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MAKING STRIDES AGAINST CANCER

"Why Me?" The Antigua & Barbuda Cancer Society

VOLUME 6 ISSUE 6

Biodiversity and Human Health

The fate of the human species is inextricably interwoven with the collective fates of threatened wild spaces—and plants and animals that live in them—around the globe.

Your individual health, comfort, and prosperity depends heavily on actions you take at home, as well as the actions of your elected representatives and the businesses in your community. But did you know it is also heavily impacted by actions taken more than hafe a world away? On an ever-shrinking plantet, tightly linked by global communications systems, jet travel, and the international exchange of products and services, the conditions of peoples around the globe are intimately connected with the conditons of the adjoining wild spaces and natural habitats. For example, recent studies have demostrated that pollution constricts blood bessels, increasing the incidence of heart disease and related disorders in heavlily polluted areas. Science is rapidly proving beyond any doubt that if we are to preserve our own personal health, we must protect the natural systems that make all of life on this planet possible...and that means protecting the health of ecosystems and individual species around the globe. From the tropical forest trees that produce the oxygen we breathe, to the temperate mountain forests that filter our drinking water and regulate the levels of our aquifers, we are intimately dependent on the ecosystem services provided by healthy, intact natural systems.

We also know that biodiversityis one of the best defenses against the threats of bioterrorism. Nature has spent countless eons ina pharmacological tug of war...for every toxin produce by an animal or plant to protect itself, there is likely to be an antidote in a nearby creature or plant that feeds on or grows next to the first one.

Human health problems such as asthma, Lyme disease, skin cancer, are all attributed(at least in large measure, if not intirely) to unmoderated human alterations of the natural landscape, undertaken without knowledge of (or with willful disregard to) the potential longterm health impacts of such changes to our planet's natural systems of checks and balances.

The actions you take at home—driving habits, pruchasing decisions, even what you plant in your yard—may ultimately influence your life far more than you imagine.

YOU CAN MAKE A DIFFERENCE..in your own life and in the lives of others.

You are a part of biodiversity. Biodiversity is a variety of all life forms: the different forms of animals including humans, plants, and micro-organisms. They work together like human industries and we call their activity "ecological services". Examples of ecological services are the provision of food from the soil, purified water, degradation of wastes and pollutants, recycling of nutirents, stabilization of climate, protection against flood and storm, and provision of materals for shelter and medicines. Humans cannot survive without these services.

YOU CAN DO SOMETHING ABOUT THIS IN YOUR LIFE and by using your influence to get others to make the decision as well.

Inside this issue:

THOUGHTFUL GIFTS

(From the voices you do not hear)

Thank you all for your donations.

You didn't have to do it. You have a good and gracious heart, But then, we always knew it.

We will think of you with fondness and with pleasure; the gift is great, but even more, it's your thoughtfulness that we will always treasure.

NATIONAL CANCER SURVIVORS DAY

Maybe it's your mother, maybe it's your co-worker, or your neighbor, or maybe you yourself are a cancer survivor. In Antigua and Barbuda thousands of people are living with a history of cancer. These survivors will be the first to tell you that you can live a fulfilling life after a cancer diagnosis.

Major advances in cancer prevention, early detection and treatment have resulted in longer survival, However, surviving cancer can leave a host of problems in its wake. Physical, emotional, and financial hardships often persist for years after diagnosis and treatment. Survivors may face many challenges including access to cancer specialists and promising new treatments, denial of health and life insurance coverage, financial hardships long after the initial diagnosis and treatment , employment problems, psychological struggles and the strain on personal relationships and the profound fear of recurrence. However, cancer survivors can live active, productive lives even though they still face many challenges. To improve the quality of life of cancer survivors, more resources, research and survivor friendly legislation are needed. National Cancer Survivors Day Foundation and Why Me encourages a greater comitment to resolving the issues of cancer survivorship through public education.

Knowledge, hope and inspiration can help beat cancer.

National Cancer Surviors Day is a day we show support for cancer survivors, their families, friends and health care providers.

And there's no better place to find it than at a good ole down home party!!!

We hope you will join us...our plan...to open "Our Green Isle" at the same time info coming soon.

