

DIAGNOSTICS

UPDATE .COM

Version 3.2 • Second Quarter • 2011



**Health &
Energy Drinks**

**Metal Intoxication
& Autism**

Halitosis

Costochondritis

Vitreous Floaters

Alcohol Misuse

Pathology you can trust!



Editor's Note



I saw these words of wisdom on the internet and I thought I share them with you. As you know, the internet is full of wisdom, and sharing is a requirement of all internet users.

“Experience is what you get when you don't get what you want.”

“If at first you don't succeed, redefine success.”

“According to my calculations the problem doesn't exist.”

I saw this gem on the internet, along with the others that you see on the side bar, “Better late than really late.” That's the maxim that I am applying to this issue. Although, you have to admit that it is an improvement over the last one.

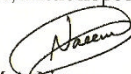
I finally had some feedback about the newsletter. It was my neighbour, who conveyed to me that he actually enjoyed reading it. I also heard from an old friend that he saw this magazine when he visited Diagnofirm, and was quite impressed with our presentation. I would like to hear from more of our readers about our effort. It would help us improve what we are doing and to present material that will interest all of you. You can send your feedback to me at tiger@mega.bw.

We welcome two new authors in this issue: Dr. Vipul Bhatia and Dr. John Pridgeon. We thank both of them for their contributions. At the same time, we have many interesting articles from our usual team of experts, the Diagnofirm technicians and Professor Bhagat. I thank all of them for their time and efforts. Please keep in mind, though, that the opinions expressed are those of the authors and not necessarily those of Diagnofirm or even this editor. In all cases, where advice is given regarding issues of importance, it is always recommended to get a second opinion before embarking on any treatment. You must do additional research to thoroughly familiarize yourself with the subject.

We like to get more and more writers on board, from various fields of expertise, to educate and inform our readers about all aspects of medicine. We wish to start a special section from our next issue, about the basics of human anatomy; to describe in detail how different systems work. It could be as simple as the anatomy of an ear, or as complex as the neural structure of the brain. The idea is to explain to our readers, and possibly present reference material that they can keep in their collection, about how things work in our bodies. We may, one day, even shed light on where the babies come from. :-)

We also would like to get more advertisers on board. Their contributions are also important because they allow us to increase our circulation and to add more pages to this newsletter, thus allowing us to bring more material—and more thorough material—to you. This newsletter reaches a special target audience, a well-educated and professional audience; something that most advertisers would find quite appealing.

As we all know, this year has been specially trying. We do see the signs of relief just over the horizon, but until the relief is here, it is important to keep an eye on the vital signs. This is my lame way of associating the field of diagnostics to the business world, but you get the message. I am just trying to bring a little hope to all of us, and who knows, a little hope may go a long way.


M. At Naeem

DiagnosticsUpdate.com
Diagnofirm Medical Laboratories
Private Bag 283, Gaborone,
Tel: 395-0007, Fax: 395-7980
www.diagnostics-update.com

Editor:
Muhammad A. Naeem
B.S. (Biochem) (USA)
M.S. (Chem/Biochem) (USA)

Advertising Sales:
Production Plus (Pty) Ltd.
Tel: 316-7568, Fax: 316-7578
pplus@botsnet.bw

Copyright © 2011 by the Diagnofirm Medical Laboratories, except as noted. Some materials were condensed from various sources, specifically on-line sources, where copyright stays with the original owner.

what's inside



2



5



6

- 1 Editor's Note
- 2 What's New?
- 3 News & Updates
- 5 Health & Energy Drinks
- 6 Alcohol Misuse
- 8 Pictorial
- 10 Heavy Metal Intoxication & Autism
- 11 Halitosis
- 14 Vitreous Floaters
- 15 Heart Attack Causes
- 15 Costochondritis
- 16 Fun & Games



10



11



14

DiagnosticsUpdate.com, Diagnofirm Medical Laboratories, and all the entities associated with them accept no liability, under any circumstances, for anything whatsoever arising out of the information presented in this publication. All opinions expressed are those of the authors and not of DiagnosticsUpdate.com or Diagnofirm Medical Laboratories. All materials in DiagnosticsUpdate.com are for informational purposes only and are not a substitute for professional medical or health advice, examination, diagnosis, or treatment. Always seek the advice of your physician or other qualified health professional before starting any new treatment, making any changes to existing treatment, or altering in any way your current exercise or diet regimen. Do not delay seeking or disregard medical advice based on information in this publication and the information should not be used to diagnose, treat, cure, or prevent any disease without the supervision of a medical doctor. Please be advised that medical information changes rapidly and new discoveries are being made on a daily basis. Therefore, some information in this publication may have changed by the time you read it.



what's
new at
Diagnofirm

Paternity Testing

By Xavier Mugari



A paternity test establishes genetic proof as to whether a man is the biological father of an individual. DNA is the genetic code that you inherit from both your parents which gives your body instructions about your features. Paternity tests are sometimes carried out when a woman has had more than one sexual partner around the time she conceived (got pregnant) or because the

father of the child is denying that the child is his. Sometimes, paternity tests are requested by the court which is known as court-directed. This means that paternity needs to be provided as evidence in a legal case. When considering having a paternity test, it is important that the best interests of the child are considered at all times. Everyone involved needs to understand what the test means, and that the results can have a serious emotional impact, particularly if they are not the results that you are expecting or want.



