

DIAGNOSTICS UPDATE .COM

NEWSLETTER
Version 11
December 2006

From My Keyboard

We have come a long way!!!



In this issue of the newsletter I would like to recognize and celebrate the expansion and progress of Diagnofirm Medical Laboratories. During the past years our section of health-care industry has experienced remarkable growth and has gained acceptance by the medical and social community and established that it belongs in every health service provider's plan.

In short, we are finally where we belong and Diagnofirm has been there in the forefront to ensure the importance of Laboratory Medicine is recognized and appreciated in the country.

Ever since its inception, Diagnofirm Medical Laboratories has experienced astonishing growth, especially during the last year. It has grown from a fledgling laboratory in 1990 to a multi-disciplinary medical laboratory, with branches and depots all over the country.

Diagnofirm has also emerged as a leader in the industry as evidenced by its monumental growth and involvement in numerous health related projects in the

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Tiger Design and Graphics



Our new home at the Middlestar Shopping Complex, Partial Gaborone



DIAGNOFIRM MEDICAL LABORATORIES

By Silas Nunu

Recent Events @ Diagnofirm

It's the end of another year, another stellar year for Diagnofirm! The year might be at an end but our commitment to quality knows no end. We are proud to announce that we have moved to a newer, bigger, brighter, more client friendly premises. We hope this new building, located at Middlestar shopping complex in Broadhurst Partial, will become as much the beacon of all medical facilities in the country as we envision it to be. Also in our endeavour to bring the best quality and assure our clients and patients that they are getting the best quality, Diagnofirm had a successful accreditation assessment by SANAS for the ISO 17025:2005 quality standard. Let me assure you, this IS a big deal, because it is now recognized that a result from Diagnofirm can be accepted

world-over, no questions asked. I think that it is a peace of mind that you as our clients richly deserve.

To other events, Diagnofirm was recently involved with the Diabetic association and Lions Club of Botswana in raising awareness of Diabetes to the community at large. This event was held at Westgate shopping mall. Diagnofirm staff members Lesley, Kennedy and Silas tested blood glucose levels for over 200 people. At the same event, Diagnofirm together with Roche Diagnostics also donated some glucometers to the Diabetic association to help diabetics with self-monitoring of their condition.

Diagnofirm was also involved in a wellness clinic in Francistown. Here, about

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HPV AND CERVICAL CANCER SCREENING TRENDS

The epidemiology of Human papilloma virus and cervical cancer has been extensively studied over the years. Results of the studies have been varied but there are areas that have been overwhelming and thus affect the screening mechanisms to be employed to ably combat cervical cancer.

To date more than 80 HPV genotypes have been identified and more than 30 of these can infect the genital tract. Types 16, 18, 31, 33, 35, 39, 45, 51, 52, 56, 58, 59, 68, 73 and 82 have been linked to cervical cancer. The virulence of these genotypes differs. Genotypes 16 and 18 are associated with a substantially higher risk of cervical cancer than the others. The lower risk HPV genotypes cause genital warts but not cancer.

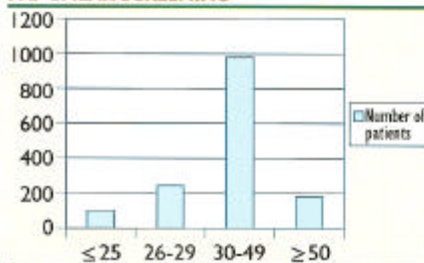
In screening, certain sub-groups of the population are UNSUITABLE for HPV screening due to its high prevalence in these sub-groups. Women under the age of 30 are not an ideal screening group since HPV has been reported to present in about 80% of these people and where it is present it is mostly transient. The immune compromised are also a group where the incidence of HPV is high and thus in these individuals can be used as a triage method.

The absence of high risk HPV accurately predicts a very low risk for cervical carcinoma and absence of this disease for a very long time to come. This finding can be used to discharge patients from strict follow-up in various clinical circumstances.

PAP SMEAR REQUEST AGE-GROUP TREND

Age group(years)	≤25	26-29	30-49	≥50
Absolute number	107	242	976	175
Percentage	7.1	16.1	65.1	11.7

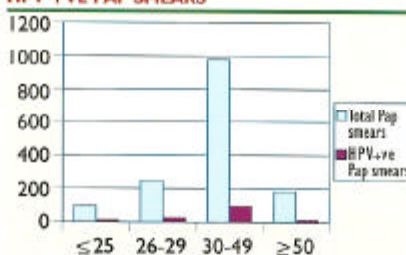
PAP SMEAR SCREENING



COMPARISON ACCORDING TO AGE-GROUP OF THE TOTAL PAP SMEARS DONE TO HPV POSITIVE PAP SMEARS

	≤25	26-29	30-49	≥50
Total Pap smears	107	242	976	175
HPV +ve smears	7	21	102	9

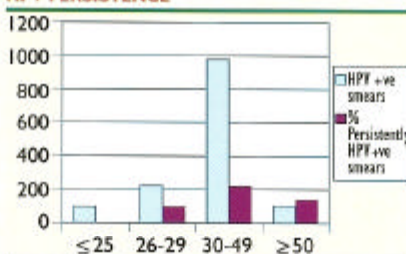
HPV +VE PAP SMEARS



COMPARISON HPV POSITIVE SMEARS TO PERSISTENTLY HPV POSITIVE

	≤25	26-29	30-49	≥50
HPV +ve smears	7	21	102	9
% Persistently HPV +ve smears	0	9.5	22.5	11.1

HPV PERSISTENCE



A total of 1500 cases were reviewed. Studies have shown that patients with a persistently positive high-risk HPV infection are higher risk than other women of developing cervical cancer.

International case-control studies have demonstrated the approximate proportion of squamous cell cervical carcinoma for which each oncogenic HPV type is responsible: HPV16 causes more than 50% of cancers; HPV18 causes 10-15%, HPV45 causes approximately 7% and HPV31 causes approximately 3%. Other oncogenic HPV types individually cause less than 2% of cervical squamous cell carcinoma.

The risks of co-infection by more than one HPV genotype have not been documented, but co-infection with HPV genotypes 16 and 18 has higher risks.

The following figures show the age distribution of HPV infection by genotyping. 75 patients' data were reviewed from January to August 2006.

Of those with a positive HPV genotyping, 73.7% (42 of the 75) had multiple infections, 75% had infection with at least one high-risk genotype and 28.1% were infected with either HPV genotype 16 or 18 which have the highest risk of progressing to cervical cancer.

CONCLUSION

The data review of these patients has shown that the majority of the cervical cancer screening is being done on the 30-49 year age-group which is consistent with the group with the highest prevalence of persistent infection with HPV and thus is the highest risk group. It also shows that there is a high HPV infection rate in the below 30 years age group but as mentioned before most of the infections in this age-group are transient. With some studies showing that the Pap smear has high levels of false-negatives in relation to HPV, it is recommended that more HPV genotyping be done together with Pap smears for patients in the 30-50 year age-group and those with persistently positive Pap smears, so as to reduce the incidence of cervical cancer.

Also, because of the late presentation of cervical cancer symptoms, it is advisable that Botswana develop a national protocol on the screening of this disease which is applicable to the resources we have at hand and tailor-made to our population.

As we commemorate AIDS month, it is important we do not lose site of all the other ailments that gain prevalence as a result of the lowered immunity.

Lastly, I'd like to express my thanks and love to Samkeliso Sisa for inspiring me to finish this review.

LAB MONITORING OF DIABETES MELLITUS – HBA1C AND SERUM FRUCTOSAMINE

Blood glucose levels rise and fall over the course of the day. The most practical way to measure mean blood glucose is glycated protein.

“Glycation” refers to the condensation of a sugar with an amino acid residue in the protein. The level of glycated protein in the blood is related to the half-life of the protein and the mean blood glucose concentration during its lifetime.