Health Effects of Air Pollution

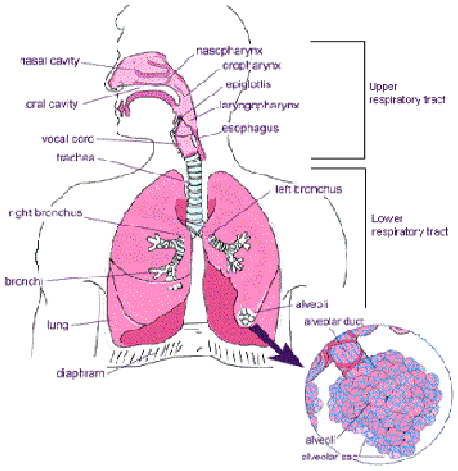
The human health effects of poor air quality are far reaching, but principally affect the body's respiratory system and the cardiovascular system. Individual reactions to air pollutants depend on the type of pollutant a person is exposed to, the degree of exposure, the individual's health status and genetics. People who exercise outdoors, for example on hot, smoggy days increase their exposure to pollutants in the air.

The health effects caused by air pollutants may range from subtle biochemical and physiological changes to difficulty breathing, wheezing, coughing and aggravation of existing respiratory and cardia conditons. These effects can result in increased medication use, increased doctor or emergency room visits, more hospital admissions and even premature death.

The health of our lungs and entire respiratory system is affected by the quality of air we breathe. In addition, to oxygen, this air contains other substances such as pollutants, which can be harmful. Exposure to chemicals by inhalation can negatively affect our lungs and other organs in the body. The respiratory system is particularly sensitive to air pollutants because much of it is made up of exposed membrane. Lungs are anatomically structured to bring large quantities of air (on average, 400 million litres in a lifetime) into intimate contact with the blood system, to facilitate the delivery of oxygen.

Lung tissue cells can be injured directly by air pollutants such as ozone, metals, and free radicals. (organic molecules responsible for aging, tissue damage, and other diseases) Ozone can damage the alveoli—the individual air sacs in the lung where oxygen and carbon dioxide are exchanged. More specifically, airway tissues which are rich in bioactivation enzymes can transform organic pollutants into reactive metabolites and cause secondary lung injury. Lung tissue has an abundant blood supply that can carry-toxic susbstances and their metabolites to distant organs. In response to toxic insult, lung cells also release a variety of potent chemical dediators that may critically affect the function of other organs such as those of the cardiovascular system. This response may also cause lung inflammation and impar lung function.

The human respiratory system is dominated by our lungs, which bring fresh



oxygen into our bodies while expelling carbon dioxide. The oxygen travels from the lungs through the bloodstream to the cells in all parts of your body. The cells use the oxygen as fuel and give off carbon dioxide as waste gas. The waste gas is carried by the bloodstream back to the lungs to be exhaled. The lungs accomplish this vital process—called gas exchange using an automatic and quickly adjusting control system. The human respiratory system can be dived into the upper respiratory tract and the lower respiratory tract.

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The upper respiratory tract includes the following rigid structures:

- Nasal cavities: Filter the air we breathe and provide a sense of smell
- Pharynx: acts in the respiratory and digestive system
- Larynx: Link between the pharynx and the trachea. Generates the voic with the presence of vocal folds.
- Trachea: The trachea is the bond with the lower respiratory tract. This is a flexible structure allowing the air to go down to the lungs.

In addition to gas exchange, the lungs and the other parts of the respiratory system have important jobs to do related to breathing. These include:

- Bringing all air to the proper body temperature.
- Moisturizing the inhaled air for necessary humidity.
- Protecting the body from harmful substances by coughing, sneezing, filtering or swallowing them, or by alerting the body through the the sense of smell
- Defending the lungs with cillia (tiny hair-like structure), mucus and macrophanges, which act to remove harmful substances deposited in the respiratory system. The respiratory system is sensitive to air pollution. The cardiovascular system can be affected as well.

The cardiovascular system has two major components: the heart and a network of blood vessels. The caridovascular supplies the tissues and cells of the body with nutrients, respiratory gases, hormones, and metabolites and removes the waste products of cellular metabolism as well as foreign matter. It is also responsible for maintaining the optimal internal homeostasis of the body and the critical regulatin of body temperature and pH. The inhalation of air pollutants eventually lead to their absorption into the bloodstream and transport to the heart. A wide spectrum of chemical and biological substances may interact directly with the caridovascular system to cause structural changes, such as degenerative necrosis and inflammatory reactions. Some pullutants may also directly cause functional alterations that affect the rhythmicity and contractility of the heart. If sever enough, functional changes may lead to lethal arrhythmias without major evidence of structural damage to the myocardium.