Who should be tested

The mother, the child, and the assumed father (IDs mandatory) all need to be tested. They each need to give written consent (agreement) to the test. In the case of children under the age of 16, a person with parental responsibility for them must consent on their behalf. Where possible, the opinion of the

child, or young person, should also be taken into account.

Parental responsibility belongs to: the mother, the assumed father, if he was married to the child's mother at any time between the child's conception and birth, or is named on the

birth certificate, a legally appointed guardian, or anyone else who has legal responsibility for the child - for example, as part of a care order.

Background of the test.

Using PCR technology, DNA analysis is widely applied to determine genetic family relationships such as paternity, maternity, siblingship and other kinships.

During conception, the father's sperm cell and the mother's egg cell, each containing half the amount of DNA found in other body cells, meet and fuse to form a fertilized egg, called a zygote. The zygote contains a complete set of DNA molecules, a unique combination of DNA from both parents. This zygote divides and multiplies into an embryo and later, a full human being. At each stage of development, all the cells forming the body contain the same DNA—half from the father and half from the mother. While a lot of DNA contains information for a certain function, there is some called junk DNA, which is currently used for human identification. At some special locations (called loci) in the junk DNA, predictable inheritance patterns were found to be useful in determining biological relationships. These locations contain specific DNA markers that DNA scientists use to identify individuals. In a routine DNA paternity test, the markers used are short pieces of DNA that occur in highly differential repeat patterns among individuals. Each person's DNA contains two copies of these markers—one copy inherited from the father and one from the mother. Within a population, the markers at each person's DNA location could differ in length and sometimes sequence, depending on the markers inherited from the parents. The combination of marker sizes found in each person makes up his/her unique genetic profile. When determining the relationship between two individuals, their genetic profiles are compared to see if they share the same inheritance patterns at a statistically conclusive rate.

How the paternity test is performed

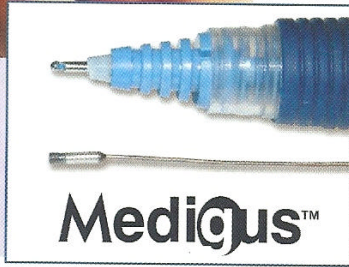
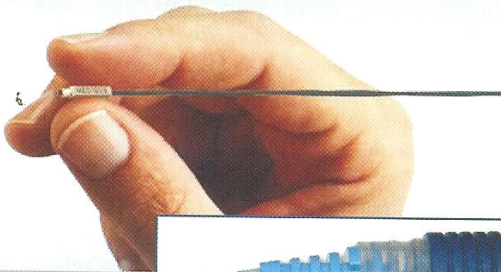
To completely prove paternity, scientists need to examine samples of DNA. Comparing the DNA sequence of an individual to that of another individual can show whether one of them was derived from the other. Specific sequences are usually looked at to see whether they were copied verbatim from one of the individual's genome to the other. If that was the case, then the genetic material of one individual could have been derived from that of the other (i.e., one is the parent of the other). By examining the individual genetic

continued on page 14

DNA Marker	Mother	Child	Alleged Father
D21S11	28, 30	28, 31	29, 31
D7S820	9, 10	10, 11	11, 12
TH01	14, 15	14, 16	15, 16
D13S317	7, 8	7, 9	8, 9
D19S433	14, 16.2	14, 15	15, 17



Smallest Video Camera in the World



Medigus, a developer of medical devices, based in Israel, has announced the launch of the smallest video camera in the world, with an outer diameter of 1.2 mm and a length of 5 mm. The model name is IntroSpicio™ 120. The chip used in the camera was manufactured by Tower Semiconductor.

According to a statement by the company, this camera is geared for single use medical applications,

especially to be used in endoscopes for use in various diagnostic and surgical applications. This camera is completely disposable, thus eliminating the very costly sterilization process commonly associated with endoscopic procedures.

Some examples of potential applications include gastroenterology, bronchoscopy, cardiovascular, ENT, Urology, and natural orifice trans-luminal endoscopic surgery. The camera is also suitable for industrial applications and can be integrated into borescope, devices for Remote

Visual Inspection (RVI), Non-destructive Testing (NDT), Machine Vision systems, etc.

