.

Cancer diagnosis and treatment is complemented by psychological support

Treatment of Early Detectable Cancers

Some of the most common cancer types, such as breast cancer, cervical cancer, oral cancer, and colorectal cancer have higher cure rates when detected early and treated according to best practices. Treatment of other cancers with potential for a cure some cancer types, even though disseminated, such as leukemias and lymphomas in children, and testicular seminoma, have high cure rates if appropriate treatment is provided.

PALLIATIVE CARE

Palliative care is the treatment to relieve, rather than cure, symptoms caused by cancer. Palliative care can help people live more comfortably; it is an urgent humanitarian need for people worldwide with cancer and other chronic fatal diseases.

It is particularly needed in places with a high proportion of patients in advanced stages where there is little chance of cure.

Relief from physical, psychosocial and spiritual problems can be achieved in over 90% of advanced cancer patients through palliative care.



DIET AND INTAKE WATCH

Alcohol consumption is not recommended in cancer prevention.



However, there is a noted cancer preventive activity in red wine.

Maintaining a healthy weight is a matter of balancing your calorie intake with your level of physical activity. When hungry opt for wholesome foods such as wholegrain bread, cereals, and pulses.



Do not overcook meat and fish so that it's burnt at the edges.

It is recommended to boil steam or stir-fry food rather than grill, fry or barbecue it.



Follow the storage advice on all the perishable foods you buy. Rotting vegetables contain harmful pathogens which affect our health.

Eating plenty of vegetables and fruits protects against many common cancers.



Always aim for more than five portions of vegetables and fruits a day.



Safety limits for food additives, contaminants, and residues are carefully not regulated in most of developing and undeveloped countries. Some of these chemicals trigger cancer diseases.



SIGNS AND SYMPTOMS OF CANCER

What are the signs and symptoms?

Signs and symptoms are both signals of injury, illness, disease - signals that something is not right in the body.

A sign is a signal that can be seen by someone else - maybe a loved one, or a doctor, nurse, or other health care professional. For example, fever, fast breathing, and abnormal lung sounds heard through a stethoscope may be signs of pneumonia.

A symptom is a signal that's felt or noticed by the person who has it but may not be easily seen by anyone else. For example, weakness, aching, and feeling short of breath may be symptoms of pneumonia.


Having one sign or symptom may not be enough to figure out what's causing it. For example, a rash in a child could be a sign of a number of things, such as poison ivy, measles, a skin infection, or a food allergy. But if the child has the rash along with other signs and symptoms like a high fever, chills, achiness, and a sore throat, then a doctor can get a better picture of the illness. Sometimes, a patient's signs and symptoms still don't give the doctor enough clues to be sure what's causing the illness.

Then medical tests, such as x-rays, blood tests, or a biopsy may be needed.

HOW DOES CANCER CAUSE SIGNS & SYMPTOMS

Cancer is a group of diseases that can cause almost any sign or symptom. The signs and symptoms will depend on where the cancer is, how big it is, and how much it affects the organs or tissues. If cancer has spread (metastasized), signs or symptoms may appear in different parts of the body. As cancer grows, it can begin to push on nearby organs, blood vessels, and nerves. This pressure causes some of the signs and symptoms of cancer. If the cancer is in a critical area, such as certain parts of the brain, even the small-





Cancer may also cause symptoms like fever, extreme tiredness (fatigue), or weight loss. This may be because cancer cells use up much of the body's energy supply, or they may release substances that change the way the body makes energy from food. Cancer can also cause the immune system to react in ways that produce these signs and symptoms.


Sometimes, cancer cells release substances into the bloodstream that cause symptoms that are not usually linked to cancer. For example, some cancers of the pancreas can release substances that cause blood clots in veins of the legs. Some lung cancers make hormone-like substances that raise blood calcium levels. This affects nerves and muscles, making the person feel weak and dizzy.

HOW ARE SIGNS & SYMPTOMS HELPFUL?

Cancer treatment works best when it's found early – while it's still small and is less likely to have spread to other parts of the body. This often means a better chance for a cure, especially if the cancer can be removed with surgery. A good example of the importance of finding cancer early is melanoma skin cancer. It can be easy to remove if it has not grown deep into the skin. The 5-year survival rate (percentage of people who live at least 5 years after diagnosis) at this early stage is around 98%. Once melanoma has spread to other parts of the body, the 5-year survival rate drops to about 16%.

Sometimes people ignore symptoms. Maybe they don't know that the symptoms could mean something is wrong. Or they might be frightened by what the symptoms could mean and don't want to get medical help. Maybe they just can't afford to get medical care.

Some symptoms, such as tiredness or coughing, are more likely caused by something other than cancer. Symptoms can seem unimportant, especially if there's a clear cause or the problem only lasts a short time. In the same way, a person may reason that a symptom like a breast lump is probably a cyst that will go away by itself. But no symptom should be ignored or overlooked, especially if it has lasted a long time or is getting worse.



Most likely, symptoms are not caused by cancer, but it's important to have them checked out, just in case. If cancer is not the cause, a doctor can help figure out what the cause is and treat it, if needed. Sometimes, it's possible to find cancer before having symptoms.

The American Cancer Society and other health groups recommend cancer-related check-ups and certain tests for people even though they have no symptoms. This helps find certain cancers early before symptoms start. For more information on early detection tests, see our document called American Cancer Society Guidelines for the Early Detection of Cancer. But keep in mind, even if you have these recommended tests, it's still important to see a doctor if you have any symptoms.

WHAT ARE SOME GENERAL SIGNS AND SYMPTOMS OF CANCER?

You should know some of the general signs and symptoms of cancer. But remember, having any of these does not mean that you have cancer- many other things cause these signs and symptoms, too. If you have any of these symptoms and they last for a long time or get worse, please see a doctor and find out what's going on.

1. UNEXPLAINED WEIGHTLOSS

Most people with cancer will lose weight at some point. When you lose weight for no known reason, it's called an unexplained weight loss. An unexplained weight loss of 10 pounds or more may be the first sign of cancer. This happens most often with cancers of the pancreas, stomach, esophagus (swallowing tube), or lung.

2. FEVER

Fever is very common with cancer, but it more often happens after cancer has spread from where it started. Almost all people with cancer will have a fever at some time, especially if cancer or its treatment affects the immune system. (This can make it harder for the body to fight infection.) Less often, fever may be an early sign of cancer, such as blood cancers like leukemia or lymphoma.

SIGNS AND SYMPTOMS OF CERTAIN CANCERS

Along with the general symptoms, you should watch for certain other common signs and symptoms that could suggest cancer. Again, there may be other causes for each of these, but it's important to see a doctor about them as soon as possible - especially if there's no other because you can identify, the problem lasts a long time, or it gets worse over time.

1. Fatigue

Fatigue is extreme tiredness that doesn't get better with rest. It may be an important symptom as cancer grows. But it may happen early in some cancers, like leukemia. Some colon or stomach cancers can cause blood loss that's not obvious. This is another way cancer can cause fatigue.

2. Pain

Pain may be an early symptom with some cancers like bone cancers or testicular cancer. A headache that does not go away or get better with treatment may be a symptom of a brain tumor. Back pain can be a symptom of cancer of the colon, rectum, or ovary. Most often, pain due to cancer means it has already spread (metastasized) from where it started.

3. Change in bowel habits or bladder function

Long-term constipation, diarrhea, or a change in the size of the stool may be a sign of colon cancer. Pain when passing urine, blood in the urine or a change in bladder function (such as needing to pass urine more or less often than usual) could be related to bladder or prostate cancer. Report any changes in bladder or bowel function to a doctor.

4. Skin changes

Along with skin cancers, some other cancers can cause skin changes that can be seen. These signs and symptoms include:

- Darker looking skin (hyperpigmentation)
- Yellowish skin and eyes (jaundice)
- Reddened skin (erythema)

- Itching (pruritis)
- Excessive hair growth

5. Sores that do not heal

Skin cancers may bleed and look like sores that don't heal. A long-lasting sore in the mouth could be oral cancer.

This should be dealt with right away, especially in people who smoke, chew tobacco, or often drink alcohol. Sores on the penis or vagina may either be signs of infection or early cancer and should be seen by a health professional.

6. White patches inside the mouth or white spots on the tongue

White patches inside the mouth and white spots on the tongue may be leukoplakia. Leukoplakia is a pre-cancerous area that's caused by frequent irritation. It's often caused by smoking or other tobacco use. People who smoke pipes or use oral or spit tobacco are at high risk for leukoplakia. If it's not treated, leukoplakia can become mouth cancer. Any long-lasting mouth changes should be checked by a doctor or dentist right away.

7. Unusual bleeding or discharge

Unusual bleeding can happen in early or advanced cancer. Coughing up blood may be a sign of lung cancer. Blood in the stool (which can look like very dark or black stool) could be a sign of colon or rectal cancer. Cancer of the cervix or the endometrium (lining of the uterus) can cause abnormal vaginal bleeding. Blood in the urine may be a sign of bladder or kidney cancer. A bloody discharge from the nipple may be a sign of breast cancer.

8. Thickening or lump in the breast or other parts of the body

Many cancers can be felt through the skin. These cancers occur mostly in the breast, testicle, lymph nodes (glands), and the soft tissues of the body. A lump or thickening may be an early or late sign of cancer and should be reported to a doctor, especially if you've just found it or notice it has grown in size. Keep in mind that some breast cancers show up as red or thickened skin rather than a lump.

9. Indigestion or trouble swallowing

Indigestion or swallowing problems that don't go away may be signs of cancer of the esophagus (the swallowing tube that goes to the stomach), stomach, or pharynx (throat). But like most symptoms on this list, they are most often caused by something other than cancer.

10. A recent change in a wart or mole or any new skin change

Any wart, mole, or freckle that changes color, size, or shape or that loses its sharp border should be seen by a doctor right away. Any other skin changes should be reported, too. A skin change may be a melanoma which, if found early, can be treated successfully. See pictures of skin cancers and other skin conditions in our Skin Cancer

11. Nagging cough or hoarseness

A cough that does not go away may be a sign of lung cancer. Hoarseness can be a sign of cancer of the larynx (voice box) or thyroid gland.

12. Other symptoms

The signs and symptoms listed above are the more common ones seen with cancer, but there are many others that are not listed here. If you notice any major changes in the way your body works or the way you feel - especially if it lasts for a long time or gets worse - let a doctor know. If it has nothing to do with cancer, the doctor can find out more about what's going on and, if needed, treat it. If it is cancer, you'll give yourself the chance to have it treated early, when treatment works best.

THE CURRENT DIAGNOSIS OF CANCER

Cancer is a disease, which causes a lot of anxiety both to the doctor and the patient. It can be associated with a predictable fatal outcome especially when diagnosed at a late stage.

Cancer management is a multidisciplinary team approach and should start way back from a diagnosis, which is preliminary, comprised of three main items: Clinical history, Physical examination, and laboratory investigations.

There are several methods in cancer diagnosis

1. Radiological
2. Blood tests
3. Histopathology and cytopathology by use of tissue biopsy or cell population examination under a microscope. This will depend on the type, site, and stage of the tumour.

Radiological diagnosis is important in bone tumours especially Osteosarcoma by radiological detection of the Codman triangle. Other Radio-emerging methods are useful in staging of tumour especially lymphomas by using Radio-nucleotide dye to detect the images in X-ray.

4. Ultrasound mainly for soft tissue tumour such as liver, gall bladder, kidney, and prostate.
5. CT Scan for both diagnosis, location of the masses and metastasis of the diseases
6. PET scan for a more detailed analysis of the cancer sites.

Blood tests by using tumour markers such as the commonly used

1. PSA levels for prostate
2. CA-199 for pancreatic tumours cancer
3. AFP for the hepatocellular carcinoma
4. CA-125 for Adenocarcinoma of the colon
5. CEA for Adenocarcinoma and ovarian carcinoma
6. CA 153 cancer of the breast.

Tumour markers are mostly used for follow-up of the cancer either after surgery, chemotherapy or radiotherapy rather than for treatment. There is limited value for diagnosis due to cross-reaction and none specificity and low sensitivity to the particular tumour.



In biopsy diagnosis of cancer, the current methods of measurement, weighing, especially of an endocrine gland, the strategy of the tumour measurements is very important. For proper assessment, it is of paramount importance to mark the edges with ink to get the measurement of the tumour cells from margins.

In cancer diagnosis using tissue biopsy is the hallmark of cancer diagnosis, grading, and partly staging by assessment of local, distance metastasis and lymph node involvement. There are several current methods used which differ with the site of biopsy. The field of Immunohistochemistry can be described as the oldest- new test in histology.

The Immunohistochemistry techniques have been diversified and they have a whole range of stain which can be used to make an accurate diagnosis and phenotype the tumour. This may have advantages.

The proliferative markers which are used to rule or preserve an extent of malignancy in cancer also have been widely used in cancer diagnosis such as:

The current cancer diagnosis methods are developed rapidly, and we need to keep up with such developments.

- **Ki-67** This is an antigen expressed in parenchymal cells that can be detected in formalin preserved tissues vary MIB-1 antibody. It is of value in the detection of intraepithelial neoplasia and metaplasia condition.
- **Bcl-2** is a proto-oncogene located on chromosome (8) which en **25kDc**. Protein mainly localized to the inner mitochondrial membrane. This proto-oncogene extends cell service by apoptosis.
- **P 53**- Oncogene common in fast proliferating lesion such as breast.



LISTEN TO YOUR BODY

Don't Play Games
With Your Health

KNOW THE SYMPTOMS

The symptoms of pancreatic cancer are often vague and may at first appear to be associated with other less serious and more common conditions.

There is no standard screening test for pancreatic cancer, which makes it vital for people to know the signs and symptoms of the disease.

Yellow Skin or Eyes

Loss of Appetite

Unexplained Weight Loss

Mid-Back Pain

Abdominal Pain

Digestive Problems

New-onset Diabetes

Change in Stool


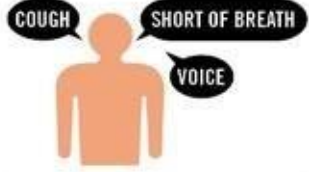





















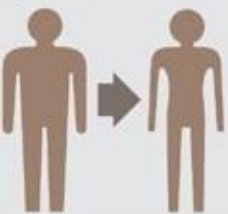



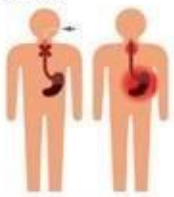

These symptoms may not all occur at once so consult your doctor and ask to be checked for pancreatic cancer if you notice one or more of the symptoms listed.

*Know your body. Listen to your body.
Don't ignore the warning signs!*

Spot cancer early. It could save your life.

You are more likely to survive cancer if you spot it at an early stage. Take time today to check your body for changes that could be cancer. Talk to your doctor if you notice anything unusual for you.

The main changes to look for include changes that are:

Unexplained, such as	Persistent, such as	Unusual, such as									
<p>A lump or swelling Make sure to check your whole body, not just your testicles or breasts.</p> 	<p>A cough, changes in your voice or feeling short of breath Speak to your doctor if you have any of these problems for more than three weeks, especially if you are a smoker or ex-smoker.</p> 	<p>A change in your bowel or bladder habits If you have constipation, diarrhoea or problems passing urine for more than a few weeks, talk to your doctor.</p> 									
<p>Bleeding that is not normal for you Coughing up blood or noticing it in your urine or bowel motion is not normal. Neither is bleeding from your vagina between periods, after sex or after the menopause.</p> 	<p>A sore that does not heal If a spot, wart or sore does not heal in a few weeks, get it checked by your doctor, even if it is painless.</p> 	<p>A new mole or change to an existing mole Get into the habit of checking your skin every month for new moles. Also watch for changes in colour, shape and size of existing moles.</p> <table border="1"> <thead> <tr> <th data-bbox="813 734 917 760">COLOUR</th> <th data-bbox="917 734 1028 760">SHAPE</th> <th data-bbox="1028 734 1127 760">SIZE</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </tbody> </table>	COLOUR	SHAPE	SIZE						
COLOUR	SHAPE	SIZE									
											
											
<p>Weight loss It is normal to see small weight changes over time. But a big weight loss, not related to dieting, may be a sign of something more serious.</p> 	<p>Bloating If bloating does not go away within a few weeks talk to your doctor about it.</p> 	<p>Any change in your breast Get into the habit of looking at and feeling your breasts for changes in the shape, size, nipples and skin. Also watch for pain in one breast.</p> 									
<p>Pain that does not go away If you feel pain for more than four weeks that you cannot explain, talk to your doctor about it.</p> 	<p>Difficulty swallowing, indigestion or heartburn It is not normal to have indigestion or heartburn that happens a lot or is very painful. Difficulty swallowing is not normal either. Get it checked by your doctor.</p> 	<p>Mouth or tongue ulcer Having a mouth or tongue ulcer for three weeks or more is not normal and needs to be checked by your doctor or dentist.</p> 									

If you notice any other unusual change in how your body works, talk to your doctor. The chances are it will not be cancer. But getting it checked is not wasting anyone's time. It could save your life.



PART II: SHORT NOTES ON COMMON CANCERS

INTRODUCTION:

In recent decades increasing attention has been paid to the role of diet as a modifier of cancer risk. Dietary factors are thought to account for about 30% of all cancers making diet an important potentially preventable cause of cancer. It is known that people in the developed worlds have diets high in animal products, fats, and sugar and this is accompanied by high rates of cancers of the colorectum, breast, prostate, endometrium, and kidney...

By contrast, individuals in the developing countries usually have diets that are based on one or two starchy staple foods with low intakes of animal fats, and sugar and show much lower rates of the above-mentioned cancers. These observations suggest that the diets of different populations might partly determine their rates of cancer.

This hypothesis was strengthened by the results of showing that people who migrate from one country to another generally acquire the cancer rates of the new host country. Studies have shown that when members of the Asian community who generally have less incidence of cancer moved to the United States and switched from primarily a plant-based diet to an animal-based diet, the cancer rates in these immigrants increase to approach those of Americans.

This observation suggests that environmental factors such as diet rather than genetic factors are key determinants in cancer development and can offer explanations to the international variations in cancer rates.

Some of the foods that contain protective nutrients against cancer include fruits and vegetables, fish oils such as omega 3 fatty acids, Beta carotene, and vitamins C & E which have antioxidant properties. Others include some minerals such as calcium & selenium, vitamin D, and dietary fiber.





2.0 CANCER CONTROL AND PREVENTION

A living cell is an object that forms the basic unit in all organisms. The human body has over 300 trillion cells. Every second of each day more than 10 million cells die and are replaced by new ones. Every disease normally has a foundation in the cell. Cells are extremely delicate and can be injured even by the food we eat.

Nutritional imbalances, excesses, and deficiencies predispose the cells to injury. Under normal conditions, the body requires more than 60 organic and inorganic substances/nutrients (including vitamins, fatty acids & amino acids) to function well and optimally.

Current research indicates that the foods we eat can influence our susceptibility to certain types of cancer. Generally, diets from animal origin which have high energy and high-fat content, and which can lead to obesity are thought to increase the risk of some cancers. Plant-based diets high in fresh fruits, vegetables, legumes, and whole grains may help to prevent cancer.





HEALTHY CELL: WASTE GETS OUT OF THE CELL

**NUTRIENTS IN
(LIPIDS&STEROIDS)**



WASTE OUT



**NUTRIENTS CAN'T
GET IN**

**WASTE CAN'T
GET OUT**

**UNHEALTHY CELL
WASTE IS RETAINED
INSIDE CELL**





Finally, it is important to note that diet is just one of the lifestyle factors that influence the risk of developing cancer. Other factors that are equally important and should be taken into account include reducing tobacco use, limiting alcohol use and regular physical exercises to control weight gain.

Cancers result from a process of altered cell differentiation and growth. This process does not result in a single disease but various malignant neoplasias, depending on anatomical location and causing factors. Cancers/malignancies can originate in almost any organ with prostate, esophagus, stomach, liver and colon being the five commonest sites for men and the breast, cervix, stomach, colon, liver for women.

The following sections cover the most common cancers in Kenya and other regions.



COLORECTAL CANCER

WHAT IS COLORECTAL CANCER?

Colorectal cancer is a cancer that starts in the colon or rectum. It is caused by the abnormal growth of cells, which form tumors.



Excluding skin cancers, colorectal cancer is the **THIRD MOST COMMON** cancer in the U.S.
9 OUT OF 10 people diagnosed with colorectal cancer are age **50+**

RISK FACTORS



Low Fibre
Diet



Alcohol



Smoking



Obesity



Lack of exercise



Red Meat

DON'T WAIT FOR THE SYMPTOMS

There are often no symptoms in the early stages of colorectal cancer. That's why it's important to keep up with the tests your doctor recommends. For those without a family history of colon cancer, regular screenings should begin at age 50.

EAT RIGHT FOR PREVENTION

Research suggests an important factor in helping to prevent colon cancer is eating foods that are low in saturated fat and rich in nutrients like antioxidants, folic acid, fiber, calcium and vitamin D.

SOURCES:

American Cancer Society.Uptodate.com: "Patient information: High-fiber diet (Beyond the Basics)," Arnold Wald, MD.
National Cancer Institute: "Colorectal Cancer Prevention (PDQ)"

This is cancer that affects the large intestines or bowel which is composed of the colon, (which stretches four to six feet), and the rectum, (which is only four to six inches long). Most colorectal cancers develop from polyps in the glandular tissue of the intestinal lining.

In the United States of America (USA) it is the third most common incidence of all new cases and deaths in both men & women with an estimated 148,300 new cases and 56,000 deaths. It is more common in adults above 50 years of age. Colorectal cancer is higher in the black Americans, intermediate in the whites and lowest in American Indian/Hispanics.

In Nairobi, there was an apparent increase in colon cancer between 2000 and 2002. (Cancer Registry Data) especially in men in whom it is placed 9th commonest cancer. The peak age was 45-49 years in both males and females with few cases diagnosed between 10-14 years. The 3-year cumulative data also show that men are more affected than women but this trend in the different age groups is observed in the USA.

There is no specific cause of colorectal cancer, but many risk factors, some modifiable (can be changed) and others un-modifiable have been implicated.

However, after 50 years of age, almost 75% of all colon cancer cases occur in people with no known predisposing factors.

Modifiable Factors

- Smoking
- Alcohol consumption (> 1 drink /day)
- Obesity (especially around the waist)
- Physical inactivity (<3 hrs. /week)
- High vegetable consumption (5 or more servings per day).
- Consumption of red meat.
- Diet high in fat or low in fibre.
- Oral contraceptive use (more than 5 yrs.)
- Estrogen replacement therapy (more than 5 yrs.)
- Multivitamins containing excessive amounts of folic acid
- Chemical Exposure for example chlorine, asbestos

Non-Modifiable Factors

- Age - especially over 50 years
- Family history of colorectal cancer
- Familial or non - familial adenomatous polyps in a first-degree relative
- Long-standing history of inflammatory bowel disease (Crohn's Disease, Ulcerative Colitis or Pancolitis)
- Previous diagnosis of endometrial, ovarian, breast or colon cancers.
- Asymptomatic- incidental finding during a check for another complaint.
- Mainly vague (nonspecific) symptoms, which may include a change in bowel habits such as diarrhoea, constipation or narrowing of the stool that lasts for more than a few days.
- A feeling that you need to have a bowel movement that doesn't go away after doing so.
- Bleeding from the rectum or passing blood in the stool.
- Cramping or steady stomach pain.
- Generalized body weakness and tiredness.
- Complete or partial blockage of the intestines



5.0 HOW IS COLORECTAL CANCER FOUND?

Ideally, colorectal cancer should be diagnosed early through the many screening tests. Tumors detected because of bleeding or pains are usually progressed beyond the localized stage and may already have involved other organs like the liver.