Although many proteins may be used to monitor the blood glucose, the Diabetes Control and Complications Trial (DCCT) used glycated hemoglobin as its measure of glycaemic control. Given the average red blood cell lifetime, glycated hemoglobin is a measure of mean blood glucose over the preceding 6-8 weeks.

Glycation may occur at many amino acid residues in hemoglobin and it may also involve a variety of sugars, not just glucose. The total amount of glycated hemoglobin (also sometimes called glycosylated hemoglobin) is hemoglobin A1, to differentiate it from nonglycated hemoglobin A.

There are a number of different types of hemoglobin A1, however. Hemoglobin A1c, so called because it was the third individual A1 peak observed, turns out to represent most of the glycated hemoglobin. It is the result of the condensation of glucose with the N-terminal valines of the beta chains, and it is this fraction that is the target of glycaemic control.

HAEMOGLOBIN A1c

(also known as A1c, HbA1c, Glycohaemoglobin, Glycated haemoglobin, Glycosylated haemoglobin)

DCCT (trial) documented the benefit of good glycaemic control in a large number of type 1 diabetics. The United Kingdom Prospective Diabetes Study (UKPDS) showed similar results in people with type 2 diabetes.

The American Diabetes Association has recommended <7% as a treatment goal. This goal is still controversial.

How is it used?

The A1c test is used primarily to monitor the glucose control of diabetics over time. The goal of those with diabetes is to keep their blood glucose levels as close to normal as possible. This helps to minimize the complications caused by chronically elevated glucose levels, such as progressive

damage to body organs like the kidneys, eyes, cardiovascular system, and nerves. The A1c test gives a picture of the average amount of glucose in the blood over the last few months.

It can help a patient and his doctor know if the measures they are taking to control the patient's diabetes are successful or need to be adjusted.

The A1c test is frequently ordered on newly diagnosed diabetics to help determine how elevated their uncontrolled blood glucose levels have been. It may be ordered several times while control is being achieved, and then several times a year to verify that good control is being maintained.

When it is ordered?

Depending on the type of diabetes, how well the diabetes is controlled, the A1c may be measured 2 to 4 times each year. The American Diabetes Association (ADA) recommends testing A1c:

- 4 times each year if one has type 1 or type 2 diabetes and uses insulin; or
- 2 times each year if one has type 2 diabetes and do not use insulin.
- When someone is first diagnosed with diabetes or if control is not good, A1c may be ordered more frequently.

What does the test result mean?

A 1% change in an A1c result reflects a change of about 30 mg/dl (1.67 mmol/L) in average blood glucose. For instance, an A1c of 6% corresponds to an average glucose of 135 mg/dl (7.5mmol/L), while an A1c of 9% corresponds to an average glucose of 240 mg/dl (13.5mmol/L). The closer a diabetic can keep their A1c to 6%, the better their diabetes is in control. As the A1c increases, so does the risk of complications.

Bear in mind that the correlation between mean plasma glucose (MPG) levels and A1c levels is an estimation only, dependent on methodology used for the calculation as well as other factors, such as the red blood cells life span.

The A1c test will not reflect temporary, acute blood glucose increases or

decreases. The glucose swings of someone who has “brittle” diabetes will not be reflected in the A1c.

In sickle cell anaemia, there may be a decreased amount of hemoglobin A. This will affect the amount of glucose that can bind to the hemoglobin and may limit the usefulness of the A1c test in monitoring diabetes.

In haemolysis or heavy bleeding, the test results may be falsely low. In iron deficiency anaemia, there is an increased A1c measurement.

FRUCTOSAMINE

(also known as Glycated serum protein (GSP), Glycated Albumin)

How is it used?

Fructosamine testing has been available since the 1980s. Both Fructosamine and A1c tests are used primarily as monitoring tools to help diabetics control their blood sugar, but the A1c test is much more popular and more widely accepted.

However, the American Diabetes Association (ADA) recognizes both tests and says that Fructosamine may be useful in situations where the A1c cannot be reliably measured. Instances where Fructosamine may be a better monitoring choice than A1c include:

- Rapid changes in diabetes treatment- Fructosamine allows the effectiveness of diet or medication adjustments to be evaluated after a couple of weeks rather than months.
- Diabetes in pregnancy- good control is essential during pregnancy and the needs of the mother frequently change during gestation; Fructosamine measurements may be ordered along with glucose levels to help monitor and accommodate shifting glucose and insulin requirements.
- RBC loss or abnormalities- an A1c test will not be accurate when a

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THYROTOXICOSIS MASQUERADING AS TUBERCULOSIS

Mr M.D., a 40-yr old accountant presented with a history of weight loss of 7 months duration. The weight loss had been progressive despite increased appetite. He had also noticed that he sweated a lot and had unusual "internal heat" even when the environment was cold.

He had been told by relatives 3 months prior to presentation that he had a neck swelling which he claimed had not increased appreciably in size since his attention was drawn to it.

He had associated palpitations and insomnia, and became frightened very easily. His bowel opening had increased from once in 2 days to twice daily since the onset of the illness. His stool was non-mucoid and non-bloody. There was associated cough which was unproductive of sputum.

There was no haemoptysis, dyspnoea, orthopnoea or leg swelling. There was no history of polyuria or polydipsia. His past medical history revealed that he was on anti-tuberculosis (anti-T.B.) therapy for 5 months without improvement in another clinic following same complaints as above.

He denied any investigation for T.B. before commencement of the anti-T.B. therapy and he chose to stop the drugs when he was not improving. He was not a known diabetic or hypertensive and never had any psychiatric illness.

He neither smoked nor took alcohol. He was married to one wife and denied any premarital or extramarital sexual intercourse. He never had blood transfusion in the past.

On examination, he was an anxious, sick-looking, wasted middle aged man, afebrile with temperature of 37 degree centigrade. His weight was 50kg. He was not pale and had no peripheral lymphadenopathy or pedal oedema. His palms were warm and moist with fine tremors of the outstretched fingers.

His pulse rate was 104/min. regular and of full volume with a blood pressure of 140/70mmHg. Apex beat was in the 5th left intercostal space at the mid-clavicular line.

The 1st and 2nd heart sounds were normal, with a haemic systolic murmur. He was not in respiratory distress though tachypnoeic with respiratory rate of 28/min. The trachea was central and other detailed chest examination was normal. There was a

swelling on the anterior neck extending bilaterally to the sides. The mass moved with deglutition and protrusion of the tongue. It was firm, smooth, non-tender and non-nodular. There was a bruit over the mass on auscultation.

The patient had exophthalmos with lid retraction. There was demonstrable lid lag. He had normal vision. He was alert and restless. His muscle tone and power were normal with intact cranial nerves. His ankle jerk was brisk but had no sustained ankle clonus. His abdominal examination was non-contributory.

A clinical diagnosis of diffuse toxic goitre (Graves' disease) was made, with differential diagnosis of incompletely treated pulmonary tuberculosis and human immuno-deficiency virus (HIV) infection.

Management

While he was commenced on the following medications-carbimazole tablets 10mg 8 hrly and propranolol tablets 40mg 8hrly-based on a working diagnosis of thyrotoxicosis, the results of his investigations came back as follows:

- Haemogram- Hct 44%, total Wbc 3300/cubic mm with differentials of neutrophils 25%, lymphocytes 75%.
- ESR 6mm/hr.
- Blood film showed no malarial parasites.
- HIV screening was negative
- Chest x-ray showed clear lung fields with normal cardio-thoracic ratio and the thoracic inlet did not show any retrosternal goitre.
- Sputum Gram stain showed no organism and the Zeihl-Neelsen stain done 3 times were negative for AFB.
- Thyroid Function Test (TFT) showed TSH 0.1(0.5-5.0mU/l), T4 283(60-160mmol/l), T3 6.5(1-3mmol/l).

Therefore, a clinical diagnosis of thyrotoxicosis was confirmed by laboratory investigation.