The camera features dedicated bio-compatible components, tiny electronics, and a CMOS imager that measures just 700 x 700 microns, with 49,280 effective pixels, and 220 H x 224 V resolution. The camera output video in NTSC and VGA and has optics with 100 degree field of view. According to Dr. Elazar Sonnenschein, CEO of Medigus, their invention is "a great step towards new medical applications, allowing us to carry out procedures that were previously impossible."

Medigus is a pioneer developer of a unique proprietary endoscopic device for the treatment of GERD, one of the most common chronic diseases in the western world. In addition, based on its proprietary technologies, Medigus designs and manufactures endoscopy systems, for partner companies, including major players in the medical device industry.

Medigus has an advanced technology platform that includes all necessary elements for performing a wide range of endoscopic procedures. The platform includes various types of rigid, semi-flexible and flexible video endoscopes, as well as respective endoscopy suites. ♦

[www.medigus.com | www.infoniac.com | www.prnewswire.com]



OASIS MOTEL

"destination of choice"

- Accommodation
- Conference
- Outside Catering
- Self-Catering Chalets

Tel : 392-8396

Male Circumcision Cuts Women's Cervical Cancer Risk

A study conducted in Uganda, and reported by Salynn Boyles of WebMD Health News, shows that circumcising men can reduce cervical cancer risk in women. This study was published in The Lancet.

Study involved 1,200 HIV-negative, heterosexual couples. Half the men received circumcision at the onset of this study and the other half were scheduled to be circumcised after the study. After two years, females partners of the uncircumcised males were more likely to be infected with human papilloma virus (HPV) which is commonly associated with cervical cancer.

This effect of circumcision is in addition to the effects shown by Johns Hopkins University studies that concluded that circumcision reduced HIV infection, HPV in men, and genital herpes. ♦

[www.WebMD.com]

Insulin as a Therapeutic Agent for Alzheimer's Disease



A study published in the *Journal of Clinical Endocrinology and Metabolism* shows that insulin suppresses proteins associated with Alzheimer's Disease in peripheral blood cells. Study was carried out by

Dr. Paresh Dandona and colleagues of the State University of New York at Buffalo, USA. It was published in the online *Journal of Clinical Endocrinology and Metabolism*.

Their study found that peripheral blood mononuclear cells express amyloid precursor protein (APP) and three other proteins involved in the pathogenesis of Alzheimer's Disease (AD) and that their expression is suppressed by a low-dose intravenous infusion of insulin.

Study involved ten patients who were treated with insulin at "test" times and with saline or 5% dextrose solutions at "control" times. According to Dr. Dandona, this study gives a model, other than the brain, where genes involved in Alzheimer's can be studied. A previous study had shown that β -amyloid, when added to cultured neurons, induced oxidative stress and inflammation, which is neutralized with insulin. This study showed that insulin infusion "suppressed not only the expression of APP, from which β -amyloid is derived, but also the enzymes that convert APP into β -amyloid," as reported by Medscape News from an interview with Dr. Dandona.

According to Dr. Dandona, "If this effect if insulin proves, in larger studies, to be systemic, then insulin may well be a potential therapeutic agent in treating Alzheimer's disease. The challenge is to deliver insulin directly into the brain, thus avoiding its hypoglycemic effect." Some preliminary studies show that intranasal delivery of insulin twice daily to Alzheimer's patients enters the brain along the olfactory nerves, but not the systemic circulation.

Dr. Dandona proclaims, "This is a landmark observation." He further adds, "Figuring out the role of insulin in Alzheimer's disease is very exciting work and I think it should be a priority in Alzheimer's research."

[www.medscape.com]

HIV Rate Decline in Zimbabwe with Behaviour Change



A report published in *PLoS Medicine* credits a remarkable reduction in HIV infections in Zimbabwe with major behavioural changes in the population in recent years. This study was commissioned by UN Population Fund and UN HIV-AIDS Program.

Its main purpose was to study the marked decline in HIV rates in Zimbabwe in the context of social, political, and economic variables.

HIV prevalence in Zimbabwe reached a high of 29% in 1997, but it started to decline after 2000 and reached 16% in 2007. Some experts thought that it was due to the dramatic collapse of Zimbabwean economy, but study finds that to be only a secondary factor. Primary factor is the significant decline in multiple sexual partners.

This "the most likely proximate cause" was brought about by increased awareness of AIDS deaths and fear of infection by the general population, along with the influence of ongoing education and prevention programs, and to some extent the economic deterioration. All factors brought about behaviour changes where extramarital, commercial, and casual sex relations, as well as multiple partners, declined.