The tests include one or more of the following.

- **Stool Blood Test [Faecal Occult Blood Test - FOBT]** this test is used to find a small amount of hidden (occult) blood in the stool. Further tests are carried out if this test is found positive.
- **Flexible sigmoidoscopy** - uses a slender lighted tube about the thickness of a finger. It is inserted through the rectum into the colon and the doctor looks inside for polyps or cancer lesions. Unfortunately using this procedure, the doctor cannot remove all polyps. The test can be uncomfortable, but it should not be painful.
- **Colonoscopy** - This means a direct visual examination of the whole colon and rectum. The physician is able to remove any polyps found and also take a biopsy of any other abnormal lesion found. The test can be uncomfortable and to avoid this, the patient will be given medicine through a vein to make them relaxed and sleepy.
- **Barium Enema with air contrast** - this procedure allows radiological examination of the colon.
- **Other screening tests under development** include genetic-based faecal screening, immunochemical testing, and virtual colonoscopy. The latter is the super x-ray of the colon where the air is pumped into the colon making it expand then a special CT (computerized tomogram) scan is done. **These are intended to improve the sensitivity of colorectal cancer screening.**





If cancer is found during the above tests, the doctor will carry out other tests to check

- The blood level because people with colorectal cancer may bleed from the tumor leading to anemia.
- The liver is function tests
- The blood level of a substance called carcinoembryonic antigen (CEA), often found in higher-than-normal concentration in the presence of colorectal cancer, especially if it has spread.
- Ultrasound placed in the rectum or done during surgery will determine if the cancer has spread elsewhere especially to the liver.
- A chest x-ray is also done to see whether the cancer has spread to the lungs.
- Other studies that may be done although not routinely, include CT-Scan, MRI (magnetic resonance imaging), PET (Positive Emission Tomography) scans and angiography.

These are complex and expensive tests that should only be done if there is doubt about the diagnosis or severity of the cancer.

A combination of the doctor's physical examination and results of the above tests helps in finding out how far the cancer has spread (staging). This forms a basis for the treatment plan and determines the outlook for recovery.



6.0 How can colorectal cancer be prevented?

Approximately 90% of all colorectal cancer cases and deaths are thought to be preventable by improvements in nutrients, physical activity and timely use of existing colorectal cancer screening tests. These are tests used to look for disease in people who do not have any symptoms. In many cases, these tests can find colorectal cancers at an early stage and greatly improve the chances of successful treatment. Screening tests can also help prevent some cancers by allowing doctors to find and remove polyps that might become cancer.

Some of the tests are similar to those used to diagnose colorectal cancer in people with symptoms; they include FOBT, flexible sigmoidoscopy, and colonoscopy and barium enema with air contrast. Other more advanced tests are virtual colonoscopy (a super x-ray of the colon).

The recommended guidelines for screening from the World Health Organization (WHO) are for use mainly in adults beginning at the age of 50 years or earlier depending on the possible risk factors that the individual has. The people should follow one of the options below: -

- Yearly stool blood test (FOBT)
- Flexible sigmoidoscopy every 5 years.
- Yearly stool blood test plus flexible sigmoidoscopy every 5 years. Double-contrast Barium Enema every 5 to 10 years.
- Colonoscopy every 10 years.

7.0 How is colorectal cancer treated?

Cancer treatment involves not only specific therapies for the diseases but also:

- Curing or controlling the disease,
- Strategies for meeting a patient's emotional and physical needs
- Restoring and maintaining the quality of life of the patient

COLORECTAL CANCER IN EUROPE

SECOND BIGGEST CANCER KILLER

CRC IS THE SECOND BIGGEST CANCER KILLER IN EUROPE

215,000 CRC DEATHS

215,000 ESTIMATED NUMBER OF CRC DEATHS IN EUROPE IN A YEAR



MEN ARE LESS LIKELY THAN WOMEN TO GET SCREENED



THE THIRD MOST COMMON CANCER IN EUROPEAN MEN



YOU ARE MORE LIKELY TO GET SCREENED IF YOU ARE MARRIED



ONE DEATH EVERY THREE MINUTES

1 EUROPEAN DIES EVERY 3 MINUTES FROM CRC



13% OF ALL CANCER

CRC ACCOUNTS FOR 13% OF ALL CASES OF ADULT CANCER IN EUROPE ANNUALLY

UP TO 30% REDUCTION



THE FOB SCREENING TEST IS COMMONLY AVAILABLE IN EUROPE AND REDUCES THE RISK OF DYING FROM CRC BY 20-30%



2ND MOST COMMON CANCER IN EUROPEAN WOMEN



EMBARRASMENT

STUDIES HIGHLIGHT THAT EMBARRASSMENT IS A KEY REASON FOR PEOPLE NOT GETTING SCREENED



In early cancer, surgery may be all that is needed as treatment while for more advanced cancers, chemotherapy (drugs), radiotherapy or both may be used.

Radiation therapy is treatment with high-energy rays that destroy the cancer cells. It can be administered after surgery for rectal cancer to destroy any cancer cells left behind, or it can be used before surgery to shrink a large tumor, making the surgery easier. In advanced rectal cancer, radiation can be used to shrink tumors that cause symptoms of bowel obstruction, bleeding, or pain.

Radiation therapy can be used in people with colon cancer when the tumor has attached to another organ in the abdomen.

There is a variety of chemotherapy drugs used to treat various stages of colorectal cancer. Recently, the U.S. Food and Drug Administration (FDA) approved two new drugs for treating colon cancer that works in an entirely different way. The drugs, cetuximab (Erbix) and bevacuzimab (Avastin) are a new form of cancer therapy called immunotherapy or biologic therapy. The drugs work by using the body's own immune system to fight cancer. Both drugs can be used to treat advanced colorectal cancer that has spread (metastasized) to other parts of the body.

8.0 HOW CAN I PREVENT COLORECTAL CANCER?

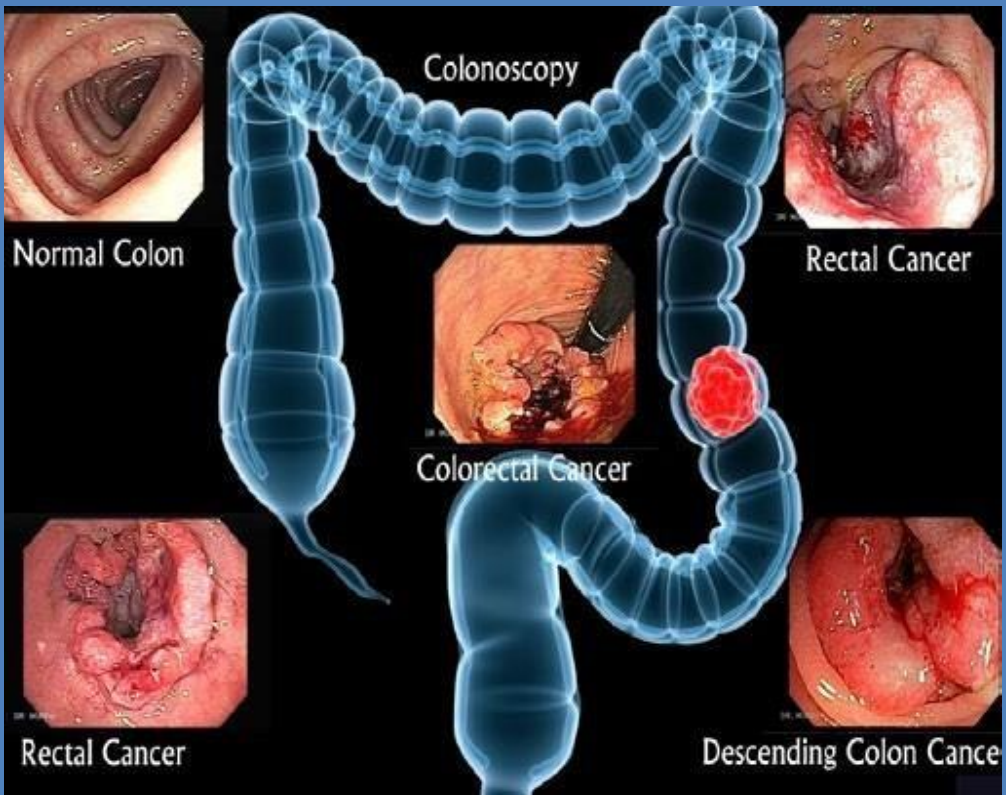
Once cancer of either the colon or rectum is in remission, follow-up exams to check for recurrence are essential indefinitely.

1. Eat plenty of fresh fruits and vegetables;
2. Cut back on red meat and other high-fat foods such as eggs and many dairy products. You can get the protein you need from low-fat dairy products (also a good source of calcium), nuts, beans, lentils, and soybean products.
3. Avoid overcooking or barbecuing meats and fish.
4. Speak with your doctor about the latest evidence on aspirin and colorectal cancer.



Some studies show that people who regularly take aspirin significantly reduce their risk for colorectal cancer, although other studies show no correlation. In any event, don't start taking aspirin on your own; it is a drug and can cause health problems if taken without a doctor's advice

If you are over 50, make sure that you are being properly screened for colorectal cancer, especially if you are at high risk for the disease. Finding and removing large polyps before they become cancer is the best way to prevent the disease

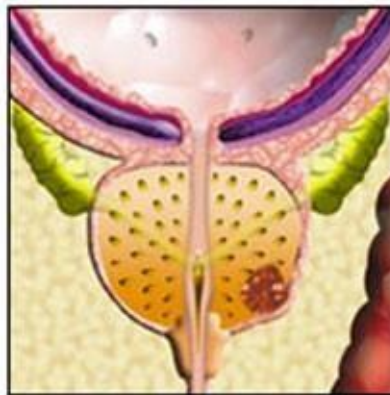
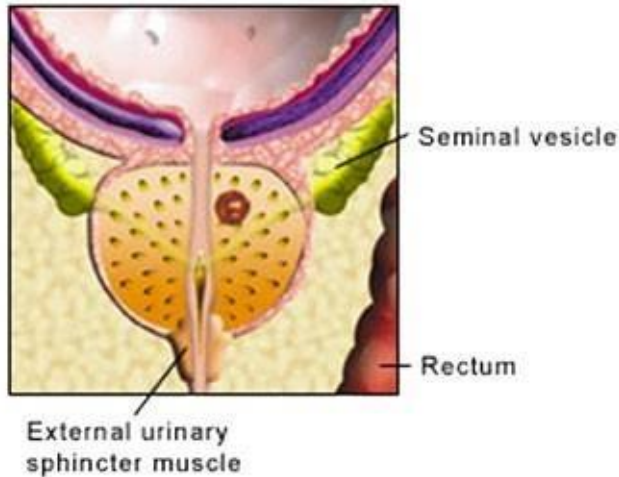




CANCER OF THE PROSTATE

Stage 1

Earliest stage, where the cancer is so small that it cannot be felt on rectal examination, but is discovered in a prostate biopsy or in prostate tissue that has been surgically removed to 'unblock' the flow of urine (as in a transurethral resection of the prostate - TURP).



Stage 2

The tumour can now be felt on rectal examination, but is still confined to the prostate gland and has not spread.

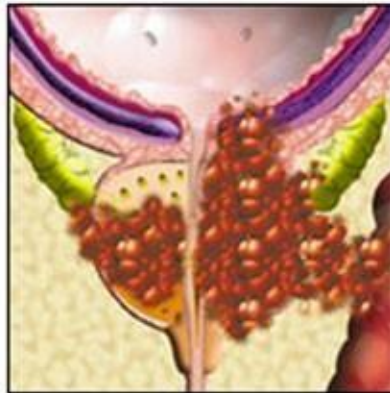




Figure 7: Stages of Prostate Cancer

Stage 3

The tumour has spread outside the gland and may have invaded the seminal vesicles.



Stage 4

The tumour has spread to involve surrounding tissues such as the rectum, bladder or muscles of the pelvis.





The prostate is a gland in the male reproductive system that helps produce semen, the thick fluid that carries sperm. Prostate function is regulated by testosterone, a male sex hormone produced mainly in the testicles. Carcinoma of the prostate is predominantly a tumor of older men, which frequently responds to treatment when widespread and may be cured when localized.

More than 200,000 new cases and about 30,000 deaths are attributed to prostate cancer each year in the U.S. For reasons not fully understood, African-American men have the highest frequency of prostate cancer in the world and the highest death rate from the disease. In other parts of the world, notably Asia, Africa, and Latin America prostate cancer is rare.

From the data available in the Nairobi Cancer Registry (NCR), it was noted that prostate cancer is on the increase, being the second commonest cancer to the oesophagus and also occurring in much younger men.

The rate of tumor growth varies from very slow to moderately rapid, and some patients may have prolonged survival even after the cancer has metastasized to distant sites such as bone. Because the median age at diagnosis is 72 years, many patients—especially those with localized tumors—may die of other illnesses without ever having suffered significant disability from their cancer.



9.0 WHAT CAUSES PROSTATE CANCER?

Prostate cancer affects mainly older men. Four out of five cases are diagnosed in men over 65, but less than 1% in men under 50. Though rare, prostate cancer can be seen in men even in their 30's and 40's. Men with a family history of prostate cancer are more likely to die of it than is the general population. On a case-by-case basis, doctors cannot say with certainty what causes prostate cancer, but experts generally agree that diet contributes to the risk. Men, who consume large amounts of fat, particularly from red meat and other sources of animal fat, are most likely to develop advanced prostate cancer. The disease is much more common in countries where meat and dairy products are dietary staples than in countries where the basic diet consists of rice, soybean products, and vegetables. The underlying factor linking diet and prostate cancer is probably hormonal.

Fats stimulate increased production of testosterone and other hormones, and testosterone acts to speed the growth of prostate cancer. High testosterone levels may stimulate dormant prostate cancer cells into activity. Some findings suggest that high testosterone levels also influence the initial onset of prostate cancer.

Eating meat may be risky for other reasons: Meat cooked at high temperatures produces cancer-causing substances that directly affect the prostate.

A few other risk factors have been noted. Welders, battery manufacturers, rubber workers, and workers frequently exposed to the metal cadmium seem to be abnormally vulnerable to prostate cancer. Researchers know more about what will not cause prostate cancer than what will.

No proven link exists between prostate cancer and active sex life, vasectomy, masturbation, use of alcohol or tobacco, circumcision, infertility, infection of the prostate, or a common non-cancerous condition called benign prostatic hyperplasia (BPH) that causes an enlarged prostate gland. Most elderly men experience an enlarged prostate to some degree



10.0 WHAT ARE THE SYMPTOMS?

There are no warning signs or symptoms of early prostate cancer. Once a malignant tumor causes the prostate gland to swell significantly, or once cancer spreads beyond the prostate, the following symptoms may be present:

- A frequent need to urinate, especially at night.
- Difficulty starting or stopping the urinary stream.
- A weak or interrupted urinary stream.
- A painful or burning sensation during urination or ejaculation.
- Blood in urine or semen.

These are not symptoms of cancer itself. Instead, they are the symptoms of the blockage from the cancer growth within the prostate and surrounding tissues.

Symptoms of advanced prostate cancer include:

- Dull, incessant pain or stiffness in the pelvis, lower back, or upper thighs; arthritic pain in the bones of those areas.
- Loss of weight and appetite, fatigue, nausea, or vomiting.

11.0 HOW PROSTATE CANCER IS SCREENED OR DIAGNOSED

Screening for prostate cancer continues to be controversial for sensitivity and despite the early diagnosis, there is no concrete evidence indicating improved clinical outcomes as a result, especially reduction in mortality. However, the recommendations allow patients to make informed decisions along with their health care providers weighing the risks and benefits to their own health based on the management complications (surgery, chemotherapy, and radiotherapy), the overall cost of the management and the eventual benefit of the treatment.





The screening for prostate cancer includes

- Prostate Surface Antigen (PSA) test- PSA is a protein whose level tends to increase in the presence of prostate cancer, making it more effective than rectal exam in detecting early prostate cancer.
- Digital rectal examination (DRE)
- Trans-rectal ultra-sonogram (TRUS).

The screening recommendations for prostate cancer include

- Annual Digital Rectal Examination (DRE)
- Prostrate Surface Antigen (PSA) measurement for men age 50 years or older men who have a life expectancy of at least 10 years and for younger men at high risk, such as two or more affected first-degree relatives.
 - Together, the two screening measures offer the best chance of detecting prostate cancer while it is localized and most treatable. If routine screening arouses suspicion and PSA levels are elevated, a doctor will look at the prostate using a trans-rectal ultra-sonogram (TRUS).

Performing a biopsy will confirm whether or not cancer is present: Guided by ultrasound images, the doctor inserts a needle into the prostate and extracts a small tissue sample from the suspicious area. A pathologist then studies the sample under a microscope to determine whether cancer cells are present. In order to determine if the cancer has spread outside the prostate gland, doctors usually arrange CT scans, bone scans, chest X-rays, or other imaging tests to determine the stage or extent of disease spread.

Prostate cancer in its early stages (confined to the prostate gland) can be cured. Fortunately, about 85% of American men with prostate cancer are diagnosed in the early stages unlike our patients here who present in advanced stages. Cancer that has spread beyond the prostate to distant tissues (such as the bones, Lymph nodes, liver, and lungs) is not curable, but it often can be controlled for years. About a third of men whose prostate cancer becomes widespread can expect to live five years or more. Because of the many advances in available treatments, the majority of men whose prostate cancer becomes widespread can expect to live five years or more.



Symptoms of Prostate Cancer

Prostate cancer frequently develops with no noticeable signs. It is a slow-growing disease but possible symptoms include:

Inability to urinate
(difficulty starting or stopping)



Frequent urination
(especially at night)



Pain or burning sensation
when urinating or ejaculating



Blood or pus in the
urine or semen



Persistent pain in the back, hips and pelvis, fatigue and anaemia may suggest prostate cancer even when other symptoms are absent.





11.0 WHAT ARE THE TREATMENTS FOR PROSTATE CANCER?

The choice of treatment is influenced by:

- Age
- Coexisting medical problems.
- Side effects of various forms of treatment
- Histological grade of the tumor (Gleason score)
- Level of PSA.

Since prostate cancer is often slow-growing and may not be fatal in many men, some men opt for –watchful waiting. This involves monitoring the prostate cancer for signs that it is becoming more aggressive but otherwise not treating it. This approach is recommended more commonly for men who are older or suffer from other life-threatening conditions.

Depending on when the disease is diagnosed, treatment includes;

1. Radiation therapy,
2. Surgery,
3. Hormone therapy, and
4. Chemotherapy mostly in combination but occasionally one mode of treatment can also be used.

Localized prostate cancer usually can be cured with surgery, radiation therapy, or cryosurgery (freezing malignant cells with liquid nitrogen).

Some common complications of surgery in cancer of prostate include urinary incontinence and erectile dysfunction.

Testosterone can be removed from the bloodstream by surgical castration (orchidectomy) or by administering female hormones such as estrogen or other drugs that block testosterone production.

Men generally prefer testosterone-blocking drug treatment because it is effective, less invasive, and causes fewer side effects than surgery or female hormone drugs. If the testicles are removed, the scrotum can be left intact with testicular implants put in place.



Palliative treatments for metastatic cancer of the prostate especially to the bone have improved with the introduction of bisphosphonate, which reduces the pain and eventual rate of fractures in these patients.

The goal of prostate cancer treatment is a cure and is likely in men diagnosed with early prostate cancer.

All prostate cancer survivors should be examined regularly and have their PSA levels monitored closely.

12.0 HOW CAN PROSTATE CANCER BE PREVENTED?

1. Dietary modification,
 - a. avoiding high-fat foods to lower your dietary fat,
 - b. eating more fish, poultry, fresh vegetables, fruits, and low-fat dairy products. In general, eat less red meat; remove the skin from poultry before cooking; and cut down on butter, margarine, and oils.
 - c. There is some evidence that heating meat to high temperatures creates cancer-causing substances. To avoid these substances, try poaching or roasting, not frying or barbecuing.

Further research on diet, chemoprevention, vaccine therapies and genetic factors in relation to prostate cancer is ongoing.

3. CANCER OF THE CERVIX

Cancer of the cervix and HIV have been having a clear and consistent correlation, especially in young women. Cancer of the cervix is the second common cancer in women according to the Nairobi cancer registry. The trend tends to change in the rural setting where cancer of the cervix is more common than cancer of the breast.

1.0 (a) Risk factors.

All women who are sexually active are at risk of developing this cancer; however, there are few factors that fuel up the development and advancement of the condition.

They include;

1. Viral infections especially Human Papilloma Virus (HPV) is the main causative factor of cancer of the cervix
2. Early sexual contact,
3. Promiscuity (multiple sexual partners),
4. Early childbirth,
5. Genital hygiene, and multiple parities.
6. HIV positive women with severe immunosuppression are 5 times more likely than HIV negative women to have lower genital tract neoplasia. Likewise, treatment failure and recurrence of neoplasia occur much more frequently among HIV positive than among HIV negative women. Therefore, HIV and HPV co-infection have a relationship in the development of lower genital tract neoplasia and cancer in women.

1.0 (b) Signs of the disease.

Among the signs of cervical cancer include; abnormal bleeding from the vagina, pain during or after sexual intercourse, and bleeding after having sex.

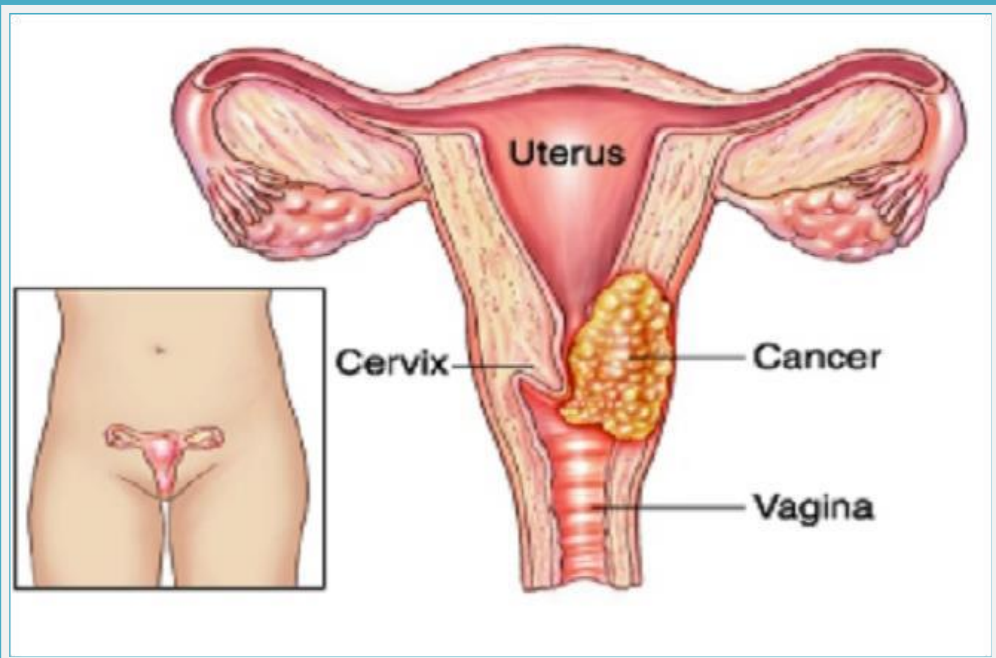
1.0 (c) Prevention.

1. Some of the preventive measures include avoiding smoking. Smoking is known to increase the chances of many cancers due to carcinogenic compounds present in cigarette substances.
2. Limiting the number of sexual partners is also recommended. Having many sexual partners increase the chance of getting sexually transmitted infections among the human Papilloma Virus (HPV), which causes the disease.
3. The practice of safe sex (use of condoms or diaphragm) again limits the chances of getting HPV.