With further review on follow-up a week later, he had remarkably improved with PR of 80/min. and BP of 130/70mmHg with subsided adrenergic

symptoms. His weight had also increased to 53kg from 50kg. The reason for his adrenergic symptoms and weight loss despite increased appetite was explained to him as due to hyperthyroidism. He was convinced that he did not have T.B. He was advised to have a repeat TFT done to confirm his euthyroid state but could not afford it for financial constraint. He was however referred for surgery judged by his clinical status.

Discussion

Thyrotoxicosis or hyperthyroidism is a clinical syndrome which reflects hyperfunction of the thyroid gland resulting in the delivery of an excessive quantity of thyroid hormones (triiodothyronine T3 and thyroxine T4) into the circulation.

Thyrotoxicosis is commonly caused by diffuse toxic goitre-Graves' disease, but it also can be the clinical manifestation of other aetiologic processes such as toxic multinodular goitre and toxic adenoma.

The central disorder in thyrotoxicosis irrespective of the aetiology is an increased output of the thyroid hormones with loss of normal feedback mechanism controlling the secretion of thyroid hormones. The clinical features of thyrotoxicosis are heat intolerance and sweating, weight loss despite increased appetite, diarrhoea and tachycardia amongst others.

Thyroid hormone increases oxygen consumption by tissues, raising heat production and energy metabolism. It interacts with the sympathetic nervous system in a way that seems to increase tissue sensitivity to catecholamines and adrenergic stimuli thus affecting protein, fat, carbohydrate and vitamin metabolism.

These and other actions lead to profound changes in many organ systems when thyroid hormone is in excess. Exophthalmos, pretibial oedema and dermopathy are specific for Graves' disease. With associated goitre, pressure symptoms like cough may manifest.

Graves' disease is an autoimmune phenomenon in which circulating immunoglobulins attach to TSH receptors on the cell membrane of the thyroid cells and stimulate the production of thyroid hormones. By clinical criteria, above patient was diagnosed a case of Graves' disease.

SEXUALLY TRANSMITTED DISEASES

Further confirmation by measuring circulating anti-bodies or by nuclear scanning should have been carried out, but the facilities were lacking.

Symptoms in a number of non-thyroid disorders may simulate certain aspects of the thyrotoxic syndrome. Weight loss is a prominent symptom of thyrotoxicosis; if associated with sweating and cough due to upper respiratory infection or pressure symptoms, it can be mistaken for pulmonary T.B.

This was the case of Mr M.D. who had received anti-T.B. for 5 months elsewhere. These days, another diagnostic pitfall is HIV infection especially if diarrhea co-exists with weight loss. Therefore, mild cases of thyrotoxicosis require strong clinical acumen as well as judicious application of laboratory tests.

There are three major modalities of treating hyperthyroidism: anti-thyroid drugs, surgery and radioactive iodine (131-I) therapy. Anti-thyroid drugs are used as first-line therapy in selected cases of Graves' disease and in the pre-operative preparation of thyrotoxic patients.

Commonly used anti-thyroid drugs are carbimazole, methimazole and propylthiouracil (PTU). Some side effects of these drugs are agranulocytosis, hepatitis and drug fever. Beta-adrenergic antagonists such as propranolol are adjunctive agents used to quickly control the adrenergic components of thyrotoxicosis.

Due to poor compliance associated with anti-thyroid drug therapy, and rapidity of the control of thyrotoxicosis following thyroidectomy, surgery offers the best chance of euthyroidism.

However, in order to prevent thyrotoxic crisis, the patient is rendered euthyroid with anti-thyroid drugs and beta-blockers. Potassium iodide is also routinely used pre-operatively to reduce the vascularity of the thyroid gland.

The above case was rendered euthyroid as judged by the clinical status and subsequently referred for surgery. Although repeat TFT was requested to confirm the euthyroid state, he could not afford it.

References available on request.

Sexually transmitted diseases commonly known as STDs are diseases that are usually spread through sexual activity. They include gonorrhoea, genital herpes, Chlamydia, HIV/AIDS and syphilis. STDs can be spread by other means than sexual activity, such as contact with body fluids from an infected person and can be passed from a mother to her new born baby.

Symptoms of an STD infection

- Burning sensation in the urethra when urinating
- Sores, bumps, rashes, or blisters in the genital area or anal area
- Abnormal discharge from the vagina or penis
- Itching, pain, or discharge in the anal area
- Redness or swelling in the genital area

- Pain in the pelvic or abdominal area
- Pain, soreness, irritation, or other discomfort during intercourse, or bleeding after intercourse
- Recurring yeast infections
- Many people with STDs may not experience any symptoms.

Anyone who is sexually active should have regular check-ups for STDs. If you are sexually active and are unsure if your partner is infected with STD or if you have more than one sexual partner, you should:

- Practice safe sex, correctly use new latex condom from the beginning to the end of the sexual act everytime you have vaginal, anal or oral sex.
- Avoid contact with body fluids and tissues

STD QUIZ:

Test your knowledge about sexual safety.

- The rate of STDs in the world is on the rise.
True or False
- Condoms - so long as they're still wrapped - will stay effective even if carried around for months at a time in your wallet.
True or False
- Animal skin (lambskin) condoms protect against pregnancy but don't protect you from STDs, such as HIV/AIDS.
True or False
- You should lubricate condoms with petroleum jelly or baby oil to reduce their risk of tearing.
True or False
- When condoms fail, it's usually because of incorrect use.
True or False
- If you have a history of genital herpes, you can infect your partner even when you don't have symptoms of the disease.
True or False
- Having regular Pap tests will prevent cervical cancer.
True or False
- You can't get an STD from oral sex.
True or False
- Taking birth control pills eliminates your need for a condom.
True or False
- STDs aren't life-threatening.
True or False

Answers on page 10

GENETICS IN REDUCTION OF BREAST AND OVARIAN CANCER RISK (KNOWLEDGE IS POWER. INSTEAD OF LIVING UNDER THE SHADOW OF FEARS AND MISUNDERSTANDINGS, KNOW YOUR OWN REALISTIC LEVEL OF RISK, AND BE PROACTIVE).

Genetics

Some women with a strong family history of breast cancer have inherited a specific gene abnormality that increases their risk for the breast cancer, and ovarian cancer.

Most inherited cases of breast cancer have been associated with two genes: BRCA1, which stands for Breast Cancer gene one, and BRCA2, or Breast Cancer gene two. The function of these genes is to keep breast cells growing normally and to prevent any cancer cell growth.

But when these genes contain abnormalities, or mutations, they are associated with an increased breast, ovarian and other cancer risk.

Abnormal BRCA1 and BRCA2 genes may account for up to 10% of all breast cancers, and 7% of all ovarian cancer. Women who have an abnormal BRCA1 or BRCA2 gene have a 50-85% risk of breast cancer by the age of 70, while the average woman has about a 14 percent chance. And their lifetime risk for ovarian cancer is also increased: to 40-60% for women with BRCA1 mutations and to about 25% for women with BRCA2 mutations. Not all inherited forms of breast cancer are due to abnormal BRCA1 or BRCA2 genes.

The CHEK2 gene may play a role in the development of some breast cancers. Having an abnormal CHEK2 gene may double a woman's risk of getting breast cancer-from the average 14% lifetime risk to about 28%. Some women may have an abnormal BRCA1 or BRCA2 gene AND an abnormal CHEK2 gene. In that case the abnormal CHEK2 gene does not further increase the risk of getting breast cancer because it is part of the same cell mechanism.

Identifying BRCA1 and BRCA2 has led to new techniques for lowering the risk for the disease. For women who wish to be tested, we can now establish whether the two genes are normal or not.

Risk Reduction options

Risk reduction means making choices to avoid or minimize any possible risk factors that you can. It also means increasing the

protective factors in your life so your chances of developing breast cancer are lower.

Although you can control many risk factors, remember that doing so does not guarantee zero risk. It is also important to keep in mind that many women who have a particular risk factor for breast cancer never develop it.

If you have a family history of breast cancer, on either your mother or father's side, you might have a higher risk for developing breast cancer during your lifetime. The most significant family history is if women in your family were diagnosed with breast cancer before the age of 50, if they had breast cancer in both breasts, and if anyone also had ovarian cancer.