These changes mirror similar changes in Uganda, where reduction in number of partners resulted in reduction of HIV infections, due mainly to fear of dying of AIDS. Data suggests approximately 30% reduction in men reporting extramarital affairs and substantial reduction in men reporting concurrent partnerships or men paying for sex.

These changes are all credited to aggressive preventions program, which offered effective and widespread information and education about sexual behaviour and AIDS. Reduction in disposable income due to economic decline also made it difficult for men to pay for sex or maintain multiple relationships.

Other underlying factors that distinguish Zimbabwe from other sub-Saharan countries include national well-educated population and high rates of marriage, especially among urban men. Researchers hope their findings "may provide important insights for HIV control within the region."

[www.medscape.com]

Drinking Increases the Risk for Cancer



A study published in the *British Medical Journal* concludes that "a considerable proportion of the most common and most lethal cancers is attributable to former and current alcohol consumption."

Data comes from the ongoing European Prospective Investigation Into Cancer (EPIC) and from WHO's compilation of data on alcohol consumption. There were 363,988 participants from 8 European countries in the EPIC study, with two thirds being females. Data on the incidence of cancer was obtained through records from national cancer centres, death certificates, health insurance records, and pathology reports.

Study estimated that, in 2008, 44% of upper aerodigestive tract cancers in men and 25% in women, 33% of liver cancer in men and 18% in women, 17% of colorectal cancer in men and 4% in women, and 5% of breast cancer in women can be attributed to previous and current alcohol consumption. Heavy drinking was responsible for 57% to 87% of the cancers attributable to alcohol in men, and from 40% to 98% in women.

"The cancer risk increases with every drink, so even moderate amounts of alcohol increases the risk of these cancers," according to a press release from Cancer Research UK. There is no level of alcohol that can be considered safe, according to experts, who advise that "cutting back on alcohol is one of the most important ways of lowering your cancer risk," along with not smoking and maintaining a healthy bodyweight."

[www.medscape.com]



hot
topic

Health Risks from Energy Drinks



Energy drinks have taken the world by storm, literally. First company to produce and distribute energy drinks started about two decades ago but it has seen a tremendous increase in competition since then. Over 1,000 brands have appeared worldwide, all touting bigger and better boost in their products and all going to extremes to promote and market their beverages. In some cases, the “guerrilla-marketing” tactics seem to be of higher priority than actual manufacturing and distribution of the product.

Most of these companies target teenage boys and twenty-something men, with lifestyles high in adrenaline, low on sense, and extreme in nature. Energy boost for those already oozing energy from every fibre, with strong inclinations towards reckless behaviour, and easily persuaded to push themselves beyond human sensibilities. Strong advertising, mixed with lack of regulations on sales and easy availability has prompted some children, adolescents, and even young adults to take up the habit of drinking many drinks with “dangerous health consequences.”

Energy drinks are the fastest growing market in the U.S. with 2011 sales expected to top nine billion US dollars. British Medical Journal reports that energy drinks are consumed by 28% of 12-14 year olds, 31% of 12-17 year olds, and 34% of 18-24 year olds. Self-report surveys in the U.S. show that 30% to 50% of children, adolescents, and young adults consume energy drinks regularly.

Energy drinks are packed with caffeine and sugar. They are generally consumed by the “work hard, play hard, party hard” crowd. They give a quick jolt but have no therapeutic benefit. As a matter of fact, a study published in the March issue of *Pediatrics* highlights dangers associated with high dose of caffeine from the consumption of these drinks, and from the added ingredients that enhance the jittery effects of caffeine. This study points to the possibilities of heart palpitations, seizures, strokes, and even sudden death.

Poison centres from Germany, Australia, and New Zealand have reported cases of liver damage, kidney failure, respiratory disorders, agitation, confusion, seizures, psychotic conditions, nausea, vomiting, abdominal pain, rhabdomyolysis, tachycardia, cardiac dysrhythmias, hypertension, myocardial infarction, heart failure, and death, all attributed to toxicity due to energy drinks.

Energy drinks are categorized as nutritional supplements, authors note. As a result they avoid not only the limitations set for soda, but also avoid the safety testing and labelling required for pharmaceuticals. Their main ingredients are

caffeine and sugar. US Food and Drug administration has set a limit of 71 mg caffeine per 12 fluid ounces of soda, but these energy drinks can have up to 400 mg caffeine per container. It doesn't stop there. Additional caffeine comes from other additives like kola nut, yerba mate, cocoa, and guarana, thus making the total caffeine even higher.