1.0 (d) Screening for early detection of the disease.

This can be done through a procedure called Pap smear. The procedure involves a microscopic examination of cells obtained from the cervix to detect any abnormality.

Figure 13: Cancer of the cervix



4. CANCER OF THE LYMPH NODE.

Signs and Symptoms:

Enlarged lymph nodes, itching, fever, night sweats, fatigue, and weight loss. Intermittent fever can last for several days or weeks.

Risk Factors:

Risk factors are largely unknown but in part involve reduced immune function and exposure to certain infectious agents. Persons with organ transplants are at higher risk due to altered immune function.

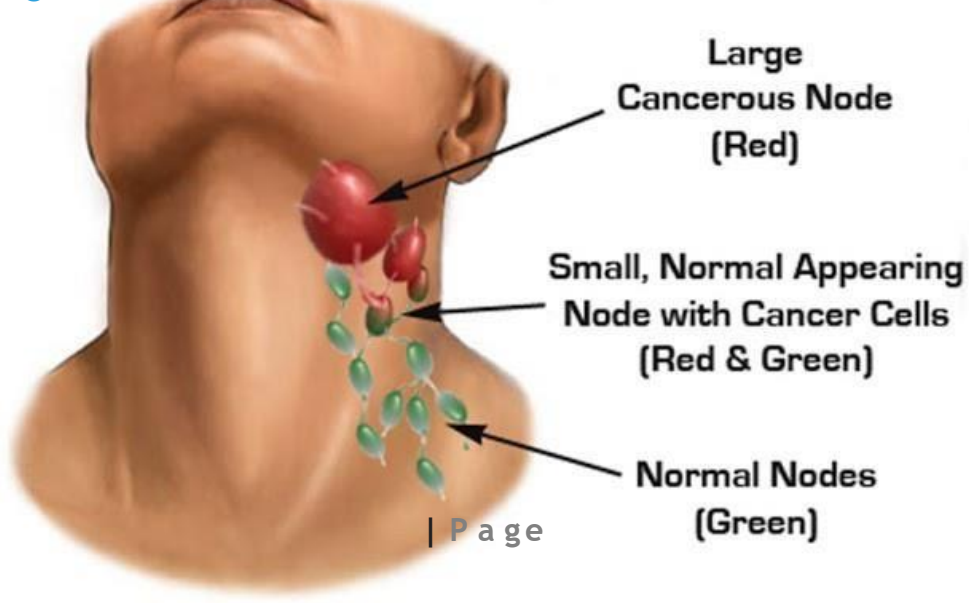
Treatment:

Hodgkin's disease: chemotherapy alone or radiotherapy is useful for most patients. Non-Hodgkin's lymphoma in the early stage, localized lymph node disease can be treated with radiotherapy. Patients with the later-stage disease are treated with chemotherapy plus radiation depending on the specific type of non-Hodgkin's lymphoma.

Survival:

Survival rates vary widely by cell type and stage of the disease

Figure 14: CANCER OF LYMPH NODE





5. CANCER OF THE BREAST

Has been associated with HIV infection. Recent studies have demonstrated a link between breast cancer and HIV infection. Breast cancer seems to be more aggressive in the setting of immune compromised by HIV infection. In recent years this cancer has become one of the most common among women, other than skin cancers. In sub-Saharan Africa, it is the second leading cause of cancer deaths.

1.0 (a) Risk Factors

Every woman is at risk of getting the disease even though some women are at a greater risk than others. Among these factors are;

- Age: older women have a higher risk than young ones.
- Family history; one is at more risk if close relatives suffered the disease.
- Breast density; heavy breasts (have high proportions of lobular & ductal tissue) are more likely to develop the disease.
- Age at first pregnancy; delivering a child after the age of 30 increases the risk slightly.
- Estrogen exposure: using estrogen hormone replacement therapy for a long time increases the risk
- Radiation exposure: having radiation therapy before the age of 30 increases the chances of developing this cancer.
- Alcohol use; drinking alcohol places one at a higher risk.

1.1 (a) Early Detection

The disease starts with no symptoms but as it advances, some of the early signs include; lump(s) in the breast or underarm, change in breast size & shape, discharge from the nipple with or without tenderness, an inverted nipple, ridges & pits in breast skin, changes in the breast skin, areola among others.

Mammography is the best to test for early detection of breast cancer and can detect lumps even before they can be felt.

However, doctors recommend the age of 40 for this test being a radiation procedure. Other screening procedures include breast self-examination (BSE).



This is a procedure done by self or health caregiver with the intention of detecting and lumps or unusual changes in the breast. Fine needle aspirate cytology (FNAC) is another test that can detect the disease at an early stage. This test is usually done by a qualified medical officer and follows the detection of a lump or unusual mass in the breast.

1.0 (c) Prevention

It is still unclear whether dietary changes can help prevent the disease; however, scientists are studying preventive factors that can be used against the disease. One way of preventing the disease is by reducing the risk factors that are avoidable in order to minimize the chances of getting the disease.

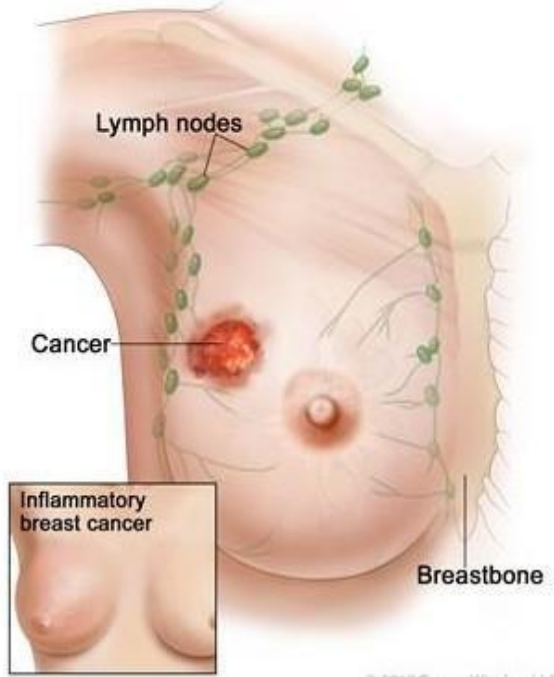
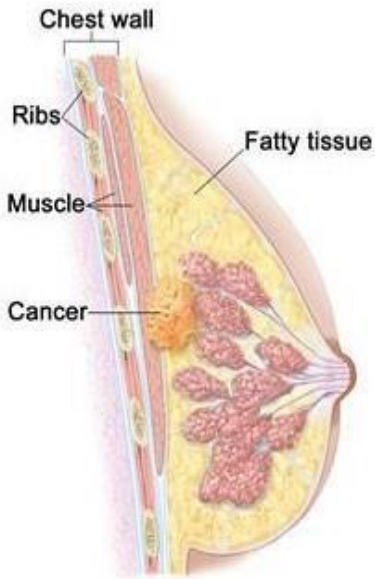
1.0 (d) Treatment/Management

The disease can be treated in a number of ways depending on the prevailing conditions especially the stage of cancer. They include;

1. Surgery, which is the most common involving breast-sparing surgery followed by radiation to destroy remaining cancerous cells.
2. Radiation therapy is another method involving high energy x-rays to destroy the cancer cells & shrink tumors.
3. Chemotherapy involves the use of special drugs that kill the cancerous cells.
4. Hormonal therapy is another treatment given when lab tests show that the disease depends on the body's natural hormones to advance. Therefore, this treatment will involve the reduction of the body's hormones promoting cancer.
5. Biological therapy is another treatment that boosts the body's immune system to fight and kill the disease.



Stage IIIB Breast Cancer





WHAT FACTORS AFFECT BREASTCANCER RISK

DECREASE RISK

INCREASE RISK



Maintain
weight

Exercise
regularly



Number of
full-term
pregnancies

Duration of
breastfeeding



Feeding
throughout
pregnancy

High energy diet

50+

Being
obese



Alcohol



High
radiation



High-dose
chemotherapy



Genetics

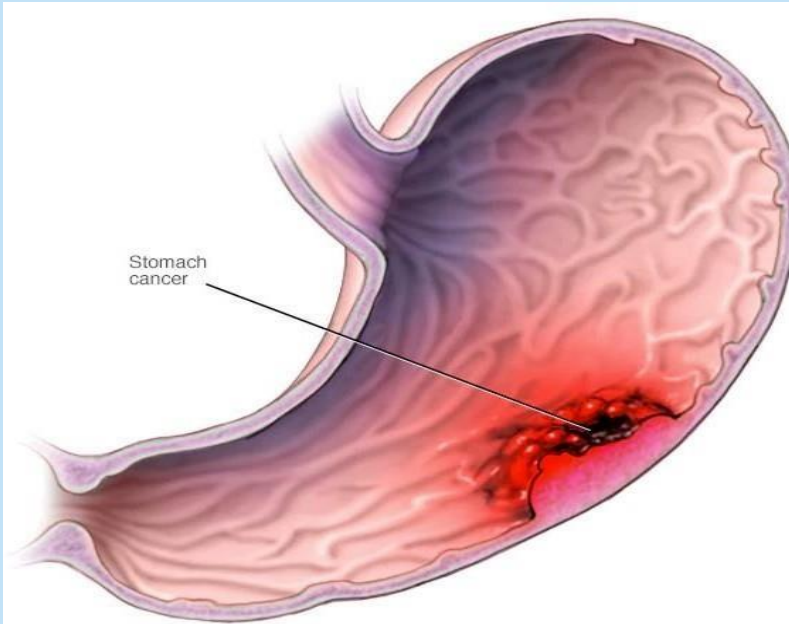
Use of
hormones
e.g. A1



Menopausal
hormone
therapy



6. STOMACH CANCER



SIGNS AND SYMPTOMS

The symptoms of stomach cancer can be quite vague. You can find the following information

1. Indigestion, acidity, and burping

The earliest symptoms of stomach cancer are often acidity and burping. Many people diagnosed with stomach cancer have had symptoms like these for years. But they are symptoms of other stomach problems too. Most people who have long term indigestion and the wind never develop cancer. Less than 1 in every 50 people going to the doctor with indigestion and burping have cancer.

2. Feeling full up sooner than usual when eating your meals.

If this leads to eating less over a period of time, you will start to lose weight.

3. Bleeding and feeling tired or breathless

Even early stomach cancers can bleed into the stomach. Losing blood over a period of time can make you anaemic. This means your red blood cell count is too low. Anaemia makes you look pale and feel tired. If you are very anaemic you may also feel breathless.

4. Vomiting blood

It is not a common early symptom, but it can happen. If it does, the blood may not be clearly seen. The blood you bring up may be bright red, which means it is fresh bleeding. Or it may look dark brown, like used coffee grounds, if the blood has been in the stomach for awhile.

5. Blood clots

People with stomach cancer are more likely to get blood clots. If you have pain or swelling in a leg or sudden chest pain and breathlessness, you could have a blood clot in your leg or lung. You should contact your doctor straight away because you will need immediate anti-clotting medicines.

Other symptoms

More than half of the people diagnosed with stomach cancer have either pain, sickness or some difficulty swallowing. The exact area of pain can vary. It is most usually in the upper abdomen (tummy). Or you may have pain just under your breastbone (sternum) or slightly lower down.

Symptoms of advanced stomach cancer

Symptoms of more advanced stomach cancer can include

- Lack of appetite and weight loss
- Fluid in the abdomen
- Blood in your stool

6. Lack of appetite and weight loss

Losing your appetite and losing weight are often later symptoms and can be a sign that the cancer is more advanced. Although some people with early stomach cancer lose their appetite too.

7. Fluid in the abdomen

With advanced cancer, it may be possible for your doctor to feel a lump in your tummy (abdomen). Some people with advanced stomach cancer develop fluid in the abdomen. This is called ascites.

8. Blood in your stool

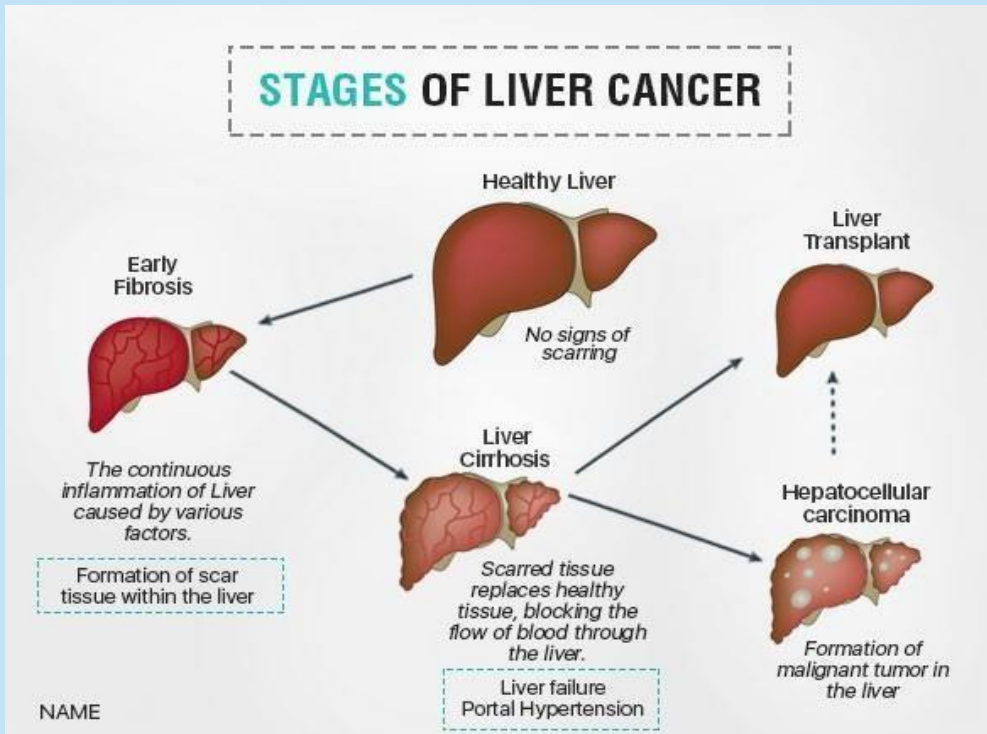
Some stomach cancers bleed but don't make you vomit. The blood goes through your digestive system. This can make your bowel movements look black, like tar.

More information

The earlier a cancer is picked up, the easier it is to treat it and the more likely the treatment is to be successful.

So, it is important that you go to the HOSPITAL as soon as possible if you notice worrying symptoms.

CANCER OF THE LIVER



LIVER CANCER HEPATITIS B

Hepatitis B virus (HBV) is a serious global health problem, with 2 billion people infected worldwide.

More than 350 million chronic carriers of hepatitis B virus (HBV) infections result in 500,000 to 1.2 million deaths per year caused by chronic hepatitis, cirrhosis and hepatocellular carcinoma. HBV is the 10th leading cause of death worldwide. Hepatocellular carcinoma incidence has increased worldwide and is now the most frequent cancer, killing 300,000-500,000 people each year. In western countries, HBV is relatively acquired primarily in childhood. There are no symptoms until it is too late. You, your family and friends may be at risk

What is hepatitis B?

Hepatitis B is a liver disease caused by a virus that causes inflammation of the liver. The liver is one of the most vital organs in the body and it is involved with processing most of the food we eat and in keeping the blood healthy.

How does one contract hepatitis B?

The hepatitis B virus (HBV) is transmitted by blood and other body fluids and can be spread in several ways:

1. An infected mother may pass the infection to her child during childbirth
2. Through injections or injury with infected materials
3. Through sexual contact with an infected person
4. Through close household contact with an infected person
5. Through blood transfusion whereby the blood is from an infected person

Symptoms of hepatitis B

Infection with HBV can have a wide range of clinical manifestations, and sometimes an infected person may show no signs at all.

Common first symptoms are

- fatigue,
- headache,
- mild fever,
- weakness,
- abdominal pain and
- Loss of appetite.
- After a few days, jaundice has been seen to develop in over 50% of those infected. This infection may either be followed by recovery or by progression to chronic hepatitis.

In some rare cases, the disease may develop into a more aggressive form known as fulminant hepatitis B, whereby the liver cells are rapidly destroyed by the virus, and this usually causes death in two days.



Is hepatitis B a serious risk?

Hepatitis B is a serious liver disease caused by a virus 100 times more infectious than HIV, the virus that causes AIDs. The hepatitis B virus causes serious inflammation of the liver and at its most severe (fulminant hepatitis) can damage it permanently and can even kill. Once infected there is an approximately 1 in 10 chance that the body will not be able to get rid of the virus and for these individuals, there is a greatly increased risk of liver cancer and other serious liver diseases such as liver cirrhosis. There is no cure for hepatitis B.

Who is at risk of hepatitis?

Anyone who has not been vaccinated is at risk of hepatitis B infection.

Can hepatitis B be prevented?

The good news is that there are effective vaccines available against hepatitis B virus infection and most children nowadays are vaccinated against hepatitis routinely during childhood. However, some people may have missed the start of the vaccination program and so remain at risk from the virus. For such individuals, it is possible to –catch-upll, and vaccination can be started immediately. Talk to your doctor; they will provide more information about this safe and effective way to safeguard you and your family’s health.



HEPATITIS B

a.k.a. HEP B, HBV

CAUSE

Hepatitis B
virus



SYMPTOMS

loss of appetite
nausea
vomiting
body aches
mild fever
dark urine
jaundice
(yellowish skin)

PREVENTION

Hep B vaccine
at birth, 1 month,
and 6 months



COMPLICATIONS

chronic liver
inflammation
liver cirrhosis
liver cancer



death



EPIDEMIOLOGY

passed from **mother to baby**
during childbirth; mother may not know
she has the virus; risk for **chronic**
infection is **highest** for **infants**

passed by exposure to infectious **blood**
or **body fluid** (e.g. via human bite,
lesion, sexual contact, or drug needle)

240 million

people are chronically infected worldwide

780 thousand

annual deaths due to complications

7

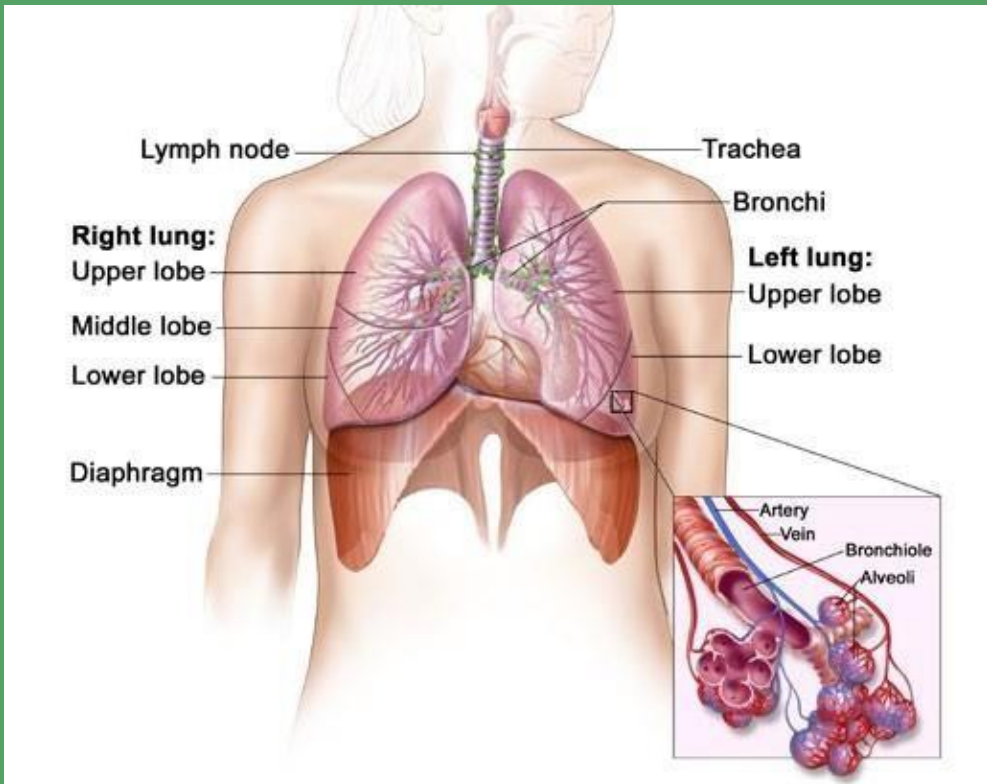
days the hep B virus can survive outside
the human body



What you should do

1. Get tested for hepatitis B. ask our doctor for the hepatitis B surface Antigen (HBsAg), which is an instant red blood test taken at routine exams.
2. Get vaccinated against Hepatitis B. Individuals who test negative for Hepatitis B and newborns should be vaccinated against the disease.
3. Get screened for liver cancer. Individuals who test positive before hepatitis should be regularly screened for liver cancer beginning at age 30.
4. Get treated for hepatitis B. There is no cure for hepatitis B, but the early treatment of the infection can reduce the risk of further liver damage. Treatment may include interferon, lamivudine or newer antiviral drugs.

8. LUNG AND BRONCHUS CANCER



LUNG CANCER



 Lung cancer is the leading cause of cancer-related deaths in the world. Smoking is linked to about **90%** of lung cancer.


Know the early signs of Lung cancer

-  1 Persistent cough
- 2 Coughing up blood
- 3 Chronic chest pain
- 4 Hoarseness of voice
- 5 Wheezing & breathlessness
- 6 Chronic chest pain


Risk factors of Lung cancer

-  1 Smoking
- 2 Passive smoking
- 3 Exposure to radon gas or asbestos
- 4 Family history of lung cancer

Detection of Lung cancer

-  1 Imaging tests like chest X-ray or CT scan
- 2 Sputum analysis
- 3 Biopsy

Management of Lung cancer

-  1 Surgery
- 1 Chemotherapy
- 3 Radiation therapy
- 4 Targeted drug therapy

Tips for healthy lungs!

-  1 Don't smoke
-  2 Exercise daily
- 3 Practise deep breathing
- 4 Protect yourself from air pollutants

Signs and Symptoms:

1. Persistent cough,
2. Sputum streaked with blood,
3. chest pain and
4. Recurring pneumonia or bronchitis.

Risk Factors:

1. Cigarette smoking is by far the most important risk factor in the development of lung cancer.
2. Other risk factors include exposure to certain industrial substances, such as arsenic, some organic chemicals;
3. Occupational or environmental exposures to radon and asbestos, particularly among smokers
4. Radiation exposure from occupational, medical, and environmental sources
5. Air pollution
6. Tuberculosis and
7. For non-smokers, environmental tobacco smoke.

Early detection

Early detection has not yet been proven to improve survival rates. Chest X-ray, analysis of cells contained in sputum, and fiber optic examination of the bronchial passages have shown limited effectiveness in early lung cancer detection. Newer tests such as low dose helical CT scans and molecular markers in sputum can detect lung cancer earlier, and the effect of this on survival is being evaluated.