Prophylactic oophorectomy

Prophylactic oophorectomy is the surgical removal of your ovaries. Removing your ovaries greatly reduces the amount of circulating estrogen in your body. This can halt or slow breast cancers that depend on estrogen to grow.

It significantly reduces your odds of developing cancer if you're at high risk up to 50 percent for breast cancer and 95 percent for ovarian cancer.

Prophylactic Mastectomy

This procedure does reduce your risk of breast cancer to a much greater extent than does prophylactic oophorectomy, but it does not protect ovarian cancer, which is more deadly as it is usually diagnosed in late stage.

Tubal Ligation

Researchers have found that tubal ligation reduces the risk of ovarian cancer in women with BRCA1 mutations, although they haven't found a benefit for women with BRCA2 mutations. Ovarian cancer risk may be reduced by about 60 percent for BRCA1 carriers.

If you're in your late 20s to mid-30s and you've finished having children, tubal ligation may provide a more acceptable option than surgically induced menopause.

Chemo-prevention

Anti-estrogens like Tamoxifen, Raloxifen, and Aromatase inhibitors have preventive role in selected cases. Taking estrogen-suppressing medication offers the advantage that its effects are potentially reversible once you stop taking the medicine. These medications assist in reducing breast cancer risk, but since your ovaries remain in place, they have little to no effect on your ovarian cancer risk.

Few research studies have shown the beneficial effects of Aspirin, and other non-steroidal anti-inflammatory medicines like Ibuprofen in reducing the risk for breast, and ovarian cancer.

Tremendous amount of promising research is under way to determine the cause of breast cancer and to establish effective ways to prevent it. If you are a woman with a strong family history of breast cancer or with a known genetic mutation of a BRCA gene, there are things you can do to reduce your chances of developing breast cancer.

We strongly recommend genetic counseling. And consulting your doctor who has interest in prevention of cancers before any of these steps are strongly recommended.

Interlude

The Gate Is Broken

St. Peter was checking the gate between Heaven and Hell and found a broken hinge. He walked over to the "Pit" and called to the Devil...

The Devil says, "Yeah, what do you want..?!"

St. Peter: "The hinge is broken and it's your turn to fix it.."

The Devil retorted: "Gee, I am a bit busy and don't have anyone available for this.."

St. Peter got angry, "Look, we have an agreement, and it's your turn to fix the gate..!"

The Devil responded, "Sorry Pete, it's our peak season and there just isn't anyone available..."

" St. Peter turned red and exclaimed... "Ok, if that's the way you want it, we'll sue..!"

A big grin broke out on the Devil's face, "Oh yeah, and just where are you going to find a lawyer...?!"

LINK BETWEEN ARTERIAL AND VENOUS THROMBOSIS

In the last decade, studies have shown that there is an association between atherothrombotic disease and idiopathic venous thrombosis.

This presumption is supported by common risk factors for both diseases, by similar or identical pathogenetic mechanisms and by the associated appearance of atherosclerosis and venous thrombosis.

Therefore, it seems that venous and arterial thromboses represent a continuous spectrum of the same disease.

inflammatory activity, suppression of the prothrombotic and endothelial-altering properties of circulating lipids and improvement of the rheological properties of the blood. Statins also seem to alter elements of the coagulation cascade consistent with an antithrombotic effect. In this study it was also first shown that long-term aspirin therapy decreased the risk of venous thrombembolism in women with established coronary artery disease (12).

atherosclerosis can induce venous thrombosis or that the two conditions share common risk factors.

In one of our studies we investigated the relation of endothelial function to VTE. Endothelial dysfunction known as one of the earliest measurable functional disturbance in atherogenesis was also detected in patients with idiopathic venous thrombosis.

Patients with thrombosis had significantly lower endothelium dependent vasodilating capability of brachial artery than healthy subjects (14).

A relationship was also found between manifested atherosclerotic disease and venous thrombembolism. In the study of Grady and co-workers, women who had myocardial infarction had a 2.1-fold higher risk of venous thrombembolism over the entire course of follow-up, but during the first 90 days after infarction, the risk was increased more than by 5-fold (12).

Further, in a case-control study an association between venous thrombembolic disorders and arterial disease of the lower limbs was found (15).

TABLE I :RISK FACTORS INVOLVED IN PATHOGENESIS OF BOTH - ARTERIAL AND VENOUS THROMBOSIS.

risk factor	pathogenetic mechanism	reference
older age	increased oxidative stress	Prandoni et al-8
increased BMI	metabolic deterioration inflammation	Nurses Health Study 9
hypertension	haemodynamic stress metabolic deterioration	Nurses Health Study 9
smoking	damage of vessel wall oxidative stress	Nurses Health Study 9
hypercholesterolemia	impairment of regulation of coagulation increased viscosity and erythrocyte aggregation	Voya et al 10 Spbieszcyk et al - 4 Libby and Simon - 5

In line with these arguments, is also recognition that some other nonclassical risk factors like: hyperhomocysteinemia, factor V Leiden, and lupus anticoagulants represent potential risk for both atherosclerosis and venous thrombosis.

Similar or identical pathogenetic mechanism

The relationship between arterial and venous thrombosis process is also supported by the effects of measures used in prevention of atherosclerotic cardiovascular events on the prevention of venous thrombosis. For statins that are effective in the prevention of cardiovascular disease among individuals with normal or elevated levels of cholesterol, it was shown that these drugs also have antithrombotic properties (11).

In a retrospective subgroup analysis of the Heart and Estrogen Replacement Study (HERS) the use of statins was associated with a 50% risk reduction of venous thrombembolism (12). This beneficial effect of statins may be due to decreased thrombus formation mediated by their anti-

Associated appearance of atherosclerosis and venous thrombosis

A relation was also found between subjects with preclinical or clinical atherosclerotic disease and venous thrombembolism.

Prandoni and co-workers showed that the prevalence of carotid plaques was significantly higher in patients with unexplained (primary) thrombotic events than in those with secondary ones or in age- and sex- matched subjects without thrombosis (3).

This association was still present after adjustment for risk factors of atherosclerosis and thrombophilic conditions. In elderly patients, the association became even stronger.

In addition, other features of atherosclerosis (such as intima-media thickness of the carotid arteries, the degree of carotid stenosis and the number of carotid segments involved) were far more frequent among subjects with spontaneous venous thrombosis.

This study suggests either that

Conclusions

There is evidence of an association between atherosclerotic disease and venous thrombosis. This thesis is supported by common risk factors for both diseases: older age, hyperlipidemia, hypertension, hyperhomocysteinemia, factor V Leiden, and lupus anticoagulants, by similar or identical pathogenetic mechanisms and by the association of the appearance of both diseases.

The existence of the link between arterial and venous disorders opens important new avenues for further research, including the potential role of certain drugs like statins - presently mainly used in the prevention of arterial cardiovascular disease also in management of venous thrombembolic disorders.

References available on request: kbhagat@ic.bw

Diagnofirm Picture Update



Nokuthula - Diagnofirm Phlebotomist, doing glucose testing in Francistown on Wellness Campaign Day



Mr. T. Masisi, Francistown MP, giving his speech on Wellness Campaign Day Commemoration in Francistown



Guests of Honour on Wellness Campaign Day Commemoration in Francistown



New Diagnofirm, Reception area



And the Boardroom where all the planning takes place



Part of the crowd that attended the Wellness Campaign Day Commemoration in Francistown



Professor Kiran Baghat giving his speech at the Wellness Campaign Day Commemoration in Francistown



Silas Nunu testing for glucose on World Diabetes Day Commemoration Westgate Mall, Gaborone



Leslie Rahman testing for glucose on World Diabetes Day Commemoration Westgate Mall, Gaborone



Auto-Lab Clinical Chemistry Department



Inside the spacious main Lab

STD QUIZ: ANSWERS

The rate of STDs in the world is on the rise.