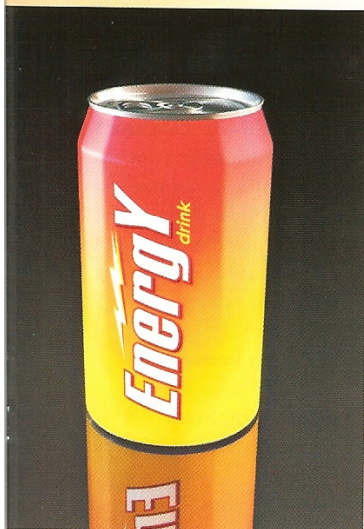
If one considers the fact that the authors recommend a maximum of 2.5 mg caffeine per kilogram weight per day for children and 100 mg/Kg caffeine per day for adolescents, a single unit of these energy drinks will surpass these safe levels. Additional units will only add to caffeine overdose. Since safe levels of consumption for other ingredients haven't yet been established, it is unknown what other long term health risks may be associated with these drinks.

Although, the energy drink industry disputes the findings by stating that this study “does nothing more than perpetuate misinformation about energy drinks, their ingredients and the regulatory process,” more and more health professionals are starting to screen for the consumption of these drinks. Most youngsters drink during intense situations; consumption of these drinks only adds to the already high heart rate and blood pressure, leaving one susceptible to many health risks. These risks are highest in populations already suffering from cardiac conditions, ADHD, eating disorders, diabetes, and other undiagnosed conditions, especially when the person consuming these drinks is not aware of what is really in these drinks.

Researchers note that the caffeine in these drinks may interfere with bone mineralization during a critical period of skeletal development.

Drug interaction and dose-dependent effects are also not known. Researchers believe that many ingredients, such as, ginseng, vinpocetine, yohimbine, and 5-hydroxy tryptophan have the potential for adverse drug interaction. A dangerous new trend is emerging where many young adults mix alcohol with these energy drinks. Since the two have opposing effects on a person's body, one being a stimulant and the other being a sedative, the body tends to “crash” under the two opposing “forces”.

Authors of this study add that more research is required to determine maximum safe doses, establish effects of long-term use, and better understand adverse health effects of energy drinks. In addition, health care providers should better educate families about potential adverse outcomes. Furthermore, until the safety of energy drinks is ensured, appropriate regulations of sales and consumption should be put in place to protect minors. ❖



This article was condensed from the following sources: Yahoo! News, Medscape Medical News, Medical News Today, The Dartmouth, The Miami Herald, and Bloomberg Businessweek.



Alcohol Misuse

Kiran Bhagat



Drinking a moderate amount of alcohol will not do you any physical or psychological harm. However, for some people, social drinking can lead to heavier drinking, which can cause serious health problems.

Heavy drinking is linked to suicide, murder, fatal accidents, and many fatal diseases.

It can increase your chances of developing cirrhosis of the liver, and it has been associated with many different types of cancer, including cancer of the breast, mouth, larynx (voicebox) and liver.

As well as being directly related to many serious diseases, drinking large amounts of alcohol can also lead to poor sexual performance, and it can harm an unborn baby.

If you have an alcohol related problem, there are many ways in which you can get help to reduce your drinking, and there are also many services that you can use that will help you stop altogether.

Definition

The problems associated with alcoholism or alcohol dependence, are wide ranging, and can be physical, psychological, and social. For someone with a drink problem, drinking becomes a compulsion and takes precedence over all other activities.

A person with alcohol dependence:

- has a strong desire to drink alcohol,
- has difficulty controlling their use of alcohol,
- persistently uses alcohol despite being aware of the harmful effects,
- shows increased tolerance for alcohol, and
- shows signs of withdrawal when without alcohol.
- Alcohol dependence can remain undetected for many years. Although some scientists think that there may a genetic link to alcohol dependence, it is very difficult to prove.

The easy availability of alcohol and social

patterns can influence the likelihood of a person becoming alcohol dependent.

Binge drinking

Binge drinking is defined as drinking eight or more units of alcohol in one session if you are a man, and more than six units in one session, if you are a woman. Studies are starting to reveal that drinking a large amount of alcohol over a short period of time may be significantly worse for your health than frequently drinking small quantities.

Facts

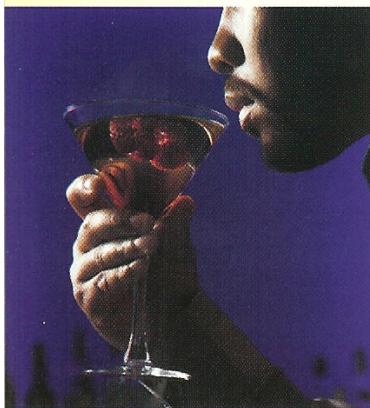
To reduce health risks from drinking, it is recommended that adult males should drink no more than 3-4 units of alcohol a day, and that adult females should drink no more than 2-3 units of alcohol a day. However, it is important to remember that alcohol affects different people in different ways. Women tend to have different metabolisms, they also tend to be lighter, have smaller builds, bodies that contain less water, which may lead them to have a lower tolerance to alcohol than men.