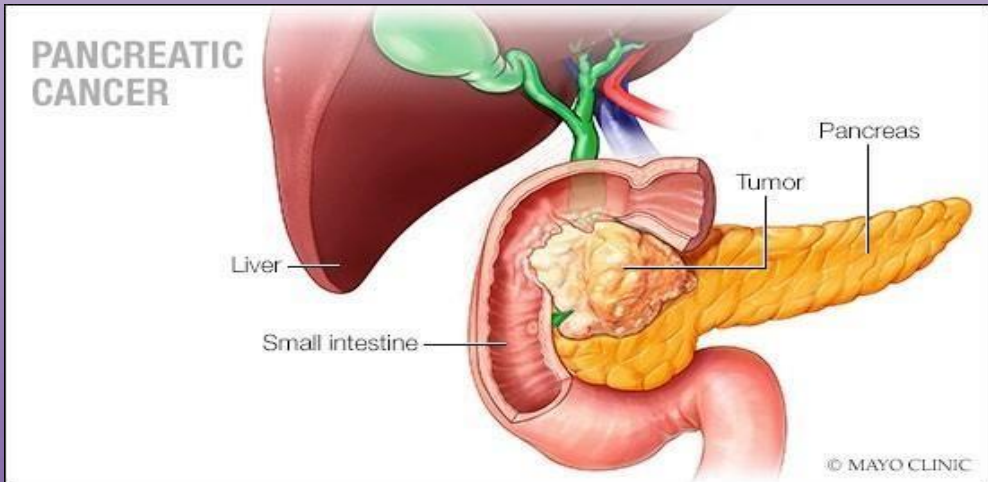
Treatment

Treatment options are determined by the type and stage of the cancer and include surgery, radiation therapy, and chemotherapy. For many localized cancers, surgery is usually the treatment of choice. Because the disease has usually spread by the time it is discovered, radiation therapy and chemotherapy are often needed in combination with surgery.

Survival

The 1-year relative survival rate for lung cancer is low.

CANCER OF THE PANCREAS



Signs and Symptoms:

Cancer of the pancreas generally develops without early symptoms. If cancer develops in an area of the pancreas near the common bile duct, its blockage may lead to jaundice (a noticeable yellowing of the skin due to pigment accumulation).

Risk Factors:

Cigarette and cigar smoking increases the risk of pancreatic cancer; incidence rates are more than twice as high for smokers as for non-smokers. Pancreatic cancer rates are higher in countries whose populations eat a diet high in fat.

Early Detection:

At present, the only biopsy yields a certain diagnosis. Because of the –silentll course of the disease, the need for biopsy may become obvious only with advanced disease. Researchers are focusing on ways to diagnose pancreatic cancer before symptoms occur.

Treatment:

Surgery, radiation therapy, and chemotherapy are treatment options that can extend survival and/or relieve symptoms in many patients, but seldom produce a cure. Clinical trials with several new agents may offer improved survival and should be considered an option.

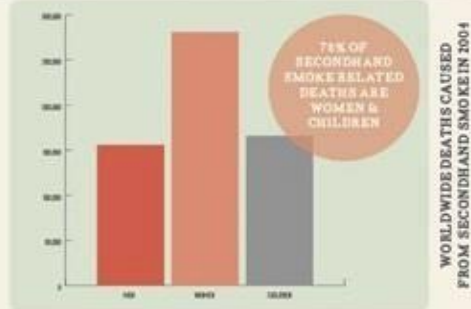
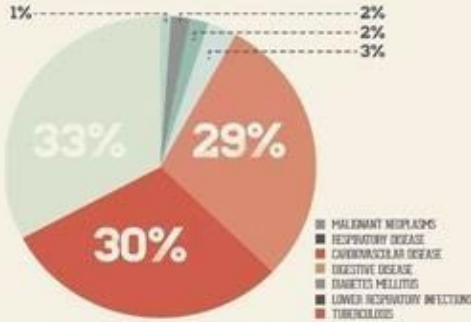
TOBACCO

HARM FROM SMOKING III

TOBACCO IS THE SINGLE MOST PREVENTABLE CAUSE OF DEATH. 50% OF LIFETIME SMOKERS WILL DIE FROM A SMOKING RELATED DISEASE.

800,000 NONSMOKERS DIED IN 2011 DUE TO SECONDHAND SMOKE

PROJECTED TOBACCO RELATED DEATHS FOR 2015



TOBACCO SMOKE CONTAINS 7,000 CHEMICALS.

CHEMICALS IN TOBACCO SMOKE ARE ALSO FOUND IN:



- PLASTICS
- ANT POISON
- PAINT STRIPPER
- NAPALM
- CAR BATTERIES
- NUCLEAR WEAPONS
- TOILET CLEANER
- COCKROACH POISON
- INSECTICIDE
- LIGHTER FLUID
- EMBALMING FLUID
- LEADED GASOLINE
- WELDING TORCHES

2011 TOBACCO RELATED DEATHS:



1 PERSON = 500,000 LIVES

80% OF THESE DEATHS OCCURRED IN LOW/MIDDLE INCOME COUNTRIES.

PROJECTED DEATHS FROM TOBACCO

20TH CENTURY

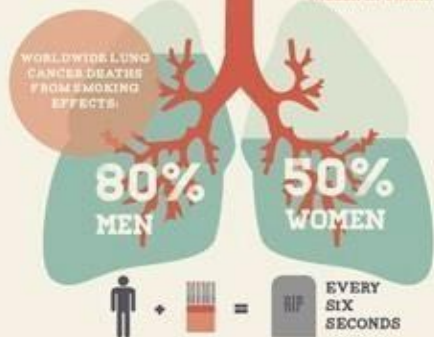
21ST CENTURY

100 MILLION DEATHS IN THE 20TH CENTURY ARE DUE TO TOBACCO USE AND EXPOSURE.

IF CURRENT TRENDS CONTINUE, APPROXIMATELY 1 BILL. WILL DIE BY THE END OF THE 21ST CENTURY.

50% OF LIFETIME TOBACCO USERS WILL DIE FROM SMOKING.

1.2 MIL. CHINESE DIE ANNUALLY FROM TOBACCO USE. IT HAS BECOME THE #1 KILLER IN CHINA.



Survival:

For all stages, it's very low.

TOBACCO USE



Smoking is the most preventable cause of death in our society. Tobacco use is responsible for nearly one in five deaths in the the US. Of these, approximately half die in middle age, losing an average of 20 to 25 years of life expectancy.

Lung cancer mortality rates are about 22 times higher for current male smokers and 12 timers higher for current female smokers compared with lifelong never smokers. Smoking accounts for at least 30% of all cancer deaths, is a major cause of heart disease, and emphysema, and is associated with gastric ulcers.

Trends in smoking

- Cigarette smoking among adults age 18 and over declined 40%. Smoking prevalence among adults showed modest declines between 1990 to 1999.
- Between 1985 and 1995 cigarette smoking prevalence declined for whites, blacks, and Asians among Americans, Indians and smoking prevalence did not change for men from then.

- Although cigarette smoking became prevalent among men before women, the gender gap narrowed in the middle and has remained constant.
- Per capita consumption of cigarettes continues to decline. After peaking at cigarettes per capita in consumption among Americans 18 years and older.
- In 1997, nearly one-half of male students and more than one-third of female students reported using some form of tobacco- cigarettes, cigars, or smokeless tobacco for female students.

Profile of smokers

- Over 80% of adult smokers surveyed in 1991 had begun smoking by age 18; in addition, 35% had become daily smokers by age 18.
- An estimated 47 million US adults were current smokers.
- Men were more likely to smoke than women
- Cigarette smoking was highest among American Indians and Alaska Natives and lowest among Asians.
- Adults who earned a diploma and high school dropouts have high percentages of cigarette smoking among US high school students in 1999, national data.
- One-quarter of high school students smoked a whole cigarette before age 13
- More than one-third of high school students were current smokers.
- Seventeen percent of high school students smoked cigarettes on

Smokeless tobacco

In 1986, the US surgeon general concluded that the use of smokeless tobacco is not a safe substitute for smoking cigarettes or cigars, as these products, cause various cancers and non-cancerous oral conditions and can lead to nicotine addiction. Oral cancer occurs several times more frequent among snuff dippers compared with on-tobacco users. The risk of cancer of the cheek and gums may increase nearly 50-fold among long term snuff users. Among adults aged 18 and older, national data showed 6% of men and 1% of women were current users of chewing tobacco or snuff.



NUTRITION AND PHYSICAL ACTIVITY

Scientific evidence suggests that about one-third of the cancer deaths that occur in us each year are due to nutrition and physical activity factors, including obesity. For the majority of Americans who do not use tobacco, dietary choices and physical activity are the most important modifiable determinants of cancer risk.

Recommendations for individual choices

1. Eat a variety of healthful foods, with an emphasis on plant sources
2. Eat five or more servings of vegetables and fruit each day
3. Choose the whole grain in preference to processed grains and sugar
4. Limit consumption of red meats, especially high fat processed meat.
5. Choose foods that help maintain a healthful weight

There is strong scientific evidence that dietary patterns, in combination with regular physical activity, are needed to maintain healthy body weight and to reduce cancer risk. Until more is known about the specific components of the diet that influence cancer risk, the best advice is to emphasize whole foods and the consumption of a mostly plant-based diet.

Adopt a Physically Active Style

With the increased risk of cancers at several sites: breast and many others. For these reasons, efforts to establish a healthful weight and healthful patterns of weight gain should begin in childhood.

If You Drink Alcoholic Beverages, Limit Consumption

People who drink alcohol should limit their intake to no more than 2 drinks per day for men and 1 drink a day for women. The mechanism for an effect of alcohol on breast cancer is not known with certainty but may be due to alcohol-induced increases in circulating estrogens or other hormones in the blood, reduction of folic acid levels, or to a direct effect of alcohol or its metabolites on breast tissue. Some groups of people should not drink alcohol at all.

These include children who cannot restrict their drinking to moderate levels and individuals taking prescriptions or over the counter medications that can interact with alcohol.

Recommendations for Community Action

Public-private-and-community organizations should work to create social and physical environments that support the adoption and maintenance of healthful nutrition and physical activity behaviors.

- **Adults:** engage in at least moderate activity for 30 minutes or more for 5 days per week.
- **Children** and adolescents: engage in at least 60 minutes per day of moderate to vigorous activity at least 5 days per week.

Scientific evidence

It indicates that physical activity may reduce the risk of certain cancers as well as provide other important health benefits. Regular physical activity contributes to the maintenance of healthy body weight by balancing caloric intake with energy expenditure. The benefits of physical activity go far beyond reducing the risk of cancer. This includes the prevention of heart disease, high blood pressure, and depression.

Maintain a Healthful Weight throughout Life


1. Balance caloric intake with physical activity.
2. Lose weight if currently overweight or obese. Being overweight and obesity are associated

Increase Access to Healthful Foods in Schools, Work-Sites, and Communities

Provide safe, enjoyable and accessible environments for transportation and recreation in communities.

The American cancer society guidelines

Relates to individual choices regarding diet and physical activity patterns, this recommendation for community action underscores



the importance of community measures to support healthy behavior by increasing access to healthy food choices and opportunities to be physically active.

Sources of statistics

- **Cancer cases:** State case estimates are calculated by apportioning the total case estimates. Like the method used to calculate cancer deaths, the methods used to estimate new and state cases for the upcoming year can produce numbers that vary considerably from year to year, particularly for less common cancers and for smaller states.
- **Incidence rates:** They are redefined as the number of people who develop the disease during a given period.

Survival:

Five-year relative survival rates are presented in this report for cancer patients diagnosed. All survival statistics presented in this publication were originally published.

Probability of developing cancer:

They are calculated using DevCan (probability of developing cancer software) developed by the national cancer institute. These probabilities reflect the average experience of people in the US and do not take into account individual behaviors and risk factors.

Additional Information:

More information on the methods used to generate the statistics for this report can be found in publications.

In conclusion:

HIV is a predisposing factor in many malignant tumors. There is a need to develop strategies for monitoring and treating non-invasive and invasive neoplasia in HIV- positive patients.

4 IN 10 CANCER CASES IN CAN BE PREVENTED...



Circle size here is not relative to prevalence or reduction in prevalence.

LET'S BEAT CANCER SOONER

| Page



CANCER DEATHS:

The estimated numbers of cancer deaths are calculated by fitting the numbers of cancer deaths for which forecasts the numbers of cancer deaths. We discourage the use of our estimates to track year to year changes in cancer deaths because the numbers can vary considerably from year to year.

Mortality rates

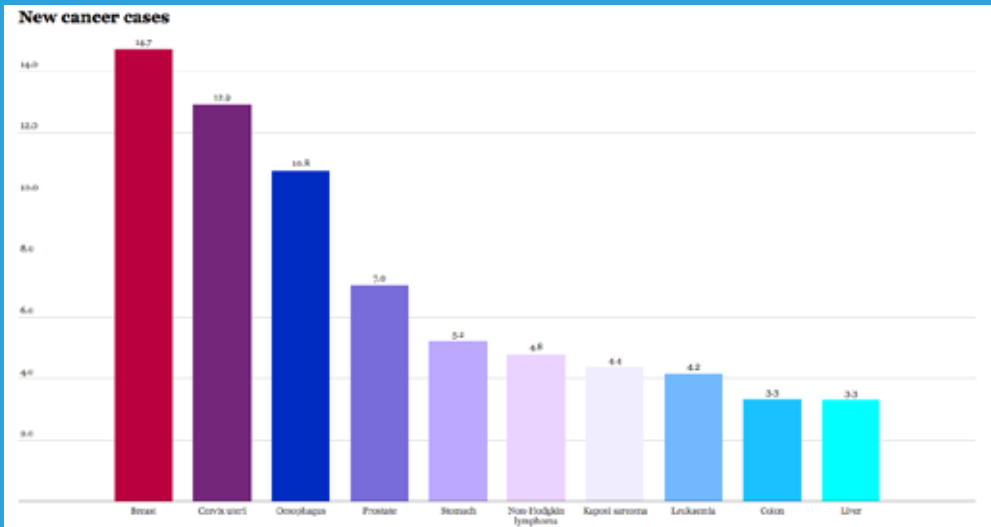
Mortality rates are defined as the number of people dying of disease during a given year. Unless otherwise indicated, death rates in this publication are age-adjusted to the standard population.

New cancer cases.

The estimated numbers of new us cancer cases are calculated by estimating the numbers of cancer that estimate a statistical model that forecasts the numbers.



Q &A ABOUT CANCER



3.1 What is cancer?

Cancer is the abnormal growth of cells without the normal control mechanisms of the body. They commonly referred to as —Mad cells!

3.2 Are allgrowths cancerous?

No! All growths are not cancerous. Some of the growths are what we call benign growths which take a long time and grow very slowly. Cancers are rapidly growing masses that move from one place of the body to another one (metastasis).

3.3 Can cancer be treated and cured?

Yes. Cancers are treatable and can be cured. The most important factor in the treatment of cancer is the stage of cancer development. Most of the cancer is presented to the clinician when are at an advanced stage; Stage 4. Treatment of these cancers is very difficult if not impossible.

3.4 What are the common cancers in Kenya?

The incidence of cancer differs in age and sex;



Common cancer in:

- Women: Breast, cervix, stomach, esophagus, liver, ovary, colon.
- Men: Prostate, Esophagus, stomach, liver, lung
- Children: Retinoblastoma (eye), Non-Hodgkin's lymphoma Leukemia, bone, osteosarcoma, rhabdomyosarcoma

3.5 What is the relationship between the use of mobile phones and cancer?

This is rather a controversial issue. No research has confirmed any relationship between cancers of the brain and mobile phone use however from the research radiation is a risk factor to cancer development.

3.6 What is the value of Pap smear cytology and cancer of the cervix?

Pap smear is a screening test for cancer of the cervix. It is the most successful screening ever done in the cancer control Program. It has the potential of detecting cancer more than 10 years before it develops in the body. It is better to start Pap smear screening from the age of 18 yrs. or the time the lady becomes sexually active. Some countries advocate for annual screening, but the best practice is screening 3 years interval at the age of 25 to 49 years than at an interval of 5 years as from 50 to 64 years.

3.7 What is the relationship between diet and cancer?

Fruits and green vegetables are protective while foods rich in fats and proteins (Red meat) increase the risk of developing cancer.

3.8 Can cancer be avoided?

Cancer cannot be avoided but can be controlled. This will involve early screening for the common screen-able cancers like breast, cervix, and oesophagus, prostate.

3.9 What is the most important tool in cancer control?

This can be summarized into three; Knowledge, Attitude, and Practice.



This is by knowing the common cancers in any community by getting accurate population-based cancer registration. This will give a projection of what is expected in the community and thus which screening programs are too implemented in that particular community.

Everybody should know that cancer is like any other disease and is curable and preventable and put into practice all measure which can control cancer from developing.

3.10 Is there an increase in cancers at the present time?

Yes, there is a definite increase in both incidence and prevalence of cancer here in Kenya than before mainly because of a few reasons.

- An aging population: The older the person the higher the chances of developing cancer. E.g. prostate
- HIV: This is one of the predisposing factors and developing cancer due to low immunity. Likewise, immunosuppression accelerates cancer progression.
- Lifestyles: Changing lifestyles such as lack of exercise, eating high-fat high protein content, weight gain, use of chemicals and other synthetic products.

3.11 Does diet affect our risk of developing cancer?

Nutrition plays a significant role in cancer prevention. Most epidemiologic studies have been conducted on the relationship between nutrition and cancer. They suggest that about 30 percent of cancer occurrence worldwide is associated with diet. It has been estimated by the American Institute for Cancer Research and the World Cancer Research Fund that 30-40 percent of all cancers can be prevented by appropriate diets, physical activity, and maintenance of appropriate body weight².

3.12 Which foods are important for our health?

Foods that come from plants rather than animals have many protective botanical factors. This phyto (meaning plant) nutrients can be beneficial in many ways. Antioxidants, anticarcinogens, and bioflavonoids are some of the terms used to describe the actions of phytonutrients.

Foods rich in botanical factors or phytonutrients include berries, dark green leafy vegetables, citrus fruits, legumes (beans of all sorts including soy) and whole grains.

Therefore, intake of abundant portions of fruits and vegetables will lower cancer risk. Obesity, nutrient sparse foods such as concentrated sugars and refined flour products that contribute to impaired glucose metabolism, low fiber intake, consumption of red meat, and imbalance of omega 3 and omega 6 fats all contribute to excess cancer risk.



3.12.0 Broccoli



Broccoli is one of the groups of vegetables called cruciferous. These vegetables contain isothiocyanates that are protective against carcinogenesis in laboratory studies. Other vegetables in this grouping include cabbage, cauliflower, Swiss chard, watercress, and kale.

3.12.1 Lycopene



Of the various carotenoids, Lycopene has been found to be very protective, particularly for prostate cancer. The major dietary source of Lycopene is tomatoes. Several prospective cohort studies have found associations between high intake of Lycopene and reduced incidence of prostate cancer.



3.13 Is fiber important in our diet?

Dietary fiber is the indigestible part of foods of plant origin. Fiber provides bulk to our diet and helps to maintain a healthy colon. It does this in several ways;

i.) It stimulates muscle contractions and hence reduces colon transit time (minimizes constipation).

ii.) It dilutes any potentially hazardous or carcinogenic substances and also reduces the amount of time these substances would be in contact with the colon wall.

iii.) It provides an environment that is conducive to –friendlyll bacteria or acidophilus. These are supportive to us as they partially digest some of the fiber and provide us with nutrients and they also maintain a healthy acidic level in the colon.





All of these factors are synergistic and hence eating dietary fiber throughout the day provides the best environment in our colon that is reflected in our overall health.

The suggested range of fiber intake is 25-35 grams spread over the day. This is best accomplished by eating fiber-rich foods at each meal such as whole-grain cereals, bread, pasta, beans, leafy vegetables, fruits, nuts, and seeds.

3.14. Can cancers be prevented?

The scientific consensus is that cancers are largely preventable and that the most effective means of reducing risk is

1. The avoidance of tobacco use,
2. Consumption of appropriate diets,
3. Regular physical activity,
4. Weight maintenance and
5. Limiting exposure to occupational and other environmental carcinogens.

The epidemiological and experimental evidence that the recommended diets decrease the risk of cancer is strong and consistent for many sites.



PART III THE POWER OF NUTRITION.



1.0 Fruits & Vegetables

A healthy diet rich in fruits and vegetables lowers the risk of several cancers especially cancers of the gastrointestinal tract. The consensus of the hundreds of studies exploring the link between diet and cancer is that eating more fruits and vegetables reduces the risk of all types of cancers. Eating more fruits and vegetables decreases your appetite for fatty

foods, which themselves increase the risk of cancer.

Vegetables most important in reducing the risk of cancer are cruciferous vegetables such as broccoli, cabbage, Brussels sprouts, mustard greens, kale, and cauliflower. These vegetables contain compounds such as isothiocyanates which are natural cancer blocking agents. Other anticancer vegetables include dark green spinach, tomatoes, red peppers, and beans. In addition, phytoestrogens from plant foods, especially cruciferous vegetables, can lower the risk of estrogen-dependent cancers, such as breast cancer.



2.0 Fish Oils

Fish oils are a rich source of omega -3 fatty acids which have anti-cancer properties. Studies in experimental animals have shown that fish-oil-supplemented animals develop significantly fewer colorectal tumors. The omega-3 fatty acids balance the more commonly used omega-6 fatty acids found in most vegetable oils, meat and dairy products. The best protection against cancer is a diet that contains more omega 3 than omega 6 fatty acids.



3.0 Vitamins C & E and Beta Carotene

There is reliable scientific evidence that beta carotene, vitamin C and vitamin E which have antioxidant properties lower the risk of colorectal cancer. Fruits and vegetables are the main sources of these naturally occurring antioxidants.



3.1 Beta carotene

The best sources of beta carotene are sweet potatoes, carrots, pumpkins, butternut, spinach, broccoli, mango, and papaya. Tomatoes contain Lycopene, which enhances the absorption and utilization of beta carotene. So, eating tomatoes with beta carotene-rich foods provides an added boost. Carrots and tomatoes are a good combination.



3.2 Vitamin C

Studies have shown that persons with the highest intake of vitamin C have the lowest incidence of intestinal cancers. Vitamin C blocks the formation of nitrosamines in the gut. These are potent carcinogens made from nitrates and nitrites found in food, especially processed meats. Vitamin C also boosts the immune system by increasing the production of lymphocytes. The best sources of vitamin C are fresh fruits and vegetables.



3.3 Vitamin E

The anti-cancer properties in vitamin E are similar to vitamin C. Studies have shown that persons who had high levels of vitamin E in their diet showed a 30 percent lower risk of all types of cancer. On the contrary women with low blood levels of vitamin E and selenium



had ten times the risk of breast cancer in another study indicating the importance of vitamin E in cancer prevention. The natural vitamin E may be more biologically active than the factory-made vitamin. These include vegetable oils, dark green vegetables and nuts.



3.4 Vitamin D

Vitamin D, which is obtained following exposure to sunshine (around 10 to 15 minutes a day) and from vitamin D-fortified milk and other foods, has anti-cancer properties. It suppresses angiogenesis, the formation of new blood vessels that nourish the growth of tumors. The rates of breast, prostate, and colon cancer are lower in climates that have the most sunshine. Low levels of vitamin D have been found in some people with colon cancer. Women whose diets are high in vitamin D have a lower risk of breast cancer.



4.0 Minerals.

The mineral is needed in our bodies to carry out various processes in the metabolic pathways utilizing the nutrients and foods we eat, to give us energy, and repair our tissues and even overall growth and wellbeing. Without minerals, the foods we eat may not be fully utilized and may end up being a waste. Scientists have known for decades that minerals are essential to a healthy diet. They didn't realize, however, to what extent the body required minerals. How they were used in the biochemical systems of the body. Researchers are finding that: almost every chemical reaction that occurs in the metabolic system requires one or more minerals.





10 Key MINERALS YOUR BODY NEEDS

MANGANESE

When combined with the other minerals it helps build a strong immune system, supports blood clotting, helps produce sex hormones, and healthy hair, skin, and nails.



CALCIUM

Vital for your bones and it plays a role in helping to regulate cholesterol and blood pressure, making it key for heart health.



Iodine

Crucial to the thyroid's ability to produce hormones.



POTASSIUM

Regulates blood pressure, helps balance fluids and supports sensory function.



MAGNESIUM

Plays an important role in maintaining the health of your heart, brain, and bones.



SODIUM

Helps maintain a lot of blood pressure.