There also may be indirect actions secondary to changes in other systems, especially the central and autonomic nervous systems and selective actions of the endocrine system. Some cytokins released from other inflamed organs may also produce adverse cardiovascular effects, such as reducing the mechanical performance and metabolic efficiency of the heart and blood vessels.

Many chemical substances may cause the formation of reactive oxygen.

This oxidative metabolism is considered to be critical to the preservation of cardiovascular function. For example, oxygen free radicals oxidize low density lipoproteins, and this reaction is thought to be involved in the formation of the atherosclerotic plaques. Oxidized low density lipoproteins can injure blood vessels cells and increase adherence and the migration of inflammatory cells to the injured area. The production of oxygen free radicals in heart tissue have been associated with arrhythmias and heart cell death.

There are some chemicals in the environment that are toxic to humans and can produce cancer in humans and animals. Most cancers may be prevented through the identification and control of external factors.

Approximately, 30% of cancers are linked to cigarette smoking. The remaining 70% are likely the result of interaction among varous factors.

There is no single cause of cancer. Cancer development depends on things such as family history, health, nutrition, personal habits and the environment. Genetic factors probably account for only a small fraction of cancers, although, they do have an important influence on an individual's chance of developing cancer when combined with outside factors. These factors are either voluntary (cigarette smoking), diet, and sexual behavior or involuntary (such as breathing polluted air or drinking contaminated water).

What You Don't Know About Air Pollution Can Kill You... Or Someone You Love.

BAD BREATH: Could a tongue scraper help?

Q. If you have bad breath, could a tongue scraper really help?

R. Research on the effectiveness of tongue scrapers is limited. What's been published so far describes tongue scraping as only slightly more effective for bad breath than simply brushing the tongue with a toothbrush. And even then, the effect doesn't last long.

Although there's no harm in trying a tongue scraper to treat bad breath, it's probably more effetive to practice good dental hygiene overall:

- Brush your teeth and tongue after you eat.
- Floss your teeth at least once a day.
- Drink plenty of water to prevent dry mouth, a cause of bad breath.

- Schedule regular dental checkups.

If bad breath persists, consult your dentist. He/she can identify the cause and help develop a treatment plan.

CANCER AND YOUR ENVIRONMENT

This information will address some common questions that people ask about cancer. Many people wonder if the environment they live in "causes cancer". To answer such difficutl questions, it is necessary first to understand what cancer is, how it develops and what contributes to cancer.

- **What is cancer?** Cancer is an uncontrolled growth that disrupts body tissues and organs. Cancer cells are not normal in their structure and functions. They grow and multiply to form tumors that invade local tissues and sometimes scatter throughout the body. At the beginning, there are no warning signs to alert us to the disease. Later, the signs of cancer are related to the location of the tumor. As cancer progresses, it produces a wasting away of the body, pale skin, pain, fatigue and loss of appetite.
- **How widespread is cancer?** It is estimated that one out of three people will cancer in their lifetimes. About one in six persons will die of cancer. No one knows the exact number of new cancer cases diagnosed in Antigua each year because no nationwide cancer registry exists. We do know that hundreds of cases occur annually.
- **Which cancers cause the most deaths?** In the U.S., lung cancer is the leading cause of cancer related deaths for both sexes, floowed by prostate cancer (#1 killer in Caribbean men) in males and breast cancer in females. For children younger than 15 years old, cancer is the second leading cause of death after accidents. Leukemia, brain cancer and cancer related to the endocrine system are the leading cancers in children in this age group.
- **How many kinds of cancer are there?** There are many types of cancers because cancerous cells can grow anywhere in the body. The location of the cancer and the type of tissue involved helps to give the disease a specific name, such as lung cancer, ovarian cancer, breast cancer and prostate cancer. Other examples, are melanoma (involving cells that contain skin pigment called melanin) and leukemia (involving the white blood cells).
- **How does cancer develop?** Cacner is a process with many steps. The first step involves changes to the genetic code (DNA) of a cell called initiation. Normally, the body's repair system can replace damaged sections of DNA, allowing the cell to recover. If the cell reproduces while the DNA is damaged, more abnormal cells can be made that may cause cancer. Usually, initiation by itself is not enought to produce cancer. The altered cells go through more changes that may require an additional sustance called a promoter. A period of many years usually exists between the initiation of the cancer process and the onset of the symptoms. No one completely understand this process, but certain aspects of a person's lifestyle can be linked to cancer formation.
- **What causes cancer?** There is no single cause of cancer. Cancer development depends on things such as family history (genetics), health, nutrition, personal habits and the environment. Genetic factors by themselves probably accout for only a small fraction of cancers. Genetic factors do have an important influence on an individual's chance of developing cancer when combined with outside factors. These factors are either voluntary (such as smoking cigarettes, diet, and sexual behavior) or involuntary (such as polluted air or drinking contaminated water).
- **What factors contribute to cancer?** Cigarette smoking is the leading cause fo cancer. Cigarette smoke contains more than 3,800 individual chemicals, and moe than 40 are carcinogenic (cancer causing). Portions of the diet, especially fatty foods and alcoholic beverages, also linked to cancer. Skin exposure to ultraviolet radiation in sunlight is the primary cause of melanoma, a skin cancer. Sexual behavior that hjelps spread sexually transmitted infections is closely linked to cervical cancer in women. Environmental pollution by chemicals in drinking water, air, food and in the workplace may contribute to cancer. The harmful health effects of chemicals depend on the dose, strength of chemical compound and the length of exposure.