Correct answer: True

According to the Centers for Disease Control and Prevention (CDC), rates in the world for many STDs are significantly higher than they were just a few years ago.

Although young people are at greatest risk of STDs, they're the least likely to get tested, often because they're embarrassed or because they don't realize they're infected.

Many common STDs, such as Chlamydia, cause few, if any symptoms, yet they can seriously damage your health and you can un-knowingly spread them to others.

If you're a sexually active teen or young adult and not in a monogamous relationship, ask your doctor or an STD clinic about being tested.

If you're a parent, have frank and open discussions with your children about sex. It could save their lives.

Condoms - so long as they're still wrapped - will stay effective even if carried around for months at a time in your wallet.

Correct answer: False

Both body heat and time can lessen the effectiveness of a condom, so it's important not to carry the same one around for a long period of time.

Put the condom in your wallet only if you're planning to use it soon - that night or that weekend. If not, keep it in a safe, dry place at home.

Also keep an eye on the expiration date listed on the package - never use an expired condom.

Animal skin (lambskin) condoms protect against pregnancy but don't protect you from STDs, such as HIV/AIDS.

Correct answer: True

Although sperm can't pass through naturally occurring pores in lambskin condoms, disease-causing viruses and bacteria can.

Latex condoms offer better protection against sexually transmitted diseases.

You should lubricate condoms with petroleum jelly or baby oil to reduce their risk of tearing.

Correct answer: False

Petroleum- or mineral-based lubricants, such as petroleum jelly or baby oil, weaken latex condoms, causing them to tear.

If the condom isn't lubricated and lubrication is necessary, use a water-based lubricant, such as K-Y lubricating jelly, on the outside of the condom.

When condoms fail, it's usually because of incorrect use.

Correct answer: True

Latex condoms are highly effective - but only when used correctly and consistently. A common cause of condom failure is not leaving space at the tip of the condom. After ejaculation, the lack of sufficient space may cause the condom to tear.

If you have a history of genital herpes, you can infect your partner even when you don't have symptoms of the disease.

Correct answer: True

Although uncommon, it's possible to spread the herpes virus when you're not showing signs or symptoms of the disease. And when you have blisters or open sores in your genital area, herpes is highly contagious. Condoms can lower the risk of transmission of the virus, but they don't provide complete protection.

Having a history of genital herpes doesn't mean that you can't have an intimate or sexual relationship, however. To help protect your partner, avoid sex during an active outbreak, use condoms consistently and stick to your medication regimen.

Having regular Pap tests will prevent cervical cancer.

Correct answer: False

Regular Pap tests can detect - and lead to successful treatment of - abnormal cells before they become cancerous. But Pap tests don't actually prevent you from acquiring the human papillomavirus (HPV) that causes cervical cancer.

HPV is the single most important risk factor for cervical cancer. Your risk of HPV increases with the number of sexual partners you've had - and the number of partners your partners have had. Having first sexual intercourse before age 18 also increases your risk of developing cervical cancer. Pap tests help detect HPV early so you can be treated.

You can't get an STD from oral sex.

Correct answer: False

Even if you don't have intercourse, it's possible to get an STD if you engage in unprotected oral sex. The skin-to-skin contact and exchange of body fluids associated with oral sex make it possible for viruses or bacteria to enter your system.

For instance, in the case of syphilis or herpes - infections that cause open sores - a person may become infected after direct contact with open sores. The best way to avoid infection is by being in a long-term, mutually monogamous relationship with an uninfected partner.

Taking birth control pills eliminates your need for a condom.

Correct answer: False

Birth control pills only protect against unwanted pregnancy - they can't keep you from getting an STD. Condoms are the only form of birth control that protects against STDs as well as unwanted pregnancies.

Use a condom in addition to your other method of birth control to reduce your risk of getting an STD.

STDs aren't life-threatening.

Correct answer: False

STDs can be life-threatening; HIV/AIDS is the most devastating example. Despite better medications to slow its toll, AIDS remains a potentially fatal disease with no cure.

People who share intravenous (IV) needles and those who have multiple sex partners and don't insist on the proper use of condoms remain at highest risk of contracting HIV/AIDS.

The best means of battling AIDS is prevention.

HEALTH AWARENESS CAMPAIGNS

Each month of every year there is a health awareness campaign that the world carries out in order to make people aware of the numerous conditions that are affecting people world wide.

There has been so much focus on HIV/AIDS such that other conditions have been neglected and they still continue to claim lives or cause our lives to be miserable.

September saw the health focus being on Eczema, PMS and Migraine. The Eczema week is an annual health awareness campaign organized to raise awareness of the condition that affects one in 12 adults and one-fifth of school-age children. This year's campaign focused on the psychological impact of having eczema.

Eczema (or dermatitis) is a common skin condition. There are several different types, the most common being atopic eczema, which affects both children and adults and is closely associated with asthma and hay fever. Seborrhoeic eczema can occur in babies and adults.

In babies it starts on the scalp or the nappy area and quickly spreads. In adults, it usually starts on the scalp, but can spread to the face, ears and, in men, the chest. Discoid or nummular eczema usually occurs in adults and looks like coin-shaped lesions. Gravitational or varicose eczema tends to occur in later life and is found on the lower legs. Contact eczema occurs when the skin is in contact with an irritant, such as nickel.

The exact cause of eczema isn't known, but many people are aware of what triggers their particular eczema. These triggers may be rough fibres, perfume, preservatives, chemicals or, sometimes, diet.

Eczema may also be triggered by stress, changes in temperature or environmental factors. Some people develop eczema at work.

Contact dermatitis or eczema is the most common type of work-related skin disease and affects nine per cent of people in the workplace. It can lead to extensive time off work and loss of earnings.

Eczema isn't usually life-threatening, but the red, inflamed skin can feel unbearably hot and itchy. The itchiness tends to make people scratch, causing bleeding and making the skin vulnerable to infection.

Dry, cracked skin can also make movement painful. Adults and children are often too uncomfortable to sleep, leading to disturbed sleeping patterns and irritability. Some people feel self-conscious about the

appearance of their eczema. This may have an impact on their ability to develop and sustain relationships. Teenagers may feel particularly awkward and avoid going out when their eczema is visible.

Although there's no cure for eczema, treatments can help people to manage the condition. Emollients can help to reduce water loss from the skin and act as a barrier or seal.

Topical steroids may be needed when a 'flare-up' occurs to reduce inflammation. In the most severe cases, oral steroids may be prescribed.

Other treatments include antihistamines, ultraviolet light treatment, diet management, avoiding possible irritants and reducing the effect of the house dust mite.

FACTS AND STATS

- 73 per cent of people with eczema worry about their appearance
- 47 per cent are embarrassed when with people they don't know very well
- 29 per cent feel people don't want to touch them
- 27 per cent have been teased or bullied because of their eczema
- 46 per cent feel there is no release from eczema

PMS

Pre-menstrual Syndrome (PMS). Up to 60 per cent of women experience PMS to some degree, which can have a devastating effect on relationships.

If a woman's feeling bloated, spotty, depressed, and irritable and lacks in confidence for a few days each month, it's hardly surprising that the relationship and sex is disrupted.

Symptoms of PMS are directly related to the fluctuations in hormone levels during the monthly cycle.

Symptoms may increase in severity during hormonal changes such as puberty, following childbirth, after a miscarriage or termination, when starting or stopping the contraceptive pill or even occasionally after sterilization or hysterectomy. Women who experience post-natal illness are also more likely to suffer from PMS. Symptoms often become noticeably more severe as women become older, however

Psychological	Physical	Behavioural
Aggression	Breast tenderness	Reduced libido
Depression	Bloatedness	Alcohol abuse
Mood swings	Fatigue	Panic attacks
	Migraine	Sweet craving
		Binge eating

women of any childbearing age can be affected.

It's not necessarily the symptoms themselves that depict PMS but the timing of those symptoms. However, they tend to fall into three categories:

Every woman should become well informed about her menstrual health. Keeping a chart gives real insight into menstrual-related symptoms and provides an evidence base from which to diagnose and treat.