PHOSPHORUS

Helps build strong teeth and bones, as well as creating energy and allowing cells to properly function.



IRON

This blood mineral is necessary for the transportation of oxygen, forming red blood cells, provides support to the immune system and helps regulate growth.



ZINC

An antioxidant essential for healing wounds and building immunity. It also plays an important role in liver function, eyeight, reproduction and sexual development.



SELENIUM

Antioxidant mineral that is essential to the immune system, preventing cell damage, and for thyroid health.



MINERAL SUPPLEMENTATION

Our bodies are not efficient at mineral absorption, what we consume is eliminated without ever being absorbed. Foods that are mineral-rich, such as red meats and dairy products, are also high in fat and cholesterol. Processed and refined foods are often low in minerals. Low-calorie menus of dieters are very low in minerals. This negative-positive bonding deters absorption. Chelation increases absorption by wrapping amino acids around the mineral ion, much like a protective overcoat, and neutralizing the positive charge of the mineral.

Minerals are classified: according to the amount required to meet our basic needs.

1. Macro-minerals
(Greater than 100 milligrams required daily by the human body): Calcium, potassium, sodium, phosphorus, magnesium, sulphur.
2. Micro mineral
(Less than 100 milligrams required daily by the human body): zinc, copper, iodine, iron, manganese.
3. Trace minerals
(Minute amounts required daily by the human body): selenium, molybdenum, nickel, vanadium, chromium, cobalt, silicon.

MULTI-MINERAL, BROAD SPECTRUM, MULTI-SOURCE

- Broad-spectrum - provides macro-, micro-, and trace minerals in one product.
- Natural sea vegetation base - provides mineral potency format as found in nature.
- Amino acid chelated and complexes - supports improved mineral absorption.

Other minerals, however, play specific roles in disease control and management.

They include:

- **Selenium**

This mineral is a potent antioxidant or scavenger of carcinogenic free radicals. Studies have shown that persons who have lower levels of selenium in their blood are more likely to have colon polyps, and those with higher levels of selenium have much less of a chance of getting cancer. Selenium is most effective when taken along with foods or supplements that are high in vitamin E. Best sources of selenium in food are fish (especially red snapper) lobster, shrimp, whole grains, and vegetables, brown rice, chicken (white meat), sunflower seeds, and garlic.

- **Calcium**

Studies have shown that populations with a high intake of calcium (e.g. people in Sweden) have a lower incidence of colorectal cancer. Calcium controls the multiplication of epithelial cells lining the colon and also binds cancer-producing bile acids and keeps them from irritating the colon wall. The best sources of calcium are dairy products, such as yogurt, and fish.

Diet rich in calcium Supports:

- Lower risk for developing osteoporosis
- Proper bone development, skeletal strength, and strong teeth
- Slowing of age-related bone loss
- Heart function, breathing, and lunghealth
- Healthy blood pressure levels
- Nerve, membrane and muscle function

5.0 High Fiber Diet



9 HEALTHY EATING TIPS FOR A MORE VIBRANT YOU THIS YEAR

Follow these tips to have a smarter, healthier, and tastier 2019!



1

EAT MINDFULLY



2

REPLACE PACKAGED SNACKS WITH FRUIT



3

ADD VEGETABLES TO YOUR BREAKFAST



4

REDUCE SUGAR INTAKE, USE STEVIA INSTEAD



5

INCORPORATE PREBIOTICS AND PROBIOTICS TO YOUR DIET



6

DON'T BUY SWEETS



7

MEAL-PREP



8

EAT OUT LESS OFTEN



9

DRINK ALCOHOL ON WEEKENDS ONLY



In all the research between food and cancer, the evidence for a relationship between a high fiber diet and lower chances of colorectal cancer is the most conclusive. Fiber moves potential carcinogens through the intestines faster, decreasing the contact time between carcinogens and the intestinal wall. The less exposure to carcinogens, the less the chance of colon cancer. Besides faster transit time, fiber binds carcinogens, keeping them away from the intestinal wall. A high fiber diet seems particularly protective against cancer in persons who have a hereditary risk of developing precancerous colorectal polyps.

Besides lowering the risk of colorectal cancer, a high fiber diet can lower the risk of breast cancer by binding estrogen in the bowels, thereby lessening the estrogen effect in the cells of breast tissue. High fiber foods include whole wheat, whole grains, legumes, beans, legumes, and fruits.

6.0 Regular Exercise and Weight Control



As a result of dietary and lifestyle changes, the problem of obesity is increasing at an alarming rate all over the world but more specifically in developed countries. It is estimated that two-thirds of all Americans are overweight. Excess weight alters the levels of hormones and growth factors which results in an increased risk of cancer. Obesity increases the risk of cancers in the oesophagus, colorectum, breast, endometrium and renal and may also increase the risk of cancers of the prostate, liver, gallbladder pancreas, stomach, and ovary. In addition, being overweight increases the risk of other serious diseases such as cardiovascular disease, type II diabetes, hypertension, and osteoarthritis. Many scientific studies have shown that people who exercise regularly have a much lower incidence of cancer than people who don't exercise much. It is therefore important to create a balance between caloric intake through diet and energy expenditure through exercise.

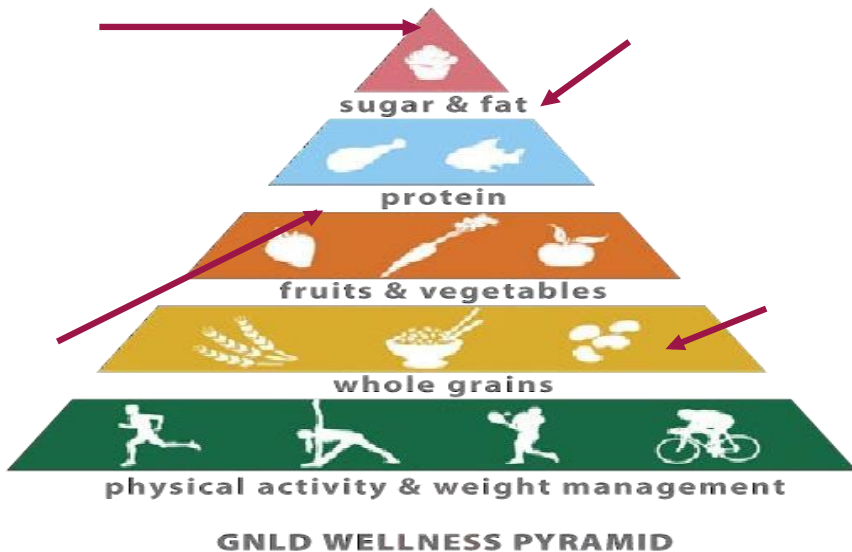
7.0 Public Health recommendations and advice:

1. Consume nutritionally adequate and varied diets, based primarily on foods of plant origin. Choose predominantly plant-based diets rich in a variety of vegetables and fruits
2. Avoid being underweight or overweight and limit weight gain during adulthood to less than 5 kg.
3. Maintaining physical activity. Try to get some moderate physical activity, at least 30 minutes daily. Moderate activity could include activities such as walking, cycling or dancing.
4. Vegetables and fruits. Promote year-round consumption of a variety of vegetables and fruits. Eat five or more portions (servings) a day of a variety of vegetables and fruits, all year round.
5. Consumption of alcohol is not recommended. Alcohol consumption is not recommended. If consumed at all, limit alcoholic drinks to less than two drinks a day for men and one for women.
6. Meat. If eaten at all, limit intake of red meat to less than 80 grams (3 ounces) daily. It is preferable to choose fish, poultry or meat from non-domesticated animals in place of red meat.

7. Limit consumption of fatty foods, particularly those of animal origin. Fatty foods include fried and deep-fried foods. Corn, fish and peanut oils are healthier alternatives to animal fats.

Summary

- Eating five or more servings of vegetables and fruits each day.
- Eating seven or more portions of complex carbohydrates such as whole grains and cereals each day
- Limiting processed foods and refined sugars.
- Limiting alcoholic drinks to one (for women) or two (men) daily.
- Limiting red meat to about three ounces daily.
- Limiting the intake of fatty foods, particularly those of animal origin.
- Limiting intake of salted foods and the use of salt in cooking.
- Not smoking



7 STEPS FOR BETTER LIVING WITH DIABETES

1

EAT HEALTHY



Make healthy food choices



Watch portion sizes



Eat regular meals

4

TAKE MEDICATION



Know your pills and insulins, understand how they work and take the right doses at the right times

5

PROBLEM SOLVE



Recognize your high and low blood sugars, understand what caused them and learn to treat and prevent them

2

BE ACTIVE



Exercise 5 days a week



Be active 30 minutes a day



Lose 10–20 pounds if you are overweight

6

REDUCE RISK



Quit smoking



Do regular health exams (eye, foot, dental)



See your doctor regularly for check-ups and tests

3

MONITOR



Check your blood sugar levels; know your A1C



Check your blood pressure, cholesterol, eyes, feet and teeth

7

COPE WELL

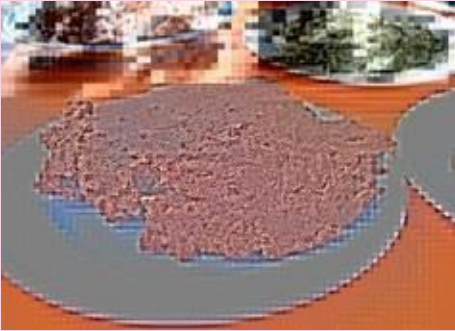


Get support from your family, friends and diabetes care team



Set realistic goals and work toward them

FOODS TO EAT



1. FRUITS

5 servings' colored fruits; yellow/red/orange car-Rots, Vitamin C antioxidant.

2. VEGETABLES

Broccoli, Brussels, sprouts, cauliflower, sukuma wiki

3. GARLIC

Prevents stomach cancer contains sulphur cpds deal with toxins and free radicals

4. SEEDS.

5. WHOLE GRAINS

FOODS TO AVOID

1. Alcohol - chose red wine
2. Animal fat- fish - herring, salmon oil
3. Dairy products- cancer.
4. Insulin growth factor igd increases breast cancer.
5. Brats

Sesame and sunflower rich ion selenium, Vitamin E, calcium, zinc.

1. FRIED FOOD- BOIL, STEAM NOT ROASTED MEAT
2. PESTICIDES AND PLASTIC- STRONG OESTROGEN

Use glass or stainless steel

Maize (green, Muthokoi), sorghum, millet, wheat, rice.

1. Typical Lifestyle Pyramid
2. Health and Wellness Pyramid



UGALI

WHOLE GRAIN; GITHERI!

HOW TO GET ANTIOXIDANTS

1. Healthy Diet
 - a. World Health Organization (WHO)
 - b. 7 servings of FRUITS and 7 servings of VEGETABLES DAILY

NUTRITION AT THE CELLULAR LEVEL

2. WHOLE GRAIN:
 - a. Prepare your cells to get the most from everything you eat!

HEALTH SUPPLEMENTS





1. Prevent
2. Renew & Repair
3. ASSORTED FRUITS Feed 58 Protect



OTHER NON-COMMUNICABLE DISEASES AND SUPPLEMENTATION

TZH : WEIGHT MANAGEMENT PROGRAMME

1. Natural:

<p>a. Take a lot of Water: (6-8 GLASSES)</p> 	<p>b. Vegetables: (Broccoli, Spinach)</p> 	<p>c. Fruits: (Paw paw, Avocado, Lemon)</p> 	<p>d. Health Products: (Aloe Vera, Fibre, Vitamins)</p> 
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2. Weight management:

Weight Management:
(50-70-80 KGs)



3. Fix Diet:

a. Avoid refined food:
(Carbohydrates)



b. Avoid eating at night!
(Breakfast and Lunch)



4. Use diet sheet:

Nutritional Advise
(Reduced portions)




Supplementary products are basically used to clear the body of the waste products and rejuvenate (repair) damaged cells. There are five main categories

1. Health care products - For cleaning (Detoxification) and repairing the cells (Rejuvenation)
2. Herbal alternatives - Good for Health.
3. GR2 control weight loss program - Weight control program
4. Nurturance skin and personal care - For skincare.
5. Home care products - Used in households.

OTHER COMMON NON COMMUNICABLE DISEASES

Diabetes, Renal, Hypertension, Arthritis

1.0 DIABETES MELLITUS

It refers to a disorder of carbohydrate metabolism, in which sugars in the body are not oxidized to produce energy due to lack of the pancreatic hormone insulin.

Diabetes:

This is a disease in which the body does not properly produce or use insulin. Insulin is a hormone or compound created by your pancreas that is needed to convert sugar, starches and other foods into energy. Diabetes develops when your body can- not properly use the energy provided by food.

When you have diabetes, this cycle does not work because the sugar/ glucose made by the body does not enter cells and it builds up in the bloodstream. This happens either because there is a lack of insulin or the insulin is not working properly, causing your blood sugar to rise. Monitoring your blood sugar with prodigy blood glucose monitoring systems will help you keep track of your blood sugar and control your diabetes. Keeping your blood sugar as close to normal as possible can help you avoid damage to your eyes, kidneys, nerves, and heart.

1.0 TYPE I DIABETES

Type 1 Diabetes - previously known as juvenile diabetes develops when the body's immune system destroys pancreatic beta cells, the only cells in the body that makes the hormone insulin which regulates blood glucose. Insulin —unlocksll the cells of the body allowing glucose to enter and fuel them. A person with type 1 diabetes has to check their blood sugar levels often and have insulin delivered by injection or pump in order to survive. This mimics the action of the pancreas by regulating blood glucose. Managing type 1 diabetes becomes a delicate balance of finding the right amount of insulin necessary to keep the blood sugar level as close to normal as possible. It is estimated that 5 - 10% of Americans who are diagnosed with diabetes have type 1 diabetes. This form of diabetes is usually diagnosed in children and young adults, although the disease can occur at any age.

1.1 TYPE II DIABETES

Type 2 diabetes results from insulin resistance, a disorder in which the cells do not use insulin properly - either the body does not produce enough insulin, or the cells ignore the insulin. As the need for insulin rises, the pancreas gradually loses its ability to produce it. Insulin is necessary for the body to use glucose for energy; it takes the sugar and starches that your body has broken down into glucose from the blood into the cells.

When glucose builds up in the body instead of going into cells, it can cause two problems:

- Right away your cells may be starved for energy.
- Over time, high blood glucose levels may hurt your eyes, kidneys, nerves or heart.

In adults, type 2 diabetes accounts for about 90 - 95% of all diagnosed cases of diabetes.

Type 2 diabetes, previously known as adult-onset diabetes, is associated with;

- Older age, obesity, family history of diabetes, history of gestational diabetes, impaired glucose metabolism, physical inactivity, and race/ ethnicity.

understanding

type 2 diabetes

is a condition where glucose builds up in the bloodstream due to insulin resistance and low insulin levels

Pancreas

The pancreas produces insulin and glucagon

Insulin
lowers
blood glucose



Glucagon
raises
blood glucose



Insulin

Insulin is the "key" that unlocks the cells to allow glucose to enter and provide needed energy

Glucose

The food you eat gets broken down into glucose

Cells

Your body is made up of cells, and those cells need glucose for energy

Glucose cannot enter most cells directly



Glucagon

Glucagon is the "key" that unlocks glucose storage units in the liver

Your "blood glucose" (or "blood sugar") is a measure of the amount of glucose in your bloodstream at any given time



Glucagon stimulates the liver to release glucose when blood glucose levels are too low to provide energy for cells

1) Gestation Diabetes

Gestational diabetes is a form of glucose intolerance diagnosed in some women during pregnancy. Hormones from the placenta help the baby develop but also block the action of the mother's insulin – insulin resistance – in her body. Insulin resistance makes it hard for the mother's body to use insulin making it possible for her to need up to 3 times as much insulin. During pregnancy, gestational diabetes requires treatment to normalize maternal blood glucose levels to avoid complications in the infant.

Gestational diabetes affects about 4% of all pregnant women - approximately 135,000 cases in the United States each year. Gestational diabetes occurs more frequently among African American, Hispanic/Latino Americans, and American Indians. Women who have had gestational diabetes have a 20 - 50% chance of developing diabetes in the next 5 - 10 years.

2) Pre-Diabetes

Pre-diabetes is a condition that occurs when a person's blood glucose levels are higher than normal but not high enough for a diagnosis of type 2 diabetes. Recent research has shown that some long-term damage to the body, especially the heart and circulatory system, may already be occurring during pre-diabetes. Research has also shown that if you take action to manage and control your blood glucose levels when you have pre-diabetes, you can delay or even prevent Type II diabetes from developing.

HOW TO KNOW IF YOU HAVE DIABETES

In order to determine whether or not a patient has pre-diabetes or diabetes, healthcare providers conduct a Fasting Plasma Glucose Test (FPG) or an Oral Glucose Tolerance Test (OGTT). Either test can be used to diagnose pre-diabetes or diabetes. With the FPG test, a fasting blood glucose level between 100 and 125 mg/dl signals pre-diabetes. A person with a fasting blood glucose level of 126mg/Dl or higher has diabetes.



In the OGTT test, a person's blood glucose level is measured after a fast and two hours after drinking glucose-rich beverage. If the two-hour blood glucose level is between 140 and 199mg/dl, the person tested has pre-diabetes. If the two-hour blood glucose level is at 200 mg/dl or higher, the person tested has diabetes.

1.0 Self-Blood Glucose Monitoring

This allows you to see how food, illness, medication, exercise, and other activities or situations affect your blood sugar levels and your diabetes healthcare professional use this to evaluate how effective, or ineffective, a new treatment routine or change in blood sugar medication is. For people who take insulin, blood sugar testing allows for more accurate dosage adjustments

1.1 How Often Should You Test?

A regular testing schedule helps you keep blood sugar levels within your target range. The ADA suggests that people taking multiple insulin injections or using pump therapy should test three or more times each day. There is no official recommendation for blood sugar testing frequency for those with Type 2 diabetes who are on oral medication or who control their diabetes through diet and exercise only. However, the ADA does state that self-monitoring of blood glucose may be appropriate in order to achieve blood glucose targets. Be sure to follow the schedule your healthcare provider recommends in order to properly track the changes in your body sugar throughout the day.

1.2 My Target Blood Sugar Range

A target range should be established with your healthcare professional and should include the balance of diet, exercise and the possibility of diabetes pills or insulin. After you have established your target ranges, write them here or in a logbook for a reference when self-monitoring.

1.3 Recording Blood Sugar Levels

Even though your prodigy blood glucose monitoring system has a memory, keep a logbook of your results, including dates, times and other information that could affect your levels.



This record will help you and your healthcare professional make treatment changes when necessary. In combination with managing your diabetes by self-monitoring and recording your test results.

1.4 Performing a Blood Glucose Test

To monitor your blood sugar levels, all you need is a blood glucose monitoring system (meter), a test strip, a lancing device, a lancet, and a blood sample. A lancing device is a small spring-loaded device with a sterile needle or lancet used to prick the side of your finger or another alternate site. Insert the test strip into your prodigy meter; apply blood to the test strip and your blood glucose level will appear within 6 seconds.

1.0 **COMPLICATIONS OF DIABETES**

They are caused by having too much glucose in the blood for a long period of time. This high blood glucose, also called blood sugar, can damage many parts of the body such as the heart, blood vessels, eyes, and kidneys. Heart and blood vessel disease can lead to heart attacks and strokes. You can do a lot to prevent or slow down diabetes problems.

The best approach to dealing with any complications:

- Maintain normal blood sugar levels
- Control blood pressure, cholesterol, and weight
- Exercise regularly
- Quit smoking and excessive drinking of alcohol
- Get regular check-ups of eyes and kidneys
- Take nutritional supplements
- Keep stress levels low
- Maintain a positive attitude

If complications have already started, it is not too late. By testing four (4) times a day and consulting with your healthcare professional you can often reverse some problems. Not all diabetics develop complications such the decreased ability to fight infection, kidney damage, eye damage; blood vessel damage, lower limb amputations and nerve damage are reversible

DIABETIC RETINOPATHY

Diabetic retinopathy is the most common and serious eye-related complication of diabetes. It is a progressive disease that destroys small blood vessels in the retina, eventually causing vision problems. In its most advanced form, proliferative retinopathy can cause blindness. Diabetes is the leading cause of blindness. Nearly all people show symptoms of diabetic retinopathy, usually after about 20 years of living with diabetes; approximately 20 - 30% of them develop the advanced form.

1 Preventing Eye Disease

It is very important since diabetic eye disease rarely has symptoms until the problem reaches an advanced stage. Diabetic eye disease refers to a group of problems that can cause vision loss or blindness in people with frequent high blood sugar (glucose) levels.

Prevent diabetes eye problems by:

1. Keeping your blood glucose and blood pressure as close as normal as you can.
2. Having an eye care professional examine your eyes once a year.

You should have this exam even if your vision is okay. The eye care professional will use drops to make the black part of your eyes pupils - larger. This process is called dilating your pupil, which allows the eye care professional to see the back of your eye. Finding eye problems early and getting treatment right away will help prevent more serious problems later on.

- 1 Asking your eye care professional to check for signs of cataract. A cataract is a cloud over the lens of your eye, which is usually clear and makes everything you look at seem cloudy. Glaucoma starts from pressure building up in the eye. Over time, this pressure damages your eye's main nerve - the optic nerve - causing you to lose sight from both sides of your eyes.
- 2 Not smoking.



How Can Diabetes Hurt My Eyes?

High blood glucose and high blood pressure from diabetes can hurt four parts of the eye.

1. **Retina:** The retina is the lining at the back of the eye. The retina's job is to sense light coming into the eye.
2. **Vitreous:** The vitreous is a jelly-like fluid that fills the back of the eye.
3. **Lens:** The lens is at the front of the eye. The lens focuses light on the retina.
4. **Optic Nerve:** The optic nerve is the eye's main nerve to the brain.

How Can Diabetes Hurt The Retinas Of My Eyes?

Retina damage happens slowly. Your retinas have tiny blood vessels that are easy to damage. Having high blood glucose and high blood pressure for a long time can damage these tiny blood vessels.

First, these tiny blood vessels swell and weaken. Some blood vessels then become clogged and do not let enough blood through.

At first, you might not have any loss of sight from these changes. However, have a dilated eye exam once a year even if your sight seems fine to an early diagnosis of this condition.

What Happens as Diabetes Retina Problems Get Worse?

As diabetes retina problems get worse, new blood vessels grow. These new blood vessels are weak. They break easily and leak blood into the vitreous of your eye. The leaking blood keeps light from reaching the retina. You may see floating spots or almost total darkness. Sometimes the blood will clear out by itself; in other cases, surgery may be required to remove it. Over the years, the swollen and weak blood vessels can form scar tissue and pull the retina away from the back of the eye. If the retina becomes detached, you may see floating spots or flashing lights. You may feel as if a curtain has been pulled over part of what you are looking at. A detached retina can cause loss of sight or blindness if you do not take care of it right away.



Call your eye care professional right away if you are having any vision problems or if you have had a sudden change in your vision.

PREVENTION OF DIABETICRETINOPATHY

1. Keep blood sugar levels and blood pressure near normal by eating a healthful diet,
2. Frequently monitor your blood sugar levels
3. Getting regular physical exercise and taking insulin or medicines if prescribed.

Diabetic retinopathy often has no warning signs; DO NOT wait for symptoms to occur. Screening for diabetic retinopathy and other eye problems will not prevent diabetic eye disease, but it can help you avoid vision loss by allowing for early detection and treatment.

Signs of diabetes retina damage:

1. Blurry or double vision
2. Rings, flashing lights or blank spots
3. Dark or floatingspots
4. Pain or pressure in one or both of your eyes.
5. Trouble seeing things out of the corners of your eyes.