- **What cancers are caused by chemicals?** Most cancer-causing chemicals were first recognized in occupational settings. The workplace is unique because workers are often exposed to large amounts of chemicals over long periods of time. The first association of cancer in the workplace occurred in 1775. A London doctor related cases of cancer of the scrotum among young chimney sweeps to their exposure to soot. Other cause and effect relationships have been noted in workers between
- Benzene and leukemia
- Asbestos and lung cancer
- Vinyl chloride and liver cancer

Workers may be exposed to a combination of carcinogens, which increases their cancer risk. The risk of lung cancer in asbestos workers who also smoke cigarettes is at least 50 times higher than the risk in non-smoking asbestos workers. Reducing chemical exposure can prevent most work related cancers.

- **How are chemicals tested for cancer causing properties?**

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Studies and experiments with laboratory animals are the main sources that identify whether exposure to certain chemicals causes cancer. Laboratory tests often uses doses much higher than those found in the environment. Scientists then apply the animal results to humans to calculate the "cancer risk" for the tested chemical. This process is difficult because there is no complete match between cancer in animals and cancer in humans.

- **If I am exposed to a carcinogen, will I get cancer?** Cancer development is a complex process, that occurs over a long period of time, and is influenced by many factors. The good news is that if exposure to carcinogens is stopped soon enough, the body can stop or reverse the cancer process.
- **What can you do to reduce your risk of getting cancer?** Scientific evidence shows that lifestyle choices, a healthy diet, good nutrition and physical activity can reduce cancer risk. It is never too late to make these changes, but changing long term behavior can be difficult. You must be persistent over time to reduce your risk of getting cancer. The American Cancer Society recommend the following:

1. Avoid using tobacco products, such as cigarettes, snuff and chewing tobacco. This is expecially important for individuals who drink alcoholic beverages. Cancer risk of tobacco and alcohol combined is greater than the sum of their individual effects.
2. Choose most of the food you eat from plant sources. Eat five or more servings of fruits and vegetables each day. Eat other foods such as breads, cereals, grain products, rice, pasta or beans, several times a day. Wash fresh fruits and vegetables before eating.
3. Limit your intake of high fat foods, particularly from animal sources. Choose foods low in fat and limit consumption of high fat red meats. Choose baked and broiled meats, seafood and poultry, rather than fried foods.
4. Be physically active and achieve and maintain a healthy weight. Be moderately active for at least 30 minutes on most days of the week. Stay within your healthy weight range. Be aware that many fat free cakes, cookies, snack foods and other desserts are high in calories.
5. Limit consumption of alcoholic beverages. Men should have no more than two drinks a day. Women should have no more than one drink a day because they absorb alcohol more readily and usually smaller in body size.
6. Avoid or reduce exposure to sunlight, particularly in childhood. Reduce your sun exposure by avoiding sun during the middle of the day, wearing protective hats and clothing, seeking shade while outdoors and applying sunscreen on uncovered skin.
7. Follow safey rules and regulations at your workplace. If possible, carcinogens should be replaced with safer substitutes. Workers should handle hazardous materials in a ventilated areas and be trained to protect themselves. Personal protective clothing and respirators may be required.

ORGANIC FARMING AND BIODIVERSITY

Organic agriculture is a holistic production management system that promotes and enhances agroecosystem health, including biodiversity, biological cycles and soil biological activity. It emphasizes the use of management practices in preference to the use of off farm inputs.