There are a number of self-help treatments. As a first step eating less sugar, fat and salt, and drinking less alcohol, while increasing intake of fruit, vegetables and water, combined with a regular three-hourly carbohydrate snack can really help.

Exercise and lifestyle changes, together with stress-busting techniques, can make an enormous difference; merely investing time in oneself will have a significant effect.

There's a wide range of over-the-counter products available. Women are all different so try one product for a minimum of three months. If there's no real or lasting effect, try something else.

Don't be tempted to try more than one treatment at a time; it'll be difficult to decide which one works.

Migraine Awareness is an annual health campaign aimed at raising awareness of migraine, a condition that affects all ages, social classes and cultures.

Migraine is more than just a headache. In addition to the intense throbbing headache, often on just one side of the head, sufferers can experience visual disturbances, increased sensitivity to light, sound and smell, nausea and vomiting - and in some cases, pins and needles or numbness on the affected side. Unlike 'regular' headaches, migraine can last from four hours to three days.

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Migraine headaches are believed to be triggered by a fall in the levels of a chemical called serotonin (5HT) in the brain. This results in changes in the blood vessels and neurotransmitters (chemical messengers), causing the symptoms described above.

A number of different factors can trigger migraine, including bright flickering lights, loud noise, and lack of food, over-tiredness, stress, dehydration and hormonal factors. It's a good idea to keep a diary to try to identify what may be causing your migraine.

There's no cure for migraine, but it's a condition that can be effectively treated and managed.

For some people over-the-counter painkillers do the trick if taken early enough, but if these don't work your doctor can prescribe stronger painkillers combined with an anti-sickness ingredient or special migraine drugs that restore the serotonin levels in the brain. People who experience frequent migraine attacks can be prescribed preventative medication to take on a daily basis.

Changes to your diet or lifestyle to reduce your triggers can make a tremendous difference. Lots of sufferers have also been helped by complementary treatments such as the herb feverfew, acupuncture, reflexology and various forms of relaxation exercise.

In October the main focus was on breast cancer. Breast cancer is a malignant tumour in the breast. Malignant cancer attacks the tissue in which it started and can spread to other parts of the body. The good news is that nine times out of ten, lumps in the breast aren't cancerous. In fact, many women have naturally 'lumpy' breasts, caused by other harmless conditions such as cysts.

However, it's always best to check any lumps or changes in your breasts with your doctor - sooner rather than later.

BREAST CANCER FACTS

- The lifetime risk of women developing breast cancer is one in nine
- The incidence of breast cancer in women is increasing by more than one per cent each year
- One per cent of breast cancers occur in men
- Survival rates beyond five years are improving, probably due to increased breast awareness, the screening service, earlier detection and improved treatment

Risk factors

Age is possibly the biggest single risk factor in breast cancer: women over 50 are particularly at risk. It's by no means unheard of for women under this age to have breast cancer but it is less likely.

Other risk factors include:

- a family history of the disease
- starting your periods early (under 12) or the menopause late (after 55)
- previous cancer
- being overweight (especially after the menopause)

It's important to remember, however, that we're all individuals and therefore apparent risk factors won't apply to every one of us in the same way. The majority of breast cancers are first spotted by the woman herself or her partner.

This shows how important it is to be breast aware and to know what is normal for your breasts, so you can spot any changes as soon as possible.

Early detection of breast cancer can, in some cases, increase survival rates to 90 per cent.

In November the focus moved to lung and mouth cancer. Lung cancer is a term used to describe a growth of abnormal cells inside the lung. These cells reproduce at a much quicker rate than normal cells and stick together to form a cluster.

If the abnormal cells first started growing in the lung, it is called a primary lung tumour. If the abnormal lung cells break off and travel in the blood or lymphatic circulation, they may start to grow in other areas of the body. This new growth is called a secondary tumour.

There are plenty of reasons why you might have some of the symptoms below. If you have any of these symptoms, make an appointment today to see your doctor:

- chest infections that won't go away, even with antibiotics
- having a cough for more than three weeks
- feeling more tired than usual
- more spit or phlegm, especially with blood in it
- feeling very out of breath
- losing your breath but no sore throat
- chest pains
- swelling in your face or neck

- losing weight but not sure why

LUNG CANCER FACTS

- It's the second most common cancer after breast cancer.
- It's the most common cause of cancer death in men and women in the.
- It's the third most common cancer in women.
- Patients are 40 times more likely to survive if the disease is detected in the early stages.
- Smoking and passive smoking cause nine out of ten lung cancers.

Smokers and ex-smokers have a particularly high risk of developing the disease: statistics suggest that more than 90 per cent of people with lung cancer have been or are smokers.

However, other factors also increase the risk of developing lung cancer; for example, exposure to chemicals found in the workplace or environment, such as asbestos, radon, diesel exhaust fumes and synthetic fibres. A poor diet (low intake of fruit and vegetables) may also contribute to developing cancer.

If you are/were a smoker it's important to recognise that, although your smoking habit may have contributed to the cancer, it may not be the only cause.

Oral or mouth cancer affects more than many people worldwide with of those affected dying of the disease. Incidences are increasing faster than any other major cancer.

On average, 50 per cent of cases will survive five years. Smokers, drinkers and those over 40 are particularly at risk, although the incidence of oral cancer is increasing in younger people. It's approximately twice as common in men as in women.

Early detection and rapid treatment is vital and can improve the survival outcome from 50 per cent to nearer 90 per cent.

Have dental check-ups - it could be the difference between life and death. A dentist is trained to examine for mouth cancer. If it's spotted early, the chances of a cure are good. Too many people with mouth cancer go to the dentist or doctor too late.

The routine examination procedure is quick, simple, and completely painless.

Adoption of a healthy lifestyle and regular dental examinations are good preventive measures. You can greatly

reduce the risk of mouth cancer if you stop using tobacco (even after many years of use). A healthy diet, rich in fruit and vegetables and low in animal fats, helps to prevent all types of cancer.

December is the month for HIV/AIDS awareness campaigns. World AIDS Day is an annual health campaign aimed at raising global awareness of HIV and AIDS. As well as tackling the stigma and ignorance that continues to surround HIV and AIDS, organizations aim to highlight the fact that no one has been cured - despite recent advances in HIV drug treatments.

Statistics

- Over 40 million people around the world are living with HIV or AIDS
- Just under 14,000 new cases of HIV infections occur every single day
- 95 per cent of all AIDS cases occur in the world's poorest countries
- Over 4 million people were infected with HIV in 2006
- 3 million people died from AIDS-

related illnesses in 2006 - that's more than 8,000 deaths a day

HIV stands for human immunodeficiency virus. The immune system is unable to fight off this virus, unlike others such as influenza, mumps and chickenpox. Over the course of time, the virus attacks and destroys the immune system, rendering it weak and vulnerable.

A person who's infected with HIV doesn't necessarily have AIDS and may not develop any of the symptoms associated with AIDS for a number of years. Many people are completely unaware they have HIV.

AIDS, or acquired immune deficiency syndrome, is the name given to a group of diseases and illnesses to which those with HIV are vulnerable, because their immune systems are no longer strong enough to fight off infection.

You can become infected with the HIV virus if you have unprotected vaginal or anal sex (without a condom), or share a needle with a person who has HIV. The HIV

virus lives in blood, sperm and vaginal fluid.

Other routes of transmission for HIV include HIV-infected blood product or donated organs, and from mother to baby (a woman who has HIV may pass on the virus to her unborn child during pregnancy or birth, or while breastfeeding). It's important to point out, however, that there are a number of steps a pregnant woman can take to reduce the chance of passing on HIV to her child, and blood products and donated organs are routinely tested for HIV.

HIV can't be transmitted through kissing, cuddling, shaking hands, insect or animal bites, using a public toilet or swimming pool, or by sharing food or drink.