Get your eyes checked yearly! To find an eye care professional near you, ask your doctor for a recommendation, contact a nearby hospital or medical school or call a state or county association of ophthalmologists or optometrists.

HYPOGLYCEMIA

Hypoglycemia, or low blood sugar, is a very common and dangerous condition for people with diabetes. It occurs when your body's glucose is used up too quickly, glucose is released into the bloodstream. Hypoglycemia is triggered by not eating often enough, eating too little, too much physical activity without eating or too much insulin. Symptoms can include trembling, weakness, confusion, irritability, feeling tired or hungry, blurry vision, headaches, and nausea. If you have any of these symptoms, check your blood sugar. If your blood sugar is below 70mg/dl, eat or drink something containing sugar immediately. In severe forms, hypoglycemia can lead to unconsciousness or even death. Follow your healthcare professional's advice regarding medication, diet, and exercise for prevention of this condition.

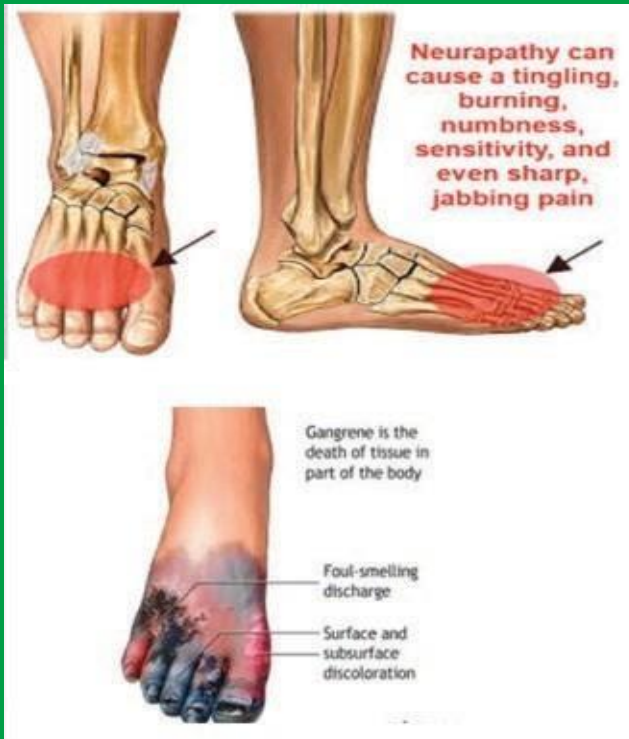
HYPERGLYCEMIA

Hyperglycemia, or high blood sugar, occurs when the body has too little insulin or when the body cannot use insulin properly. Symptoms include frequent urination, increased thirst, and sugar in the urine. Checking your blood sugar and then treating high blood glucose early will help you avoid the other symptoms of hyperglycemia; ketoacidosis (diabetic coma), which could occur immediate after treatment. Good diabetes management and control can help prevent hyperglycemia.

HYPERTENSION

Hypertension is the term used to describe high blood pressure. Blood pressure increases when arteries are narrowed and blood flow is restricted. The long- term stress of high blood pressure levels increases the risk of other diabetic complications such as stroke, heart attack, heart failure or kidney failure. The only way to tell if you have high blood pressure checked on a regular basis. Normal blood pressure for people with diabetes is <130/80 millimeters of mercury (mm Hg). From 2003 to 2004, 75% of adults with self-reported diabetes had blood pressure greater than or equal to 130/80mm Hg or used prescription medications for hypertension

NEUROPATHY



Neuropathy, or nerve damage, affects more than 60% of people with type 1 diabetes. The impact of nerve damage can range from a slight inconvenience to major disability and even death. Diabetic neuropathy leads to loss of and sometimes pain and weakness in the feet, legs, hands, and arms; it's the most common cause of amputations not caused by accidents in the United States. In one type of neuropathy, known as autonomic neuropathy, high glucose levels injure the autonomic nervous system, which controls bodily functions such as breathing, circulation, urination, sexual function, temperature regulation and digestion. Autonomic neuropathy may result in various types of digestive problems, diarrhoea, erectile dysfunction, a rapid heartbeat, and low blood pressure.

1) **DIABETIC NEUROPATHY**

Diabetic kidney disease, also known as diabetic nephropathy, is one of the most common and most devastating complications of diabetes.

It is a slow deterioration of the kidneys and kidney function which, in severe cases, can eventually result in kidney failure, also known as end-stage renal disease, or ESRD. About one-third of people with type 1 diabetes develop nephropathy.

PERIPHERAL ARTERIAL DISEASE (PAD)

Peripheral Arterial Disease (PAD) is a common complication of diabetes.

PAD occurs when there is a blockage in the blood vessels in the legs and feet, reducing blood flow to these areas. This poses a major risk factor for lower-extremity amputations.

- More than 60% of non-traumatic lower-limb amputations occur in people with diabetes.
- In 2004, about 71,000 non - traumatic lower-limb amputations were performed on people with diabetes.

For people with diabetes, the risk of PAD increases with age, the length of time since diagnosis and the presence of nerve damage. The risk is even greater if you are overweight, have high blood pressure or cholesterol, smoke, have a heart attack or stroke or have a family history of heart attack or stroke.

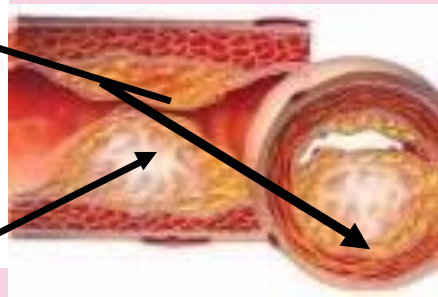
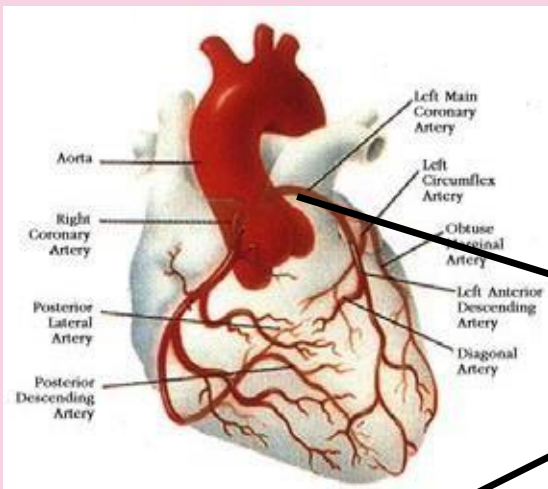
To prevent foot problems, keep your blood sugar levels within your target range; examine your feet daily for sores, cuts, bruises or other injuries and consult your doctor if problems occur; practice healthy foot care habits and have your doctor check your feet during each visit.

DENTAL DISEASES

Periodontal (gum) disease is more common in people with diabetes. Among young adults, those with diabetes have about twice the risk of developing this condition than those without diabetes.

Persons with poorly controlled diabetes (A1C > 9 %) were nearly 3 times more likely to have severe periodontitis than those without diabetes. Almost one-third of people with diabetes have severe periodontal disease with loss of attachment of the gums to the teeth measuring 5 millimeters or more.

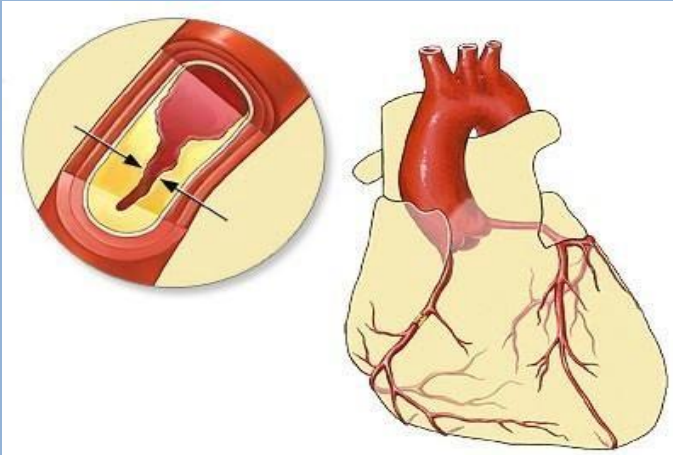
HEART DISEASE AND STROKE



LDL
BAD CHOLESTEROL

High blood pressure and cholesterol increase one's risk for heart disease and stroke. When combined with diabetes, these risk factors add up to big trouble. In fact, more than 65% of people with diabetes have heart attacks that occur earlier in life and often result in death. By managing diabetes, high blood pressure and cholesterol, people with diabetes can reduce this risk.

CARDIOVASCULAR DISEASE



Cardiovascular disease, a range of blood vessel system diseases that includes both stroke and heart attack, is the major cause of death in people with diabetes. The two most common types of cardiovascular disease are coronary heart disease, caused by fatty deposits in the arteries that feed the heart, and hypertension, or high blood pressure. Research shows that people with diabetes are more likely to have high cholesterol and hypertension, both of which cause damage to the cells lining the artery walls. Researchers think high blood glucose contributes to both of these conditions.

Deaths due to heart disease rose by 32% in 2002 compared to the number of cases in 1997 in Africa alone due to increased fat and sugar intake and lack of physical exercise by most people.

This is common in overweight, and middle-aged men, however, it has been currently noted that one in four women also runs the risk of suffering from heart disease especially in premenopausal and menopausal periods (45 to 65 yrs.)

They are dependent largely on two normal components in blood mainly Lipids and Homocysteine - an also balanced diet low in fat and high in fiber.

ANGINA PECTORIS

Angina Pectoris refers to pain in the center of the chest which is induced by exercise and relieved by rest and may spread to the jaws and arms. It occurs when the demand for blood by the heart exceeds the supply of the coronary arteries and it usually results from coronary artery atheroma.

Use basic products

1. Whole grain supplements
2. Omega 3 supplements
3. Magnesium and calcium minerals
4. Vitamins- A, B, C, D & E
5. White Meat e.g. Fish, Chicken

Atherosclerosis

This is degeneration of the walls of the arteries due to the formation in them of fatty plaques and scar tissue. This limits blood circulation and predisposes to thrombosis. Symptoms and signs depend on arteries involved and degree of obstruction- angina, leg cramps, gradual mental deterioration, weakness or dizziness. It may also be without symptoms.

Take basic or advanced products

- Lipotropic adjunct
- Omega 3 supplements
- Whole grain supplements

Hypertension

High blood pressure i.e. elevation of the arterial blood pressure above the normal range expected in a particular age group. Complications that may arise from hypertension include atherosclerosis, heart failure, cerebral hemorrhage, and kidney failure but treatment may prevent their development.

Recommended Supplementation

- Aloe Vera drinks
- Whole grain supplements
- lipotropic Adjunct
- Omega-3 supplements
- Use cholesterol-lowering foods and avoid cholesterol

Antibiotic resistance occurs when bacteria change to protect themselves from an antibiotic. The more we use antibiotics, the more chance bacteria have to become resistant to them.



What you can do:



1 Prevent infections by regularly washing your hands and keeping up to date with vaccinations



2 Prevent food-borne infections by washing fruits and vegetables and cooking food properly



3 Understand that antibiotics only work against bacteria. They do not work for colds and flus which are caused by viruses



4 Don't pressure your health professional for antibiotics if they say you don't need them, ask about other ways to relieve your symptoms



5 Only take antibiotics when they are prescribed for you, don't use or share leftover antibiotics



6 Follow your health professional's instructions when you are prescribed antibiotics



3.0 **ARTHRITIS**

It is the inflammation of one or more joints, characterized by swelling, warmth, redness of the overlying skin, pain, and restriction of motion.

3.1 **RHEUMATOID ARTHRITIS**

It's a form of arthritis that is the second most common cause of rheumatic disease. It typically affects the joints of the fingers, wrists, feet, and ankles and sometimes later the hips, knees, and shoulders.



3.2 **OSTEOARTHRITIS**

It is a mild early morning stiffness following periods of rest, pain that worsens on joint use and causes loss of joint function. Local tenderness, soft tissue swelling, creaking and cracking of joints on movement, bony swelling, restricted mobility and other signs of degenerative loss of joints cartilage, are the main symptoms of this condition.

3.3 **OSTEOPOROSIS**

Loss of bony tissue resulting in bones that are brittle and liable to fracture. It's usually without symptoms until severe backache. Osteoporosis is most common in postmenopausal women. It's characterized by a decrease in height, Spontaneous fractures of the hip and vertebrae may occur.



Use basic products

1. Whole grain supplements
2. Omega 3 supplements
3. Calcium and Magnesium supplements
4. Vitamins - A,B,C,D & E
5. Aloe Vera Gel

3.4 GOUT

It is a common type of arthritis (joints inflammation) caused by an increased concentration of uric acid. In gout, uric acid crystals are deposited in joints, tendons, kidneys and other tissues where they cause considerable inflammation damage.

Take Basic or Advanced

1. Vitamin C supplements
2. Omega 3 supplements

Weight control management:

1. Use weight management supplements
2. Avoid red meat & alcohol
3. Increase consumption of whole grains, green vegetables, white meat.

4.0 DEGENERATIVE DISEASE (AGEING ILLNESS)

4.1 OBESITY

Greater than 10% above normal weight or body fat percentage greater than 30% for women and 25% for men is classified as obese.

Management:

1. Detoxification
2. Weight management program from a nutritionist.

OBESITY AND OVERWEIGHT INCREASING WORLDWIDE

3.4 million
DEATHS CAUSED
by overweight
AND OBESITY



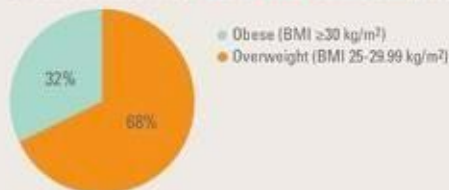
Obesity and overweight
INCREASED
27.5% IN ADULTS
47.1% IN CHILDREN
SINCE 1980

Middle Eastern countries experiencing some of the largest increases in obesity globally:
SAUDI ARABIA, BAHRAIN, EGYPT, KUWAIT, AND PALESTINE



7 COUNTRIES THAT HAVE OBESITY PREVALENCE
EXCEEDING 50% IN WOMEN:
TONGA, KUWAIT, KIRIBATI, THE FEDERATED STATES
OF MICRONESIA, LIBYA, QATAR, AND SAMOA

GLOBAL BREAKDOWN OF OBESITY AND OVERWEIGHT, 2013



37

Percentage of the world's adult population that is overweight or obese

0

Number of countries succeeding in decreasing obesity in last 33 years

14

Percentage of overweight or obese children and adolescents worldwide

62

Percentage of the world's obese living in developing countries

THE US ACCOUNTS FOR **13%** OF THE NUMBER OF OBESE PEOPLE GLOBALLY BUT **JUST 5%** OF THE WORLD'S POPULATION

OBESITY AND OVERWEIGHT CONTRIBUTE TO:



• CARDIOVASCULAR DISEASE



• DIABETES

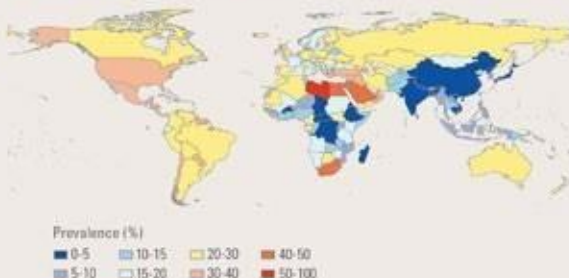


• CANCER



• JOINT PAIN

OBESITY IN WOMEN WORLDWIDE, 2013





5.1 ALZHEIMER'S DISEASE

A progressive form of dementia occurring in middle age or later characterized by loss of short-term memory, deterioration in behaviour and intellectual performance and slowness of thought. The condition may be mimicked by severe depression.

1. Mind enhancement supplements such as omega 3 oils and vitamins

6.1 STRESS

6.2 DEPRESSION

A mental state characterized by excessive sadness. An activity can be agitated, restless, slow and/or retarded. Behavior is governed by pessimistic or despairing beliefs and sleep, appetite and concentration are disturbed.

Management;

1. Use Aloe Vera plus and Rest and relax supplements
2. See the appendix Stress and stress management

6.3 INSOMNIA

The inability to fall asleep or to remain asleep for an adequate length of time.

Management:

Take basic or advanced

1. Aloe Vera drinks
2. Whole grain supplements

7.0 CHRONIC FATIGUE SYNDROME

It is a newly established syndrome that describes varying combinations of symptoms including recurrent sore throats, low-grade fever, lymph node swelling, headache, muscle and joint pain, intestinal discomfort, emotional distress and/or depression and loss of concentration.

Management:

Take Basic products

1. Whole grain supplements
2. Vitamins- A, B, C, D & E
3. Aloe Vera Gel



8.0 ALLERGIC CONDITIONS

- **Asthma**

The condition of subjects with widespread narrowing of the bronchial airways, which changes in severity over short periods of time and leads to cough, wheezing and difficulty in breathing.

Use basic products

1. Whole grain supplements
2. Omega 3 supplements
3. calcium and Magnesium supplements
4. Vitamins- A, B, C, D & E
5. Bee Products e.g. Bee Pollen, Propolis

- **Bronchitis**

Inflammation of the bronchi and bronchioles. It is usually preceded by upper respiratory infection. Symptoms include sudden onset of dry or productive cough, shaking, fever and chest pain.

Use Basic products

1. Omega 3 supplements
2. Vitamin C.

9.0 DYSPLASIA (CANCERS) (SEE THE CHAPTER ON CANCER)

This is an abnormal growth in any part of the body which grows uncontrollably.

The common cancers are Breast, Cervix, Prostate, Oesophagus, stomach Lymphomas.

Use basic products;

1. Fibre tabs
2. Vitamin E.
3. Cruciferous plus
4. Whole grain supplements
5. Vitamins & Detoxification

10.0 SKIN PROBLEMS

- a) **Acne**

A common inflammatory disorder of the sebaceous glands. It involves the face, back, and chest and is characterized by the presence of blackheads with papules and in more severe cases- cysts and scars.

b) Eczema

A common itchy skin disease characterized by reddening and vesicle formation, which may lead to weeping and crusting. It is commonly found on the face, wrists, and insides of the elbows and knees.

11.0 LOW IMMUNITY

11.1 AIDS

A syndrome of the causative virus-HIV (human immunodeficiency virus). It destroys a subgroup of lymphocytes, resulting in suppression of the body's immune response. The symptoms may include persistent generalized involvement of the lymph nodes, what is termed AID-related complex, intermittent fever, weight loss, diarrhea, fatigue, night sweats, and opportunistic infection/tumors.

12.0. ANAEMIA

Anemia refers to a condition in which the blood is deficient in red blood cells or the hemoglobin (iron-containing) portion of red blood cells. The symptoms include palpitations, pallor, weakness, a tendency to easy fatigability, & poor resistance to infection which reflects lack of oxygen being delivered to tissues and build-up of carbon dioxide.

13.0 WOUNDS / LACERATIONS

- Clear wounds or infected wounds

An ulcerated area of skin caused by irritation and continuous pressure on part of the body. Healing is hindered by the reduced blood supply to the area.

Management: Use Aloe Vera bases applications.

13.1 ULCERS

A break in the skin extending to all its layers or a break in the mucous membrane lining the alimentary tract that fails to heal and is often accompanied by inflammation.

Management: Apply Aloe Vera gel on the ulcer.

13.2 BOILS

A deep-seated infection involving the entire hair follicle and adjacent subcutaneous tissue. The swelling of a hair follicle forms an abscess which typically appears as a rounded or conical 1-cm-diameter red nodule surrounded by redness, progressing to localized pus pockets with white centers. There is tenderness and pain and if severe mild fever.

Management: Apply Aloe Vera gel on the skin.

13.3 BURN

Tissue damage caused by such agents as heat, chemicals, electricity, sunlight or nuclear radiation.

Management: Apply Aloe Vera gel on the skin.

13.4 MOUTH ULCERS

Single or clustered shallow painful ulcers found anywhere in the oral cavity and are surrounded by a reddened border and are often covered by a white membrane it usually cured in 7 to 21 days but is recurrent in many people.

Management: AloeVera gel

14.0 COMMON INFECTIONS

A widespread infectious viral-disease causing inflammation of the mucous membranes of the nose, throat and bronchial tubes.

14.1 COLD

Symptoms commence 1 - 2 days after infection and include a sore throat, stuffy or runny nose, headache, cough, and general malaise.

14.2 SINUS INFECTION

Inflammation of one or more of the mucous-membrane-lined air spaces in the facial bones that communicate with the nose. It is often caused by infection spreading from the nose; symptoms include headache and tenderness over the affected sinus which may become filled with a purulent material that is discharged through the nose. Become filled with a purulent material that is discharged through the nose.

Management:

- Use basic products
- Whole grain supplements
- Omega 3 supplements
- Magnesium and Calcium supplements
- Vitamins- A, B, C, D & E

14.3 SORE THROAT

Pain at the back of the mouth, commonly due to bacterial or viral infection of the tonsils. The symptoms include abrupt onset of sore throat, fever, malaise, nausea, and headache.

15.0 ABDOMINAL UPSETS

a) Constipation

A condition in which bowel evacuations occur, or in which the faeces are hard and small, or where the passage of faeces is difficult or painful.

15.1 HEMORRHOIDS

It is an abnormally large or painful accumulation of blood vessels, supporting tissues and overlying the mucous membrane or skin of the anorectal area.

The causes of hemorrhoids are:

- The genetic weakness of the veins,
- Excessive venous pressure,
- Pregnancy,
- Long periods of standing or sitting and
- Heavy lifting are considered the major factors

Management: Use Fibre Tabs



- 1 Think about your **total diet**; supplements are intended to supplement the diets of some people, but not to replace the balance of the variety of foods important to a healthy diet (too much of certain nutrients can actually cause problems).
- 2 Educate yourself on the **safety risks** associated with taking supplements.
- 3 Be aware that the term "**natural**" doesn't always mean safe. A supplement's safety depends on numerous things, such as its chemical make-up, how it works in the body and how it is prepared. Some herbs (for example, comfrey and kava) can harm the liver.
- 4 Check with your **doctor** about the supplements you take if you are scheduled to have any type of surgical procedure or if you're pregnant/ trying for a baby.

Take supplements in place of, or in combination with, **prescribed medications** without your doctor's approval.

Fail to inform yourself about the proper **dosage** of supplements before taking them.

Take supplements with **tea or coffee** because the caffeine and tannins can prevent your body from absorbing the nutrients.

Double up your dosage. If you forget your supplements one day, just write off the missed pill and continue taking them as normal.



References

- www.mayoclinic.org/healthy-living/nutrition-and-healthy-eating/in-depth/supplements/art-20044894
- www.nutraingredients-usa.com/Markets/Supplement-use-up-to-69-of-US-adults-CRN-survey
- www.scientificamerican.com/article/fact-or-fiction-vitamin-supplements-improve-health/
- www.fda.gov/Food/DietarySupplements/UsingDietarySupplements/ucm110567.htm
- www.packagedfacts.com/Nutritional-Supplements-Edition-8238326/
- ods.od.nih.gov/HealthInformation/DS_WhatYouNeedToKnow.aspx
- www.fda.gov/AboutFDA/Transparency/Basics/ucm195635.htm
- blog.supplementcentre.com/supplement-vs-food-data/
- blog.healthkismet.com/whole-food-synthetic-vitamins
- www.safefood.eu/Publications



WOMENS' HEALTH

1. HEAVY PERIODS

Excessive menstrual bleeding refers to a blood loss greater than 80ml, occurring at regular menstrual cycles (cycles are usually but not necessarily of normal length). It is a common female complaint that may be entirely prevented by taking proper nutritional measures.