Organic farmers are both custodians and users of biodiversity at all levels: Gene level: endemic and locally adapted seeds and breeds are preferred for their greater resistance to diseases and resilience to climatic stress. Species level: diverse combinations of plants and animals optimized nutirent and energy cycling for agricultural production. Ecosystem level: the maintenance of natural areas within and around organic fields and the absence of chemical inputs create habitats suitable for wildlife. Reliance on natural pest control methods maintains species diversity and avoids the emergence of pests resistant to chemical controls. Organic practices such as crop rotations and associations, cover crops, organic fertilizers and minimum tillage increase the density and richness of indigenous invertebrates, specialized endangered soil species, beneficial arthropods, earthworms, and microbes. Such soil biodiversity enhances soil forming and conditoning, recycles nutrients and stabilizes soils against erosion and floods.

WORK IN PROGRESS

Organic farmers are pioneering practical solutons for the sustainable use of biodiversity. However, extensive research is needed to better understand and acknowledge the complex relationship between biodiversity and agriculture.

Become a Member of the Green Team and help Save our Planet!!

"Why Me?" The Antigua & Barbuda Cancer Society

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MAKING STRIKES AGAINST CANCER

When you buy a bell pepper, where does it come from? In some countries, you might have a sticker that tells you the country of origin. But do you know which variety it is, or has it been fertilized or even when it was grown?

Each farm know what it grows and how it grows them. Each distributor knows which farms they do business with. But as these products funnel into Antigua and Barbuda's massive food distribution system, the details are lost, and restaurant's suppliers—buying vegetables on a loading dock—really have no idea where they came from—or how responsibly they were grown.

Now...what if (farmers) could connect with the end consumers rather than being six or seven degrees removed? What if produce in the grocery store was labeled with precise variety, with detailed information about its origin, how it traveled, and how sustainable it was grown?

The tem "**Organic"** is a proxy for actually having data about the food that you're buying. It tells us what we are eating, and help us support sustainable and local agriculture and it could help address world hunger and Lord help us... save and help recover the damages done to our environment. (Our Green Isle)

Seems like there are a lot of good reasons to communicate about our foods as it gets from the farm to our tables. ***I don't know***...if I am buying tomatoes and one kind was a dollar more than the other—because the more expensive tomatoes were grown with—*no synthetic chemicals*, or if I could see that by paying a dollar more I am saving a dollar in the long term in *health costs*, and ***I*** would be able to make ***informed decisions*** about my food...**well I know.**

Why Me?

WORK-LIFE BALANCE: Tips to reclaim control

When your work like and personal life are out of balance, your stress level is likely to soar. Use these practical strategies to restore harmony.

MARRIED to work? Conside the cost

It can be tempting to rack up hours at work, especially if your're trying to earn a promotion or manage an ever increasing workload. Sometimes overtime may even be required. If you're spending most of your time working, though, your home life will take a hit. Considedr the consequences fo poor work-life balance:

- Fatigue. When you're tired, your ability to work productively and think clearly may suffer—which could take a toll on your professional reputation or lead to dangerous or costly mistakes.
- Lost time w/friends and love ones. If you're working too much, you may miss important family events or milestones. This can leave you feeling left out and may harm relationships with your loved ones. It's also difficult to nuture friendships if you're always working.

STRIKE a Better Work-Life Balance as long as you're working, juggling the demands of career and personal life will probably be an ongoing challenge. Use these ideas to help you find the work-life balance that's best for you:

- Track your time. Track everything you do for one week, including work-related and personal activities. Decide what's necessary and what satisfies you the most. Cut or delegate activities you don't enjoy or can't handle—or share yorui concerns and possible solutions with your employer or others.
- Take advantage of your options. Ask your employer about flex hours, a compressed workweek, job sharing telecommunting or other scheduling flexibility. The more control you have over your hours, the less stressed you're likely to be.
- LEARN to say NO. Whether it's a co-worker or your child's teacher remember that it's OK to respectfully say no. When you quit doing things you do only out of guilt or a fase sense of obligation, you make more room in your life for the activities that are meaningful to you and bring you joy.
- LEAVE work at work. With the technology to connect to anyone at any time from virtually anywhere, there may be no boundary between work and home—unless you create it. Make a conscious decison to separate work time from personal time.

Everyone needs help from time to time. If your life feels too chaotic to manage and you're spinning your wheels worrying about it, talk with a professiona—such as a counselor or other mental health professional. Remember striking a healthy work-life balance isn't a one shot deal. Periodically examine your priorities—and make changes, if necessary to make sure you're keeping on track.