Risks

Excessive alcohol consumption can affect your physical and mental health, your work, and your social and personal relationships. You are also more likely to find yourself in dangerous situations if you have been drinking a lot, as alcohol affects your judgement and you may do things that you would not consider doing when sober. For example, a recent report showed that a quarter of all young prisoners had been drinking when they committed their crime.

Health risks associated with heavy drinking include:

- liver disease (cirrhosis of the liver),
- alcohol related anaemia and nutritional disease,
- chronic calcifying pancreatitis,
- heart muscle damage (cardiomyopathy), and
- alcoholic dementia.
- Heavy drinking also increases the risk of high blood pressure, cerebral haemorrhage (stroke), coronary heart disease and heartbeat irregularities. People who drink large amounts of alcohol over long periods of time are also at much greater risk of liver damage. This may lead to alcoholic hepatitis and cirrhosis.



- Psychiatric disorders are also more common in people who drink more than 10 units a day.

They include:

- depression,
- suicide and attempted suicide,
- personality deterioration,
- sexual problems,
- delirium tremens (sudden and severe mental changes, such as seizures, following alcohol withdrawal),
- hallucinations, and
- memory loss.

Treatment

As with any addiction, if you are dependent on alcohol (an alcoholic), the first step is to acknowledge that you have a problem. Once you have accepted that you have a problem, the next step is to seek help.

If you have an alcohol problem, there are many different professional services and support groups that can help you to reduce your alcohol consumption, and give you the advice and support that you need to stop drinking altogether.

Group therapy sessions, or one-to-one counselling with trained medical and psychiatric professionals, are two common methods that may be recommended if you have an alcohol related problem. As well as attending therapy sessions, you may also receive specific treatment for any associated nutritional problems, or other secondary effects, that you may have.

Self help

It is estimated that about 1 in 3 people who have an alcohol problem are able to reduce their drinking, or stop drinking altogether, without the need for professional help. There are many self help books, leaflets, and web sites available that offer help and advice about how you can stop or reduce drinking.

Counselling

Some people who have a drinking problem find it extremely useful to talk about their situation with their doctor or practice nurse. You may then be referred to a specially trained counsellor who will discuss, in more detail, the issues surrounding your drinking problem, and help you to plan how you can control and manage your drinking. Sometimes, cognitive-behaviour therapy (CBT) is used to treat alcoholism. This therapy is designed to help you change your attitude and behaviour towards alcohol.

Detoxification

Detoxification or detox is a process that involves taking a short course of medication in order to prevent you having withdrawal symptoms when you stop drinking alcohol. Benzodiazepine medicines, such as chlordiazepoxide, are often used for detox. Usually, a high dose of medication will be prescribed for the first day that you stop drinking alcohol, before being gradually reduced over the next 5-7 days. This should reduce any unpleasant withdrawal symptoms that you might otherwise have. You should not drink any alcohol during the period of detoxification.

Staying off alcohol

Sometimes, people who successfully go through the detox process, start drinking again at some point, and it may take several attempts before you manage to significantly reduce your alcohol consumption, or are able to stop altogether.

However, you are more likely to be successful, if you have

counselling, or other support from your family, friends, your doctor, local alcohol support groups, and other self help groups.

Recommendations

If you answer yes to two or more of the following questions, you need to think about your alcohol intake:

- Have you ever thought you should cut down on your drinking?
- Have other people ever annoyed you by commenting on your drinking?
- Do you ever feel guilty about the amount of alcohol you are drinking?
- Have you ever taken a drink in the morning to relieve the symptoms of alcohol (commonly known as hair of the dog or an eye-opener)?
- If you answer yes to three or more of the following questions, you should consider seeking help from your doctor will be able to refer you to a specialist:
- If you are a man, are you drinking more than 50 units of alcohol a week?
- If you are a woman, are you drinking more than 35 units a week?
- Do you have a strong desire or need to drink alcohol?
- Do you find it difficult to resist the urge to drink, stop drinking, or to control the amount that you drink?
- Does your behaviour change, or do you feel differently, if you cannot get a drink?
- Do you drink to relieve or prevent those feelings?
- Do you seem to be able to drink more than most other people around you? Do you have a higher tolerance to alcohol than others?
- Does the desire to drink, or the effects of alcohol, stop you taking part in your other interests and pleasures?
- Do you still drink, despite knowing about the harmful consequences? ♦



School & Office Supplies

Tel: 392 2786 • Fax: 392 2768

Suppliers of Books, Stationery, Chemicals, Teaching Aid, Educational Accessories, Furniture & Equipment, Uniforms, Protective Clothing, Cleaning Material & Food Stuffs etc.