Management:

- Avoid contraceptives advice natural family planning.
- weight management
- Frequent detoxifications.
- Visit your gynaecologist frequently in case of any abnormality

2. MENOPAUSE

The time in a woman's life when the ovaries cease to produce an egg cell every four weeks: menstruation ceases and the woman is no longer able to bear children. It can occur at any age between the middle thirties and the middle fifties. There is a change in the balance of sex hormones in the body which sometimes leads to hot flushes, palpitations, and dryness of the mucous membrane lining the vagina. Some women may also experience emotional disturbances.

3. PREMENSTRUAL SYNDROME

A condition of decreased energy, tension, nervousness, irritability, emotional disturbance, headache, depression, altered sex drive, breast pain, backache, etc. affecting some women for up to about ten days before menstruation.

4. VAGINITIS

Inflammation of the vagina caused by infection. Dietary deficiency or poor hygiene. There is often itching, increased vaginal discharge and pain on passing urine.

Management: Wash the perineal areas and vulva well with LDC.

5. CANDIDIASIS

A common yeast infection of moist areas of the body, which is especially common in the vagina, where it is known as thrush, but is also found in the mouth and skin folds.

This is common in Patients after prolonged use of antibiotics or in diabetics.

17.0 DETOXIFICATION PROGRAMME

The body accumulates a lot of toxins in the foods we ingest, the air we breathe and other routine daily activities. These toxins are dangerous to the body and need to be removed from the body at least once a year.

Advanced products.

1. Fibre tabs
2. Vitamin E.

18.0 OBESITY / OVERWEIGHT.

Weight management is one of the fundamental solutions to maintaining a healthy lifestyle. Being overweight increases the chance of acquiring and developing disease conditions associated with extra effort in losing that extra weight giving problems, wondered why? It is because our bodies tend to be in 'weight storage' mode all the time.

BMI (Body Mass Index) = (Body Weight in Kgs, Height in M)
(e.g. Wt = 72 Kgs Ht= 1.86m)

BMI Categories

- | | |
|------------------|--------------|
| 1) Underweight | = <18.5 |
| 2) Normal weight | = 18.5-24.9 |
| 3) Overweight | = 25-29.9 |
| 4) Obese | = 30 - 39.9: |
| 5) VERY HIGH BMI | = >40 |

BMI

UNDERWEIGHT 2%

NORMAL WEIGHT 33%

OVERWEIGHT 65%

BODY FATS

- | | |
|-----------|-------|
| 1) NORMAL | = 23% |
| 2) HIGH | = 77% |
| 3) HIGH | = 80% |

START THE WEEK WITH SELF-CARE

Practicing self-care is important. Try these simple tips to reduce stress and improve your mood and energy.



GO FOR A WALK

Feel the air or the warmth of the sun.



TAKE A BREATH

Take a pause with some deep breaths.



YOGA MOMENT

At your desk or in your living room, do some relaxing moves.



TAKE A WARM BATH

This is also a way to take a digital break from your phone and/or computer.



CALL A FRIEND

Catch up and share the latest. This will boost your happiness and it's a natural way to destress.



SLEEP

Go to bed early, read, relax, do some bed yoga, sleep soundly, and wake up refreshed!

ENERGY

Eat Carbohydrates Body Makes Blood Glucose Produces Insulin in Pancreas Fat Storage Increases Fat Burning stops

DIETARY SUPPLEMENTS

Most people are not able to obtain all the nutrients they need for good health from the food they eat daily. Dietary supplementation is highly recommended to obtain good health. Great people in ages past, when life expectancy was a fraction of what it is today, we're able to beat the odds and live long, productive lives. For example, Plato lived to 80, Leo Tolstoy to 82, Isaac Newton to 85, among other great African people, including our own great grandfathers and mothers. However, today we are faced with great challenges among the poor diet, pollution and global warming, which all impact negatively on our health. Despite all this, there is a solution to help us stay SAFE through this danger zone and help us live long and productive lives as well.

According to the current health reports the Strategy for prevention for common emerging the deadly 8 diseases;

- Fix YourDiet!!!
- If you are inactive -Be Active
- If you smoke-Quit!

a) What Do I Say About Supplementation?

Diet is one of the best and cheap methods of keeping our health; however, nutrition is not a major subject, despite the fact that most of the Non-Communicable Diseases such as diabetes and cancer are purely dietary diseases although genetic factors may be a predisposing factor. Most of the cancer cases can be prevented by a good diet. Our current food chain has been gradually replaced by highly refined foods. (Sugar attracting carbohydrates) poses great harm to our own health. We have seen a steady increase of cancer in Kenya in the past 10 years and the trend keeps on rolling. This is typically due to adopting the western type of diet which lack whole grain, fruits, and vegetable components.



Inadequate physical exercises and increased intake of meat (Red), pure sugars and bad fat are also contributing factors.

b) Supplementation Products.

Our markets today are flooded with products for supplementation that target to improve our health. However, not all these products are gospel truth and therefore users are advised to practice caution in choosing the right products from the wider range. As sated above food production in Kenya and the whole world today, misses out very important components that make us vulnerable to diseases. It is important to note that there are many accredited companies that produce quality products that give us the critical components of the diet that we miss in our foods. An example of health and wellness companies in which I will talk about its products in detail in the following chapters.

DETOXIFICATION PROGRAMME

Man was placed on an unpolluted, chemical, preservative, and addictive-free world. In these circumstances, his liver and kidneys could perform the task of the daily detoxifying of the body adequately. Today, however, we live in a highly polluted world, exhaust gasses of vehicles, colorants, and preservatives in our food, chlorine in the water, polluting gases from standing water l open gutters, litterin the street etc...this places an exceptionally high load on the detoxifying action of our detoxifying organs, kidney, and liver.

The Scientific advisory board has produced a detoxification program that every person should take for 30 days in one year. When customers come to you with physical problems, we always have to make the proper legal warning and ethics comment that we have to refer anybody with a sickness a licensed practitioner, to do the diagnosis and treatment.

Thus, we are postured as nutritional support for better health. Individuals coming into new nutrition, it's good to start with detox-program.



2.0 FIBRE

The release of some of these heavy metals and carcinogens, also need to have a carrier system to escort them out, and this is where we start moving toward fibre. Fibre is a natural carrier and scraper in the intestinal tract. It picks up heavy metals, and picks up other negative carcinogens, and carries them right on out.

The fibre holds moisture, protects the condition of your intestinal and colon lining. It prevents haemorrhoids, fissures, and duodenum cancer. Fibre, therefore, ensures a normal, healthy regime, and especially in the Detox-program as a carrier to what the beta-guard has released.

Note: These are natural food health product and should not be used or replace doctor prescriptionll

RECOMMENDED NORMAL HEALTH AND WELLNESS CHECK-UP BY AGES

Comprehensive CHILDREN Wellness Check-Up

- Full blood count ESR,
- Random Blood Sugar
- Urine Analysis
- Stool Analysis {o/c occult blood, H. pylori, Rotavirus}
- H. Pylori
- HIV Screening {Optional HBsAg, HCV}
- Nutrition Review {DIET SHEET - BMI, BODY% monitor}
- Chest X-ray
- Blood Group and Rh typing, Mantoux test
- Physical examination and advice by a paediatric consultant

Pre-Employment / House help:

Comprehensive Wellness Check-Up

- Full blood count ESR,
- Random Blood Sugar
- Urine Analysis
- Stool Analysis {o/c occult blood, H. pylori}

- H. Pylori {Food Handlers}
- HIV Screening {Optional HBsAg, HCV}
- Nutrition Review {DIET SHEET - BMI, BODY % monitor}
- Chest X-ray
- Mantoux test,
- Widal test {Food Handlers}
- Brucella test {Food Handlers}
- ECG and Physical Examination.

Comprehensive YOUTH Wellness Check-Up {Below 35YRS}

- Full blood count
- Random Blood Sugar
- Urine Analysis
- Stool Analysis {o/c, occult blood, H Pylori}
- HIV Screening {optional HBsAg, HCV}
- Lipid profile {total Cholesterol}
- Chest X-ray
- Liver Function Analysis
- Kidney functions tests - U/E/C's
- Pap Smear (female)
- Breast Examination (female)

Comprehensive Adult Wellness Check-Up {above 35yrs}

- Full blood count
- Random Blood Sugar
- Urine Analysis
- Stool Analysis {o/c, occult blood, H.pylori}
- H. Pylori
- HIV Screening. {Optional HBsAg,
- HCV}
- Nutrition Review {DIET SHEET -
- BMI, BODY %monitor}

Systemic checks

- Chest X-ray
- Liver Function Analysis Kidney FunctionTest (U/E/C's)

- Thyroid Screen(TFTs- T3, T4, THS)
- Lipid profile
- Electrocardiogram (ECG)
- Echocardiogram
- Cancer screening
- Pap Smear (female)
- PSA Screening test (male)
- Mammogram (female)
- Pelvic/Abdominal ultrasound (female)
- Prostate/Abdominal ultrasound (male)
- Cancer Markers {AFP, CEA, CA 125, CA 19-9, CA 153, PSA LEVEL S}

Additional specific tests

- Colonoscopy
- Gastroscopy
- Coronary Angiogram

Heart Check

- Cardiac Consultant physical examination
- Electrocardiogram
- Echo Cardiogram
- Exercise Stress Test

Diabetic Check

- FBS
- Diabetic Screen (Glycated HB/HBA1C)
- HbA1c
- Urine Microalbumin
- Physical examination
- Specialist Consultation

HOW TO DEAL WITH STRESS AND ANXIETY

MIND




Accept that you cannot control everything.

Put your stress in perspective: Is it really as bad as you think?



Do your best.

Instead of aiming for perfection, which isn't possible, be proud of however close you get.



Maintain a positive attitude.

Make an effort to replace negative thoughts with positive ones



Learn what triggers your anxiety.

Is it work, family, school, or something else you can identify? Write in a journal when you're feeling stressed or anxious, and look for a pattern.



MENTAL HEALTH AWARENESS

What is mentalhealth?

A state of wellbeing in which every individual realizes his or her own potential.

- Can cope with the normal stresses of life.
- It can work productively and fruitfully.
- Is able to make a contribution to her or his community.

What is mental well-being?

- It is more than the absence of mental illness and
- It is more than feeling happy.
- It is the ability to cope with the day-to-day stresses of life, work productively,
- Interact positivelywith others and
- Realize our own potential.

Causes of mental illness

- The symptoms of mental illness are a result of abnormal brain functioning.
- Mental illness is a brain disorder.
- NB; -Mental illness is rarely if ever caused by stress alone.

Mental health issues

- Depression
- Eating disorders
- Self-harm
- Post-traumatic stress disorder (PTSD)

What is Mental Well Being?

- It is more than the absence of mental illness and It is more than feeling happy.
- It is the ability to cope with the day-to-day stresses of life, work productively, interact positively with others and realize our own potential.



STRESS AND STRESS MANAGEMENT

- Stress is a normal part of life.
- In small quantities, stress is good; it can motivate you and help you become more productive.

Although stress can be harmful to our health, it is how we perceive stress and how we react to it determines its impact on our health. We may be motivated and invigorated by the stress or our health and happiness may suffer.

What is stress?

Stress is the body's physical response to a perceived threat. Human reaction to events in our environment. Workplace stress is the result of the interaction between a person and their work environment.

WHAT ARE THE SOURCES OF STRESS?

We can experience stress from four basic sources: -

1. The Environment

Intense and competing for demands to adjust like weather, noise, crowding, pollution, traffic, unsafe and substandard housing, and crime.

2. Social Stressors

From the demands of the different social roles we occupy, such as parent, spouse, caregiver, and employee. Some examples include deadlines, financial problems, job interviews, presentations, disagreements, demands for your time and attention, death of a loved one, divorce and co-parenting.

3. Physiological stressors

These are situations and circumstances affecting our bodies. Examples of physiological stressors include rapid growth of adolescence, menopause, illness, aging, giving birth, accidents, lack of exercise, poor nutrition, and sleep disturbances.

4. Thoughts

Your brain interprets and perceives situations as stressful, difficult, painful, or pleasant. Some situations in life are stress-provoking, but it is our thoughts that determine whether they are a problem for us.



POSITIVE STRESS AND PERSONAL STRESSORS

A. Positive Stress

This type of stress has the following characteristics:

Motivates focuses energy

- Is short-term
- Is perceived as within our coping abilities
- Feels exciting
- Improves performance

Examples of stressors are new job, having a baby, retiring.

NEGATIVE STRESS AND PERSONAL STRESSORS

B. Negative stress

Have the following characteristics:-

- Causes anxiety and concern
- Can be short or long-term
- Is perceived as outside of our coping abilities
- Feels unpleasant
- Decreases performance
- Can lead to a mental and physical problem

Examples are the death of a loved one, job loss, divorce, etc.

TYPES OF STRESS

A. General stress

This affects everyone and resolves itself. No intervention required.

Resolves by itself

B. Cumulative stress

Accumulated stress with physical symptoms and mental anguish

- Acute traumatic stress

Critical incident stress. It causes psychological distress. This is normal reaction to abnormal events.

- Post-traumatic stress

Severe stress caused by psychological trauma due to unresolved critical incident stress. Has long-lasting changes.

Signs and Symptoms of Stress Overload Stress affect the mind, body, and behaviour. Everyone experiences stress differently.



Three common ways that people respond when they are overwhelmed by stress are: -

- An angry or agitated stress response
- A withdrawn or depressed stress response
- A frozen stress response.

Cognitive Symptoms:

- Memory problems
- Inability or difficulty concentrating
- Poor judgment
- Seeing only the negative
- Anxious, racing, or ruminating thoughts
- Constant worrying

Emotional Symptoms:

- Moodiness
- Irritability or short-tempered.
- Agitation, inability to relax.
- Feeling overwhelmed
- Sense of loneliness or isolation
- Depression or general unhappiness

Physical Symptoms:

- Aches and pains, muscle tension
- Diarrhea or constipation
- Nausea, dizziness, or butterflies in the stomach
- Chest pain or rapid heartbeat
- Loss of sex drive
- Frequent colds
- Shallow breathing and sweating

Behavioural Symptoms:

- Eating more or less
- Sleeping too much or too little
- Isolating yourself from others
- Procrastinating or neglecting responsibilities
- Using alcohol, cigarettes, or drugs to relax
- Nervous habits (nail biting, pacing)

STRESS MANAGEMENT

Step 1: Identify if you are stressed

Step 2: Identify the stressor

Step 3: Identify the reason for the stressor

Step 4: Select an appropriate stress management strategy and apply it

NB: Remember that the –fight or flightll response stimulates the body by increasing heart rate, blood pressure, respiration.

It is this continued state of stimulation that contributes to health problems.

Relaxation strategies help to reverse the stimulation caused by the stress response: -

VISUALIZATION

- The mind and body are intricately connected. Our thoughts can lead to changes in the body.
- Visualization is a technique whereby you use the power of your imagination to induce feelings of relaxation. You close your eyes and imagine things.
- Guided imagery is a form of visualization.
- Here you listen to a recording of someone guiding you through the visualization and relaxation process.

MEDITATION

- The word –meditationll derives from the Latin *meditatum*, which means –to ponderll.
- It involves focusing attention and awareness so that you gain greater control over your thoughts.
- It is believed to have originated in Eastern religious tradition. The goal is to reach a point where your thoughts disappear and you are left with an uncluttered mind.

HOT BATH, SAUNA, HOTTUB

The physical changes that happen in the body as a result of stress include the constriction of blood vessels, which can lead to an increase in blood pressure.

The warmth of a hot bath, a sauna or a hot tub opens up blood vessels, improving circulation of blood to the muscles, which can help you relax

Besides the physiological effects of the warmth, simply taking time to have a hot bath or sit in a sauna or hot tub can be relaxing.

MUSIC APPRECIATION

Most of us listen to music regularly, but we rarely take the time to truly appreciate the facets of music like the lyrics, the beat, or even the contribution of each individual instrument. Through music appreciation a person takes time to sit with it and appreciate it as a whole. Research shows that music appreciation can help you relax. Some types of music that are more conducive to arriving at a relaxed state are classical, ambient and gospel music.

STRESS MANAGEMENT- LONG TERM STRATEGIES

As we pointed out in Step 3, -ll identify REASON for the stressor –

1. A danger can be real (e.g. –I don't have enough money to pay the bills) or
2. It can be imagined (e.g. –My life is over am I don't get all –Alls in my courses)).

There are two categories of stress management strategies that correspond to these two categories of dangers: -

1. The problem-solving approach (for real dangers)
2. The cognitive approach (for imagined dangers)

The goal of both of these approaches is to;

1. Reduce the demands,
2. Build the resources—or
3. A combination of both—so that the situation is no longer seen as dangerous.

In the problem-solving approach you do something to remove the danger, whereas in the cognitive approach you change the way you think so you no longer perceive the situation as dangerous.

Because these strategies aim to remove the danger, they are long-term strategies. Once the danger is gone, so is the stress.

These strategies are more effective than relaxation strategies.

STRESS MANAGEMENT STRATEGIES THAT ADDRESS THE STRESSOR

A. Critical Thinking

Critical thinking as —that mode of thinking—about any

- Subject,
- Content, or
- Problem—

In which the thinker improves the quality of his or her thinking by skillfully taking charge of the structures inherent in thinking and imposing intellectual standards upon them. ||

Your thinking controls every part of your life

- Are you in control of your thinking?
- Are you a good critical thinker?

Good critical thinking skills can positively affect all areas of your life, including reducing or eliminating stress.

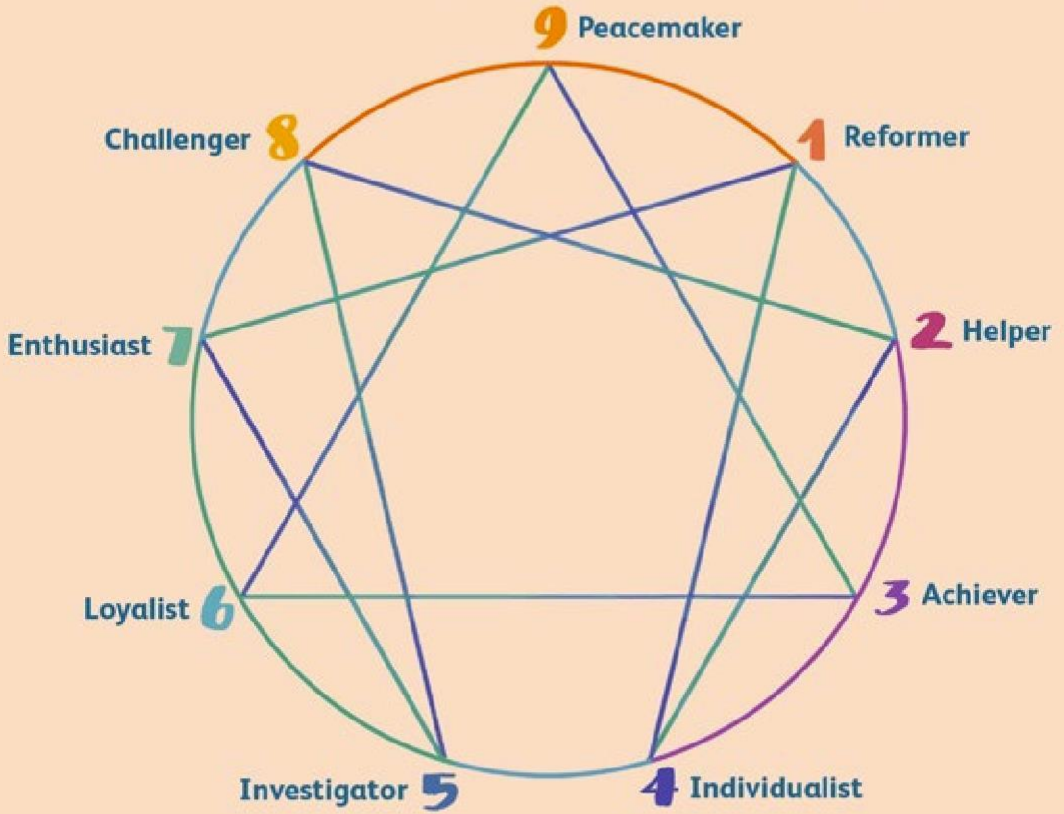
By taking a critical approach to a stress-provoking situation you will likely discover opportunities to reduce the demands of that situation. Effective problem solving and making good decisions require a critical examination of the many factors involved.

TIME MANAGEMENT

A source of stress for many people is having too many things to do and not having enough time in which to do them.

You can't increase the amount of time there is in a day: you only have 24 hours. Therefore, time management strategies seek to make effective use of the have time you have. To be effective, you must modify the demands on your time.

The Enneagram of Personality



All depend on Personality traits below (1-9 Enneagram)

Type 1

Characteristic role: Reformer

- Ego fixation: Resentment
- Holy idea: Perfection, Corruptness, imbalance,
- Basic fear: Being bad
- Basic desire: Goodness,
- Temptation: integrity, balance
- Virtue: Serenity

Type 2

Characteristic role: Helper

- Ego fixation: Flattery
- Holy idea: Will, Freedom, (Ingratiation)
- Basic fear: Being unloved
- Basic desire: To feel love
- Temptation: Deny own needs,
- Vice/Passion: manipulation Pride
- Virtue: Humility

Type 3

Characteristic role: Achiever

- Ego fixation: Vanity
- Holy idea: Hope, Law
- Basic fear: Worthlessness
- Basic desire: To feel valuable
- Temptation: Pushing self to always be –the best
- Vice/Passion: Deceit
- Virtue: Authenticity

Type 4

Characteristic role: Individualist

- Ego fixation: Melancholy (Fantasizing)
- Holy idea: Origin
- Basic fear: Having no identity or significance

- Basic desire: To be uniquely themselves
- Temptation: To overuse, imagination in search of self (Emotional)
- Vice/Passion: Envy Equanimity
- Virtue: Balance

Type 5

Characteristic role: Investigator

- Ego fixation: Stinginess (Retention)
- Holy idea: Omniscience, Transparency
- Basic fear: Incapability, Incompetence
- Basic desire: Master
- Temptation: Understanding
- Vice/Passion: Replacing direct experience with concepts
- Virtue: Avarice Non-Attachment

Type 6

Characteristic role: Loyalist

- Ego fixation: Cowardice (Worrying)
- Holy idea: Omniscience, Faith
- Basic fear: Being without support or guidance
- Basic desire: To have support and guidance
- Temptation: Indecision, doubt,
- Vice/Passion: seeking reassurance
- Virtue: Fear of Courage

Type 7

Characteristic role: Enthusiast

- Ego fixation: Planning (Anticipation)
- Holy idea: Wisdom, Plan
- Basic fear: Being trapped in pain and deprivation
- Basic desire: To be satisfied and content
- Temptation: Thinking fulfillment is somewhere else
- Vice/Passion: Gluttony
- Virtue: Sobriety

Type 8

Characteristic role: Challenge

- Ego fixation: Vengeance (Objectification)
- Holy idea: Truth
- Basic fear: Being harmed, controlled, violated
- Basic desire: Self-protection
- Temptation: Thinking they are completely self-sufficient
- Vice/Passion: Lust (Forcefulness)
- Virtue: Innocence

Type 9

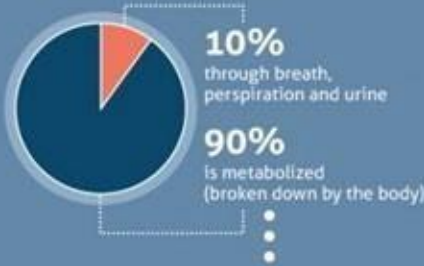
Characteristic role: Peacemaker.