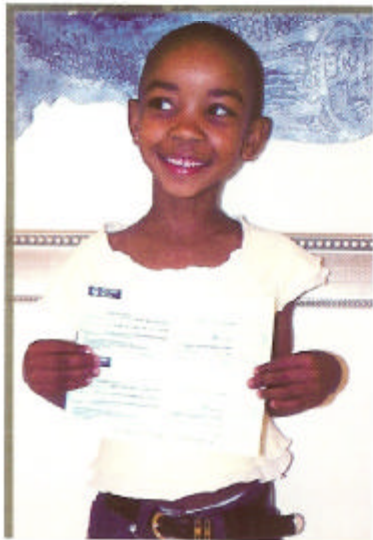
There is no vaccine against HIV and there is no cure. But there are a number of drugs that can slow the damage done to the immune system and help to delay the onset of AIDS. Unfortunately, there are side effects associated with certain drugs.

ACKNOWLEDGEMENT WORDS

The family of Kebonag would like to thank Mr. Iqbal Chand and friends for the assistance they offered us when we were in debt of the medical expenses at Donald Gordon Medical Centre in South Africa for the treatment of our child, Tshogofatso Kebonang who is suffering from blood cancer (Leukemia).

Being minimum wage workers we could not afford to pay our debt to the hospital. May the almighty God bless all those who demonstrated care and love towards our child.

Mr and Mrs Kebonang



Tshogofatso Kebonang with her cheque to pay for her bills



Mr. and Mrs Kebonang with their daughter Tshogofatso

Interlude

Lawyer at the Pearly Gates

One day, a teacher, a garbage collector and a lawyer wound up together at the Pearly Gates.

St. Peter informed them that in order to get into Heaven, they would each have to answer one question.

St. Peter addressed the teacher and asked, "What was the name of the ship that crashed into an iceberg? They just made a movie about it."

The teacher answered quickly, "That would be the Titanic."

St. Peter let him through the gate. St. Peter turned to the garbage man and decided to make the question a little harder,

"How many people died on the ship?" Fortunately for him, the trash man had just seen the movie and answered, "About 1,500."

"That's right! You may enter." St. Peter then turned to the lawyer. "Name them."

Continued from Page 3

Lab Monitoring of Diabetes

patient has a condition that affects the average age of red blood cells (RBCs) present, such as hemolytic anemia or blood loss. The presence of some hemoglobin variants may affect certain methods for measuring HbA1c. In these cases, fructosamine can be used to monitor glucose control.

Since the fructosamine concentrations of well-controlled diabetics may overlap with those of non-diabetics, the fructosamine test is not useful as a screen for diabetes.

When is it ordered?

Although not widely used, the fructosamine test may be ordered whenever the doctor wants to monitor a patient's average glucose over the past 2 to 3 weeks. It is primarily ordered when a diabetic treatment plan is being instituted or altered in order to monitor the effect of the change in diet or medication.

Fructosamine levels also may be ordered when a diabetic patient is pregnant, or when they have an acute or systemic illness that may change their glucose and insulin requirements for a period of time. The fructosamine test may be used when monitoring is required and an A1c test cannot be reliably used.

What does the test result mean?

If a patient's fructosamine is increased, then the patient's average glucose over the last 2 to 3 weeks has been elevated. In general, the higher the fructosamine

concentration the higher the average blood glucose level.

Trends may be more important than absolute values. If there is a trend from a normal to high fructosamine, it may indicate that a patient's glucose control is not adequate—that they are getting too much sugar, too little insulin, or that their insulin treatment has become less effective.

Normal fructosamine levels may indicate that a patient is either not diabetic (and therefore should not be monitored) or that he has good diabetic control. A trend from high to normal fructosamine levels may indicate that changes to a patient's treatment regimen are effective.

Fructosamine results must be evaluated in the context of the patient's total clinical findings. Falsely low fructosamine results may be seen with decreased protein levels, increased protein loss, or a change in the type of protein produced by the body.

In this case, a discrepancy between the results obtained from daily glucose monitoring and fructosamine testing may be noticed.

Also, someone whose glucose concentrations swing erratically from high to low may have normal or near normal fructosamine and A1c levels but still have a condition that requires frequent monitoring.

High levels of vitamin C (ascorbic acid), lipemia (high amount of fat in the blood), haemolysis (breakdown of RBCs), and hyperthyroidism can interfere with test results. ♦

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Recent Events @ Diagnofirm

300 people had their blood glucose levels tested by Diagnofirm Managing Director Mr. M.I. Chand, Lab scientist Lesley Rahman and Sr. Nokuthula Ndlovu from the phlebotomy department.

With the year coming to an end, Diagnofirm has been vigorously involved in wellness assessment clinics with many companies in the country. It is pleasing to see people in industry now being proactive rather than reactive about issues affecting

their health. Like the preaching goes, prevention is better than cure.

I hope we take heed of this message when we get into the festive season, let's try to have fun, but not have fun at the expense of our lives and health.

We wish you a merry festive period and a prosperous 2007.

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From My Keyboard

country and has also gained significant trustworthiness in the health sector community.

Striking improvements have been made in seeing that all the services provided by Diagnofirm are of the highest quality from the new fabulous premises to the use of a Quality Management System.

It does not seem possible that only a year has passed since we introduced the Quality Management System at Diagnofirm and we have had a successful assessment by SANAS for accreditation.

I would like to thank Mr. Motse of Quali-Quest for his assistance and dedication in making this dream come true.

My close involvement with the developments at the organization over the past years has proved me right that the Director and the rest of the Diagnofirm team continue to do a marvelous job of expanding the organization's operations and sustaining them.

The past year has been a thrilling period of growth and development for Diagnofirm, but it doesn't stop there. I look ahead to the years to come and the continued growth of Diagnofirm in Botswana and abroad.

I say to all at Diagnofirm, let's keep the momentum and even the sky will not be the limit!

Due to serious work commitments in the last quarter of the year, my involvement with this issue of the news letter was somewhat reduced and would like to thank Silas Nunu in co-editing this edition. ♦

Stay informed!

Munyaradzi Mangwendeza, Ed.
moonya@diagnostics-update.com

WHAT IS WELLNESS ?

Wellness is first and foremost a choice to assume responsibility for the quality of your life. It begins with a conscious decision to shape a healthy lifestyle. Wellness is a mindset, a predisposition to adopt a series of key principles in varied life areas that lead to high levels of well-being and life satisfaction.

A consequence of this focus is that a wellness mindset will protect you against temptations to blame someone else, make excuses, shirk accountability, whine or wet your pants in the face of adversity. (I threw that in to help you remember this explanation.)

Wellness is an alternative to dependency on doctors and drugs, to complacency, to mediocrity and to self-pity, boredom and slothfulness.

Wellness in an on-going lifestyle which requires taking responsibility and making healthy choices. It promotes individual well being through a balance in the following areas:

- Social
- Cultural
- Physical
- Spiritual
- Emotional
- Intellectual
- Life Planning
- Environmental

Social Wellness is having positive interactions with and enjoying being with others. It is having comfort and ease during work and leisure situations and communicating feelings and needs to others. It involves developing and building close friendships and intimacy, practicing empathy and effective listening, caring for others and for the common good, and allowing others to care for you. It is recognizing the need for leisure and recreation and budgeting time for those activities.

Cultural Wellness is being aware of your own cultural background as well as the diversity and richness present in other cultural backgrounds. It involves interacting well with people of both genders, and people of all backgrounds, lifestyles, abilities, ethnicities and ages. Multicultural wellness is understanding and appreciating cultures other than your own.

This puts one at an advantage in the workforce because in today's world, being educated about and appreciative of cultures

other than your own are valuable skills.

Physical Wellness is the ability to apply your knowledge, motivation, commitment, behavior, self-management, attitude, and skills toward achieving personal fitness and health goals. Balancing nutritional practices, getting regular exercise and adequate sleep, and paying attention to the warning signs and symptoms of your body are all important to physical wellness.