 <p>Lever Arch File A4 Board P9.65</p>	 <p>Stapler Deli Full Strip PVC P28.00</p>	<p>...GET FREE 1 Packet Staples KW-Trio-26/6</p>	<p>...GET FREE 1 Faber Castel Pen</p>
 <p>Accessible File F/S Assorted Colours P4.50</p>	 <p>Punch Deli 2 Hole No. 0102 P26.00</p>	<p>...GET FREE 1 Ruler</p>	 <p>Rotatrim A4 80gsm 1 Ream P34.50</p>

Pentel Products

 <p>Pen K-118 Black/Blue P10.85</p>	 <p>Correction Pen ZL31W P21.00</p>	 <p>W/Board Marker NLF 50 (pkt-4) P54.00</p>	 <p>Permanent Marker Black/Blue P11.00</p>
 <p>Pen BK-118 Black/Blue P7.75</p>	 <p>Correction Pen ZL62W P18.00</p>	 <p>Correction Pen ZL156 P20.00</p>	 <p>Permanent Marker NLF 50 (pkt-4) P42.00</p>

Plot No. 39 - G.I.C.P. While stocks last • E&OE sos786@ymail.com

Diagnofurn In F



Mr Bozo and Sr Mabuza assisting Mr Masisi at a the Commeration of Masisi Kidney Foundation Day



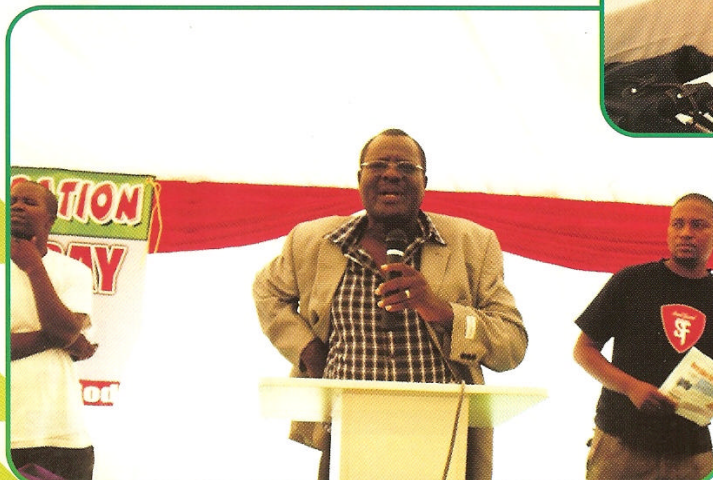
Dr Saleshando addressing the attendees, Mr and Mrs Masisi looking on



Traditional dancers entertaining



Mr Bozo, Sr Mabuza, Totodzani and Dr Cavric sharing a Kodak moment



One of the patients under Masisi Kidney Foundation giving an address

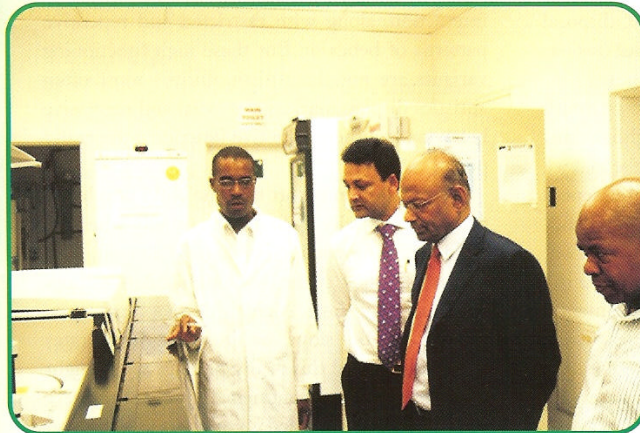
Pictures



Mr Ignatius Makozhombwe explaining a few things to Prof Chokalingam in the Histology lab. Looking on is Prof Bhagat and Mr Bozo.



Corporate Social Responsibility (CSR) - Mr Julius Tshepo Ditlhabi of Diagnofirm handing over blankets to needy people of Botswana.



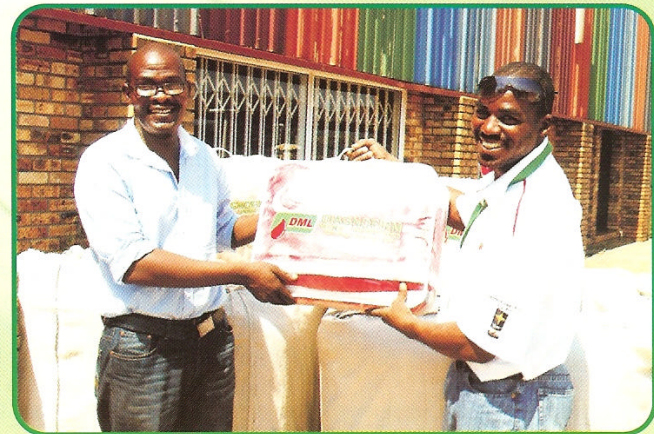
Mr Xavier Mugari explaining the in's and out's of the chemistry machine (Architect Ci8200)



Corporate Social Responsibility (CSR) - Mr. Henry of Diagnofirm handing over blankets to needy people of Botswana.