- Ego fixation: Indolence (Daydreaming)
- Holy idea: Love
- Basic fear: Loss, fragmentation, separation
- Basic desire: Wholeness, peace of mind
- Temptation: Avoiding conflicts, avoiding self-assertion
- Vice/Passion: Sloth (Disengagement)
- Virtue: Action

ALCOHOL ABUSE

Alcohol in your system

Alcohol leaves your system in two ways:



Standard rate of
metabolization:

0.015 BAC
(blood alcohol concentration)
per hour



A 180 lb man
would have a BAC level of

0.10
after
3 beers
in 1-2 hours.

The effects of high blood alcohol concentration (BAC) levels on driving:



0.02%
Loss of judgement
and coordination



0.05%
Difficulty steering
and tracking
moving objects



0.08%
Trouble processing
information and
controlling speed
levels



0.10%
Inability to brake,
maintain your lane
and extremely
slow reaction levels



0.15%
A combination of all
effects mentioned
before

AVERAGE BAC AMONG FATALLY INJURED DRINKING DRIVERS IS **0.16%**

ALCOHOL USE AND ABUSE

Alcohol is commonly used

1. To affect mood (DRUG AND DELIGHTFUL)
2. To alleviate discomfort,
3. Influence on patterns of behaviour. (Drug and Disorderly)

Acute alcohol abuse affects the central nervous system and induces hepatic and gastric changes - reversible.

- Chronic use effects liver disease, oesophageal varices,
- Acute pancreatitis, hepatic coma, and lobar pneumonia
- High level causes Coma (DEAD DRUG)

Alcoholism is most common in:

- Men (30%)
- Women (19%) more severe consequences.

Alcoholism causes many social problems;

- Loss of job, divorce, early death due to accidents and/or disease and may have suicidal tendencies

Alcohol is a very effective dissolving agent: it dissolves

- Families
- Marriages
- Friendships
- Jobs
- Bank accounts
- Neurons

BUT NEVER DISSOLVES PROBLEMS

The absorption, distribution, and metabolism.

Ethanol is absorbed by any part of the gastrointestinal tract,

- Oesophagus, stomach
- The upper small intestine,
- Wall of the ileum and colon.

Absorption of alcohol can be affected by factors such as

- food, changes in motility,
- blood supply or
- morphology of the gastrointestinal tract,
- concentration and alcohol wines, local brew
- Dose of alcohol.

ALCOHOL USE AND ABUSE

The most frequently performed test in a forensic toxicology laboratory is the post-mortem determination of ethanol

- 50% of fatal automobiles accidents
- 60% of pedestrians
- 50% of murder victims
- 35% of suicide victims

The action of alcohol is:

- Depressant progressive depression of brain function.
- Danger of fatal cardio-respiration failure.
- changes in the heart regularly mechanisms,
- Latter causes vasodilatation lead to marked heat loss and dangerous hypothermia.
- Collapse out of doors in the cold.
- increase in heart rate with low alcohol concentrations,

Dangerous ranges in excess of 300mg/100ml (0.3 gram/100ml bradycardia
Alcohol detected (0.5 gram/100ml) insufficient to cause death
from respiratory depression.

Chronic alcoholism

- Alcoholic liver disease and hepatomegaly

Alcohol-related steatosis can be mimicked by:

- diabetes, obesity, anaemia, malnutrition (starvation)
- infections, drugs therapy, rye's syndrome, phosphorus,
- Carbon tetrachloride poisoning cerebral atrophy,

Nephromegaly.

- Alcoholics Hypoglycaemia during withdrawal,
- Pulmonary fat embolism forms fatty liver, and
- Maladjustment derangement of neurotransmitters
- Complications

Physiological - Medical

- GIT: Oesophageal varices, gastritis, gastric ulcers,
- CVS: dementia, epilepsy, peripheral neuropathy, and myopathy.
- CVS: Hypertension, cardiomyopathy.
- Anaemia Iron deficiency, Vitamin B12, folate

Psychological

Depressive disorders. Pathological jealousy, sexual disjunction, Anxiety status, and high suicide rates.

Social

Crime, RTA, work problems, unemployment, family problems, and violence

DRUGS OF ABUSE/ ILLICIT DRUG USE

The widespread availability of drugs has increased drug use.

Drug abuse today is truly an international epidemic.

Age: 15 years and 35 years

Substance abuse:

Non-medical taking into the body of any chemicals for the purposes of producing a change of mood usually some degree of euphoria.

Compared to other countries drug use in Kenya still minimal.

Commonly used drugs: Cocaine, Heroin, Morphine, Methadone

Heroin available and easier to obtain than cocaine. Heroin can be snorted intranasal and this has increased its use because of fear of contracting AIDS with needle usage. Common in large cities.

Complications of drug abuse

- Deaths are uncommon in those reaching hospital, syringe in-situ in the vein.
- The most common causes of acute deaths
- Inhalation of vomit, acute overdose, pneumonia,
- Mixed drug toxicity, murder, burning and hanging.

Complications of drug abuse: AMPHETAMINE SECTANSY

- More dangerous Common in young age 16-30 years.

- Causes euphoria and benevolence
- Heighten the sensation at raves and discos.

Symptoms:

Loss of appetite, tremor, nausea, muscle aches, stiffness, ataxia, sweating, tachycardia, hypertension, insomnia, fatigue, Hyperthermia, convulsions, cardiac arrhythmias, rhabdomyolysis, DIC renal failure, hyponatremia, hepatotoxicity, aplastic anaemia, cerebral infarction and cerebral haemorrhage

COMPLICATIONS OF DRUG ABUSE

- Cocaine and Heroin addict Toxicity:

1. CVS:

- Rhabdomyolysis-Cross band necrosis, cardiac arrhythmias -Dilated cardiomyopathy
- Vasculitis Disseminated intravascular coagulation.

2. CNS

- Depression and coma, vasoconstriction. Pin points pupils, sluggish reaction to light, depression of respiratory centres Hypertensive cerebral haemorrhage, convulsion

3. RENAL

- Nephrotic syndrome, Nephropathy, Diffuse glomerulonephritis.

4. RS

- Pulmonary oedema, pneumonia, respiratory depression, septicaemia, acute/sub-acute bacterial endocarditis, lung abscess, pulmonary embolic phenomenon.
- Liver, Pregnancy,

5. AMPHETAMINE

- Amphetamine abuse. –Speed eye-openerll pull me ups, beauties, purple.
- Produce delayed fatigue and suppress appetite, have a strong stimulant effect, can be injected, snorted, smoked or ingested.

SIGNS AND SYMPTOMS

Restlessness, talkative, irritability, insomnia, tremor, hyperflexia, dry mucus membranes, palpitation, hypertension, hyperthermia, tachycardia, hallucination, panic reaction, N/V/D pallor, tachpnoea, acute cardiomyopathy, DIC, rhabdomyolysis, renal ischaemia, cardiac infarction, paranoid psychosis and coma followed by sudden death. Chronic use may lead to hyperxitement hallucination and psychosis, Hyperpyrexia (40o) and hypertension can precipitate a cerebral or subarachnoid haemorrhage and a risk of cardiac arrhythmias

Drug abuse: MEDICAL DRUGS.

1. Sleepingpills - Vallium
2. Analgesics - Panadol
3. Analgesics- Asprin
4. Anti-acids - Hyperacidity
5. Anti-hypertensives- Hypertension
6. Oral hypoglycemic - Diabetics
7. Multivitamins - Appetite
8. Traditional herbs- —Dawayamaasai - Kushafishandamull
9. Chronic illness -

Complications of drug abuse: STEROIDS- MEDICAL DRUGS.

Misuse of AnabolicSTEROIDS.

There is increased use and most of the people do not term their use of the drug as abuse. The effects of anabolic steroids are sociological, physical and forensic.

- The tissue alteration and the pathological lesions that result from the use of the various steroids hormones. These depend on type, dose, and duration of use.
- Liver abnormal liver function tests.
- Hepatocellular carcinoma
- Hepatic failure.
- Muscles-increased muscle bulky weight gain.
- Breast tumours with hypertrophy- Breast Cancer.

- Prostate-Osteoporosis. Osteoporosis
- Uterus- endometrial carcinoma
- Psychiatric illness personality changes,
- Hallucination
- depression,
- suicide tendencies,
- sleep apnea
- Violent crimes i.e rape
- Fertility low;
- can increase or decrease libido,
- Acne,
- Reduce testicular size, Azoospermia, Hirsutism,
- Amenorrhea, and
- frank virilization Gynecomastia.
- CVS:- Hypertension, cholesterol concentration and increase the risk of HID and stroke.
- Haematology: -
- Gynaecology: - Ovarian cancer, cervical cancer.

OTHER –DRUGS –

1. Narcotics: MARIJUANA CANNABIS SATIVA
2. Amphetamines: Miraa

MANAGING EBOLA

Find Find and diagnose patients



FEVER AND SYMPTOMS



BLOOD TEST



LABORATORY TESTING

Respond Isolate patients; find and monitor patient contacts



ISOLATION BED



PATIENT INTERVIEW
FOR CONTACTS

MONITOR
CONTACTS FOR

21
days

AFTER
EXPOSURE



ANY NEW PATIENT
RESTARTS PROCESS

Prevent Healthcare infection control, safe burial practices, avoiding bushmeat



INFECTION CONTROL



SAFE BURIAL PRACTICES



EBOLA VIRUS

1.0 What is Ebola virus?

Ebola virus disease (EVD) or Ebola haemorrhagic fever (EHF) is a disease of humans and other primates caused by an ebola virus.

1.1 Symptoms

Symptoms start two days to three weeks after contracting the virus with a:

- Fever, sore throat, muscle pain, and headaches.
- Typically, vomiting, diarrhea, and rash follow,
- Decreased functioning of the liver and kidneys. Around this time, affected people may begin to bleed both within the body and externally.

1.2 Transmission

- The virus may be acquired upon contact with blood or bodily fluids of an infected animal. Spreading through the air has not been documented in the natural environment.
- Fruit bats are believed to carry and spread the virus without being affected. Once human infection occurs, the disease may spread between people, as well.
- Male survivors may be able to transmit the disease via semen for nearly twomonths.

1.1 Diagnosis

To make the diagnosis, typically other diseases with similar symptoms such as malaria, cholera and other viral haemorrhagic fevers are first excluded. To confirm the diagnosis, blood samples are tested for viral antibodies, viral RNA, or the virus itself.

1.2 PREVENTION

Prevention includes; -

- Decreasing the spread of disease from infected animals to humans. This may be done by checking such animals for infection and killing and properly disposing of the bodies if the disease is discovered.
- Properly cooking meat and wearing protective clothing when handling meat may also be helpful.
- Washing hands when around a person with the disease.
- Samples of bodily fluids and tissues from people with the disease should be handled with specialcaution.

1.3 SYMPTOMS OF EBOLA

Signs and symptoms of Ebola usually begin suddenly with an influenza-like stage characterized by: -

- Fatigue
- Fever
- Headaches
- Joint
- Muscle
- abdominal pain
- Vomiting
- Diarrhoea
- loss of appetite

Less common symptoms include the following: -

- sore throat
- chest pain
- hiccups
- shortness of breath
- Trouble swallowing.

The average time between contracting the infection and the start of symptoms (incubation period) is 8 to 10 days, but it can vary between 2 and 21 days.

Skin manifestations may include a maculopapular rash (in about 50% of cases).

Early symptoms of EVD may be similar to those of malaria, dengue fever or other tropical fevers before the disease progresses to the bleeding phase.

1.4 CAUSES

EVD is caused by four of five viruses classified in the genus Ebola virus, family Filoviridae, order Mononegavirales.

The four disease-causing viruses are:

- Bundibugyo virus (BDBV),
- Sudan virus (SUDV),
- Tai Forest virus (TAFV), and
- Ebola virus (EBOV, formerly Zaire Ebola virus). Ebola virus is the sole member of the Zaire ebolavirus species, and the most dangerous of the known Ebola disease-causing viruses, as well as being responsible for the largest number of outbreaks.

The fifth virus, Reston virus (RESTV), is not thought to be disease-causing in humans. The five Ebola viruses are closely related to the Marburg viruses.

1.5 TRANSMISSION

- The virus is spread through direct contact (through broken skin or mucous membranes) with a sick person's blood or body fluids (urine, saliva, feces, vomit, and semen)
- Objects (such as needles) that have been contaminated with infected body fluids
- Infected animals
- Healthcare workers and the family and friends in close contact with Ebola patients are at the highest risk of getting sick because they may come in contact with infected blood or body fluids.
- During outbreaks of Ebola HF, the disease can spread quickly within healthcare settings (such as a clinic or hospital).

Proper cleaning and disposal of instruments, such as needles and syringes, are also important.

NB: -When cases of the disease do appear, the risk of transmission is increased within healthcare settings.

Therefore, healthcare workers must be able to recognize a case of Ebola and be ready to use practical viral haemorrhagic fever isolation precautions or barrier nursing techniques. They should also have the capability to request diagnostic tests or prepare samples for shipping and testing elsewhere.

Barrier nursing techniques include:

- Wearing of protective clothing (such as masks, gloves, gowns, and goggles)
- Using infection-control measures (such as complete equipment sterilization and routine use of disinfectant)
- Isolating patients with Ebola from contact with unprotected persons.

The aim of all of these techniques is to avoid contact with the blood or secretions of an infected patient. If a patient with Ebola dies, direct contact with the body of the deceased patient should be avoided.

1.6 DIAGNOSIS

Other diseases that should be ruled out before a diagnosis of EVD can be made include malaria, typhoid fever, shigellosis, cholera, leptospirosis, plague, rickets, relapsing fever, meningitis, hepatitis, and other viral haemorrhagic fevers.

1) Diagnostic tests available

- a. Antibody-capture enzyme-linked immunosorbent assay (ELISA)
- b. Antigen detection tests
- c. Serum neutralization test
- d. Reverse transcriptase-polymerase chain reaction (RT-PCR) assay
- e. Electron microscopy
- f. Virus isolation by cellculture

Samples from patients are an extreme biohazard risk; testing should be conducted under maximum biological containment conditions.



1.7 TREATMENT

No specific vaccine or medicine (e.g., antiviral drug) has been proven to be effective against Ebola. Symptoms of Ebola are treated as they appear.

The following basic interventions, when used early, can increase the chances of survival.

- Providing intravenous fluids and balancing electrolytes (body salts)
- Maintaining oxygen status and blood pressure
- Treating other infections if they occur



HEALTH BENEFITS OF PULSES



The importance of a balanced diet

Most countries face nutritional problems, from **undernutrition** and **micronutrient deficiencies** to obesity, leading to **diet-related diseases**.



Pulses for a healthy diet

Pulses are rich in **complex carbohydrates**, **micronutrients**, **protein** and **B-vitamins**. Therefore, pulses are a **vital part of a healthy diet**.



Pulses are easy to prepare, and they can also serve as a **meat alternative**.



High protein content*
Incredibly rich in their nutritional value, pulses are **small but densely packed with proteins**.

*Combining pulses with animal foods, cereals or nuts results in a better quality protein that contains all essential amino acids in appropriate amounts.

PACKED WITH HEALTHY NUTRIENTS



PULSES' HEALTH BENEFITS

Pulses promote a steady, slow-burning energy.



Fe Iron*
Helps transport oxygen throughout the body. Lack of iron can lead to fatigue, shortness of breath and dizziness.

Fibre
Kills toxins and cholesterol in the gut removing them from the body.

Increases stool volume and transit.

Improved heart health and lower blood cholesterol.

Better overall health and healthy weight control.

WHY ARE PULSES UNDERESTIMATED?

Some common reasons people give are:

Cooking time

The length of time it takes to cook pulses is a lot longer compared to vegetables.

'Poor man's food'

They have the stigma of being a 'poor man's food' – replaced by meat once people can afford it.

Flatulence

Some carbohydrates found in pulses produce gas and bloating for some people.

Presence of anti-nutrients

Raw pulses contain 'anti-nutrients' such as **phytate**, **tannins** and **phenols**, which can limit the body's absorption of minerals.

SOAKING YOUR PULSES FOR ADDED NUTRITION



Soaking dried pulses for several hours brings them back to life and **activates their enzymes**.

4 - 8h of soaking for most pulses

Reduces the cooking time and ensures that they can be more **easily digested** and their **nutrients better absorbed** by the body.

Soaking in **ash solutions** will reduce the presence of anti-nutrients more effectively.



*The iron from animal source foods is better used by the body than the iron obtained from pulses. To improve the iron available from pulses, it is advised to combine them with sources of vitamin C, like citrus fruits.

WHAT IS NAIROBI FLY/NARROW BEE FLY?

- Narrow bee fly, referred to as Kenya fly in other words, is used in reference to two types of beetle; *paederus sabaeus* and *paederus eximius*.
- The narrow bee fly is popular in Kenya during the heavy rains season which provides it with a favorable condition to develop vigorously.
- The Nairobi fly is an illustration of an insect which has the corrosive component referred to as pederin.
- They are a species of the rove beetle genus *paederus*.

ABOUT THE NARROW BEE FLY

- The Nairobi fly neither bites nor stings, but it has pederin released from their haemolymph which is a potent toxin resulting in *paederus* dermatitis and blistering.
- This poison is produced whenever the Nairobi fly is crushed against the skin mostly in the darkness when humans unknowingly brush the insects from their faces.
- To avoid irritation, it is advisable to gently blow the insect off the skin so as not to rub the toxin it releases on your skin.
- Pederin is mostly found in humid places and is attracted to the fluorescent light that is present in many homes, and for this reason, you are likely to come across these insects.
- The sight of the narrow-bee-fly is scary even for grown adults, and its skin irritation affects the face, arm, and neck region.

NAIROBI FLY ON HUMAN SKIN

- The effects of a Nairobi fly include -ugly patches of blisters on affected area and severe itching.
- The toxin is released when the beetle is crushed against the skin, which happens often when you try to brush it off.



SYMPTOMS AND EFFECTS OF NAIROBI FLY ON SKIN

- If you crush a Nairobi fly, avoid touching your eyes.
- Immediately wash your hands and the affected area with water and soap.
- Before going to bed check the ceilings in your bedroom and the areas around beds for beetles.
- Sleeping under a mosquito net.
- Closing all doors and windows during the rainy season before it gets dark.
- Clear excess vegetation around your house because Nairobi fly survives in nearby bushes and comes out during the dark because it is captivated by the fluorescent lights.

PREVENTION OF NAIROBI FLY

- Apply a mild topical steroid ointment and where there is a likelihood of bacterial super infection, apply an antibiotic ointment.
- Oral antihistamines will reduce the itchiness that results in scratching. To be completely safe, avoid contact with the beetles in the first place.

HOME REMEDIES FOR NAIROBI FLY

- There is no specific first aid available for exposure to rove beetle toxins.
- Avoid contact with the beetle. Avoid ingestion.
- If exposed to rove beetle toxin, wash the affected area immediately with soapy water, and then use cold compresses, antihistamines, or apply Aloe Vera to alleviate the symptoms on exposed areas.

HOW TO TREAT NAIROBI FLY

- Apply ice to the area for fifteen-minute intervals to reduce swelling from a black fly bite.
- You can apply cortisone or prescription topical steroids to the affected area.
- Washing the area with soap and water can reduce the risk of infection.



HOW TO GET RID OF ACID FLY

- Beware the –Tomcatll rove beetles.
- The body fluids in the narrow beetle are a poisonous animal contact toxin.
- Contact with the beetle can cause a severe skin reaction

5 Ways to Prevent Mosquito Bites

Like melting ice cream cones and sandy toes, mosquito bites seem like a natural part of summertime. But mosquito bites can be more than a temporary annoyance—they may make you sick. Mosquitoes can pass on diseases including Zika, dengue and chikungunya. The best prevention is to protect yourself against bites in the first place. Here's how.

- COVER UP**
Wear long-sleeved shirts and long pants.
- APPLY PROTECTION**
Use insect repellent that's EPA-registered. This means it's proven safe and effective for preventing mosquito bites. Insect repellent should contain one of these active ingredients:
 - DEET
 - Picaridin
 - Oil of lemon eucalyptus or para-menthane-diol
 - IR3535
 - 2-undecanone
- SCREEN THEM OUT**
Make sure all windows and doors have screens.
- REMOVE STANDING WATER**
Empty any items outside that hold water. Mosquitoes lay their eggs near water. Check buckets, toys, containers or planters once a week.
- SPRAY INSIDE, TOO**
Use an indoor insect spray to kill mosquitoes that may live in dark and damp places such as under the sink, beneath furniture, inside closets and in the laundry room.

For more than 165 years, Touro has provided quality, compassionate healthcare to the New Orleans community. Read about the care we provide at [\[link\]](#)

HEALTH SCREENINGS BY AGE

Regular check-ups & screenings are key to your health, & the recommendations for these visits vary depending on your age.

Below are some basic guidelines, but please speak with your medical provider for a comprehensive list.

20s



WOMEN

- Eye Exam - every 1-2 years
- Hearing Test - every 10 years
- Blood Pressure Screening - every 2 years
- Skin Exam - yearly
- Pelvic Exam - yearly
- Pap Smear - every 3 years



MEN

- Eye Exam - every 1-2 years
- Hearing Test - every 10 years
- Blood Pressure Screening - every 2 years
- Skin Exam - yearly
- Testicular Exam - yearly

30s



WOMEN

- Eye Exam - every 1-2 years
- Hearing Test - every 10 years
- Blood Pressure Screening - every 2 years
- Skin Exam - yearly
- Pelvic Exam - yearly
- Pap Smear - every 3 years
- Blood Glucose Test - every 5 years
- Cholesterol Screening - every 5 years
- Thyroid Stimulating Hormone Test - every few years



MEN

- Eye Exam - every 1-2 years
- Hearing Test - every 10 years
- Blood Pressure Screening - every 2 years
- Skin Exam - yearly
- Testicular Exam - yearly
- Blood Glucose Test - every 5 years
- Cholesterol Screening - every 5 years





About the Author:

Dr Mutuma G Z is a Medical practitioner, consultant clinical pathologist, a specialist in Forensic Pathology with special interest in Cancer control, prevention, registration, and surveillance. He has a bachelor's in medicine and bachelor's in surgery from University of Nairobi (1989) and a Master of Medicine in Human Pathology and Medical Microbiology (M.Med. (Path), University of Nairobi (1993). Diploma in Forensic Medicine of the Royal College of Pathologists of Australasia. Dip. Forensic. Med (RCPA)– Australia, Diploma in Medical Jurisprudence of the Society Apothecaries of London (D.M.J)-United Kingdom, Diploma in Principles and Practice of Cancer Prevention and Control Bethesda -Mary land-USA, Certificate in Cancer Registration,

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He is also a fellow of the International Union Against Cancer (UICC) having been awarded International Cancer Transfer Fellowships (ICRETT), in Cancer Research – UK, Life member Fellow of the International Union Against Cancer (UICC) having been awarded International Cancer Transfer Fellowships (ICRETT), in Cancer Research – UK and Foundation Member of The Royal College of Physician of London – Faculty of Forensic and Legal Medicine.

He was appointed as one of the reviewers of International Union against cancer for the grants applications for International cancer Technology Transfer fellowships. (ICRETT).

In Kenya he has worked in various institutions and served at various positions in Ministry of Health such as:

1. Provincial Pathologist in Eastern Province,
2. Medical Superintendent Machakos Provincial General Hospital,
3. Medical Officer of Health (M.O.H) Machakos District and
4. Chief Government Pathologist (Head of Medico-Legal Services).

He has also worked at:

1. Kenya Medical Research Institute (KEMRI) he served as a Principal Research Officer, the Head of Oncology and pathology Research Unit, the Chairman of the National Non-Communicable Diseases Research Programme and started Nairobi cancer registry and Director of National Cancer registry.
2. The Chief Executive and Consultant Clinical Pathologist of Nairobi Pathology and Allied Services Cancer Information Centre at Vision plaza, Mombasa road, Nairobi.

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