The physical dimension encourages cardiovascular flexibility, strength and exercise as well as proper nutrition. It discourages the use of tobacco, drugs, and excessive use of alcohol consumption. Physical wellness promotes healthy lifestyle behaviors including proper medical care and self-care. The physical dimension provides a vast array of benefits physically and psychologically that keep you feeling your best.

Spiritual Wellness is about finding your place in the universe--the quest for meaning, value and purpose resulting in hope, joy, courage and gratitude. Spiritual Wellness is the evaluation of personal beliefs. Spiritual wellness is a process of looking within and determining one's values and beliefs in order to find a source of inner peace and strength. Spiritual wellness encourages a relationship with a higher power or being in the universe that continues to develop over a lifetime.

This spirituality is important in dealing with life challenges and ongoing change. (Have you noticed how people who don't even believe in God shout oh my GOD when in trouble, its natural for us to believe in some higher power so don't fight it!!!). Find purpose in life and meaning in the little things you do everyday

Emotional Wellness is striving to meet emotional needs constructively. It is maintaining good mental health, a positive attitude, high self-esteem, and strong self-image. It is the ability to respond resiliently to emotional states and the flow of life events. It is dealing with a variety of situations realistically and learning more about yourself and how things you do affect your feelings. It is taking responsibility for your own behavior and responding to challenges as opportunities. An emotionally well person will be able to express feelings freely; will recognize personal limitations and will

seek and appreciate the support and assistance of others; know how to handle daily challenges and stress; and will be able to form interdependent relationships with others. Somebody once said to me: "There is only one journey. Going inside yourself."

Intellectual Wellness is having a curiosity and strong desire to learn. It is valuing many experiences, staying stimulated with new ideas, and sharing. It is responding to challenges and opportunities to grow, making plans, developing strategies, and solving problems. It is the ability to engage in clear thinking and recall, and to think independently, creatively, and critically. Spoil yourself after completing a goal

Life Planning Wellness includes the process of discovering and maintaining a balance between personal, social, and vocational goals. It involves taking advantage of opportunities to learn skills that will enhance satisfaction and enjoyment in your life. It is the awareness of your own strengths and skills in addition to the time and financial commitment necessary to pursue the lifestyle of your choice.

Environmental Wellness is an awareness of the precarious state of the earth and the effects of your daily habits on the physical environment. It is maintaining a way of life that maximizes harmony with the earth and minimizes harm to the environment. It includes being involved in socially responsible activities to protect the environment. Have a place that you can go to relax, chill out. It can even be a person; Albert Einstein once said

"The environment is everything that isn't me."

It is up to you to achieve and maintain personal health and well-being. To obtain optimal health and wellness it will take time, commitment and work. By adopting healthy lifestyle behaviors and living in harmony with your surroundings, you will be on your way to achieving wellness while also decreasing your risk of disease.

CHOLESTEROL REDUCING DIET PLAN

High cholesterol is a major contributor to heart disease and stroke. So all healthy people from kids (age 3 upwards) to grandparents, regardless of their blood cholesterol level, should follow a heart-healthy diet. The whole family should also be physically active. And if you have a high blood cholesterol level - whether due to what you eat, heredity, or both - it is even more important to eat a healthy diet and to be physically active.

Follow a Diet Low in Total Fat

Since many foods high in total fat are also high in saturated fat, eating foods low in total fat will help you eat less saturated fat. When you do eat fat, you should **substitute unsaturated, monounsaturated and polyunsaturated fat for saturated fat**. Examples of foods high in monounsaturated fat are **olive and canola oils**, those high in polyunsaturated fat include **safflower, sunflower, corn, and soybean oils**.

Because fat contains more than twice the calories of carbohydrates or protein, this sort of lower fat diet will also help you to lose weight, and remember: obesity is a definite risk factor for heart disease. Eating too much fat, no matter what kind, can make you put on excess weight. Excess dietary fat can also increase your risk of certain types of cancer, such as breast or colon cancer.

Follow a Diet with Plenty of Starch and Fibre

Foods high in starch and fibre are excellent substitutes for foods high in saturated fat. These foods - breads, cereals, pasta, grains, fruits, and vegetables - are low in saturated fat and cholesterol. They are also usually lower in calories than foods that are high in fat. Foods high in starch and fibre are also good sources of vitamins and minerals.

Diets low in saturated fat and cholesterol, and high in fruits, vegetables, and grain products - like oat and barley bran and dry peas and beans - may help to lower blood cholesterol. The antioxidant properties in certain (e.g. brightly colored) fruits and vegetables can reduce the effects of cholesterol.

Point is, to damage artery walls, cholesterol must first be chemically changed

through a process called oxidation. Antioxidants help prevent cholesterol from being chemically changed and help prevent cholesterol from moving out of the blood and into the lining of the blood vessels.

This sort of diet will also help you to lose weight, and remember: obesity is a definite risk factor for heart disease, diabetes and some cancers.

Follow a Diet Low in Cholesterol

Dietary cholesterol also can raise your blood cholesterol level, although usually not as much as saturated fat. So, it is important to **choose foods low in dietary cholesterol. Dietary cholesterol is found only in foods that come from animals**. Many of these foods also are high in saturated fat. **Foods from plant sources do not have cholesterol** but can contain saturated fat.

Following a low cholesterol diet will help you to reduce calories, lose weight and reduce obesity. Good news for your weight and your arteries!

Increase Your Exercise and Fitness

Exercise goes hand-in-hand with healthy diet. Physical exercise can raise HDL cholesterol (the "good cholesterol") and may lower LDL cholesterol (the "bad cholesterol"). Being more active can also help you lose weight, lower your blood pressure, improve the fitness of your heart and blood vessels, and reduce stress.

If You are Overweight - Reduce Weight

People who are overweight tend to have higher blood cholesterol levels than people of desirable weight. Furthermore, overweight people with an "apple" shape - excess fat around their abdomen and central organs - tend to have a higher risk for heart disease than those with a "pear" shape - bigger hips and thighs. Abdominal fat is a type of fat distribution that is now believed to carry significant additional risks of heart disease and other illness.

If you are overweight, losing even a little weight can help to lower LDL cholesterol and raise HDL cholesterol. You don't need to reach your desired weight to see a change in your blood cholesterol levels. ♦

JOKES CORNER

Widower Playing Golf

A man and a friend are playing golf one day at their local golf course. One of the guys is about to chip onto the green when he sees a long funeral procession on the road next to the course.

He stops in mid-swing, takes off his golf cap, closes his eyes, and bows down in prayer. His friend says, "Wow, that is the most thoughtful and touching thing I have ever seen. You truly are a kind man."

The man then replies, "Yeah, well we were married 35 years."



Blondes Finish Jigsaw Puzzle

A group of blondes walk into a bar. One of the women tells the bartender to line up a row of drinks for all of them. The gals lift their glasses and toast.

"Here's to 51 days!" and they proceed to down their drinks. Once again, they tell the bartender to "line 'em up", and once again they toast 51 days and down their drinks.

The bartender says, "I don't get it. Why in the world are you toasting 51 days?" One of the blondes explains, "We just finished a jigsaw puzzle. It had written on the box '2-4 years,' but we finished it in 51 days!"



The Sin of Lying

A minister told his congregation, "Next week I plan to preach about the sin of lying. To help you understand my sermon, I want you all to read Mark 17."

The following Sunday, as he prepared to deliver his sermon, the minister asked for a show of hands. He wanted to know how many had read Mark 17. Every hand went up.

The minister smiled and said, "Mark has only sixteen chapters. I will now proceed with my sermon on the sin of lying."



Obedient Maid

Man calls home. Maid answers phone. He says, "Can I speak to my wife?"

She says, "No, she's upstairs in bed with her boyfriend."

"He's maid--says, "Ok, go to the hall closet and take out my shotgun. Go upstairs and kill them both." Being the loyal maid, she says, "Ok."

5 minutes later she picks up the phone and says, "Ok, they're both dead. What should I do with the bodies?"

He says, "Throw them in the pool, and I'll take care of them when I get home."

She says, "We don't have a pool."

He asks, "Is this 35412541?"