Mr Abram Williams in the virology lab



Corporate Social Responsibility (CSR) - Mr. Peter Mabula of Diagnofirm handing over blankets to needy people of Botswana.



Heavy Metal Intoxication and Autism

John Pridgeon



I doubt whether anyone reading this article can grasp properly the extent of the pollution of our beautiful green planet.

The tons and tons of waste that are dumped daily into and onto our earth, seas and air is beyond anyone's comprehension. As is the resultant overall cost to this planet, and the residents thereof. It is expensive to safely and properly dispose of

waste and worldwide, so this is very seldom done adequately, and worse than that, the relevant governmental authorities the world over most often will turn a blind eye to the ubiquitous improper, and even dangerous waste disposal practices. Out of sight, out of mind... but this has already come back to bite us hard on the bum!

Carte Blanche and 50/50 are well known South African TV programmes that often highlight this ever growing problem, but I do not believe that we have come even close to grasping the consequences of this criminal ongoing pollution of planet Earth.

I will deal with but one aspect of this pollution, the question of heavy metals (metals with a specific gravity > 5) and their effect upon our mental health. These are well hidden enemies, these metallic poisons that mess with our emotional quality of life, every minute of every day. The main culprits are lead, mercury, aluminium, arsenic, nickel and cadmium. But the list is long.

In the short time that we have managed to un-lead, or de-metallise petrol, there has already been a noticeable and substantial decrease in mental and emotional problems of severely affected populations. The incidence of things like theft, violent crimes and suicides have decreased significantly since this happy event. But we must not stop there. Un-leading petrol is just the tiniest of starts, but at least it means that the authorities now ACKNOWLEDGE the issue of heavy metal toxicity. So much more needs to be done. Let us not rest or become complacent.

There are very good reasons why the global incidence of depression, suicide, antisocial behaviour, ADD (attention deficit disorder – which has many forms by the way, not just the best known and most obvious hyperactive form) and autism have sky - rocketed in the last few decades. Autism was once known as a rare condition, quoted at one in 10,000 kids, but incidence figures

now are horrific to say the least – 1 in 166 kids in the US are deemed to be affected, and recent statistics show that as many as 1 in 86 kids in South Africa have ASD.

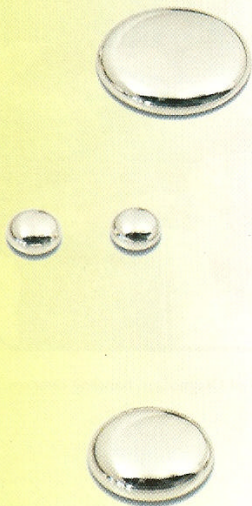
Autism is now more correctly known as Autism Spectrum Disorder, or ASD. There appears to be a wide variation of how each different child may be affected. Autistic people may be viewed as being highly intelligent, as was seen in the well known 1988 film “Rain Man” starring Dustin Hoffman and Tom Cruise. Hoffman played Ray Babbitt, who was able to add the columns of telephone numbers of the telephone directory in his head, but was also unable to perform the simplest of everyday tasks! Asperger's Syndrome is another ASD variant where affected people can perform at high cognitive levels, but Asperger's is further characterized by significant difficulties in social interaction, along with restricted and repetitive patterns of behavior. But these high functioning variants are not the autistic norm - most often autistics display marked antisocial and regressive behavior, and their cognitive function is generally poor.

Parents often report that the child developed perfectly normally up to a point, usually when the child was quite young, less than 3 years old, after which time some of the developmental milestones were actually lost. Mental development then appears to be slow, or it even deteriorates considerably, and this is any parent's worst night mare. Secondary incontinence in kids who were completely potty trained is common, and this and the burden of a child that must be supervised 24/7 is a huge, heavy, expensive and emotionally draining burden for any household to carry.

Quite often this regression is noticed to have occurred after a specific event. Immunisation is one such perceived culprit event. Sadly, vaccines still contain thimerosal, a mercury based preservative that has been calculated to contain as much as 40 – 60 times the Environmental Protection Agency's “safe” level of mercury.

Just remind me again, how any poison can have a “safe” level...??? Thimerosal was removed from animal vaccines in 1985 by vets who were justifiably concerned about what mercury was doing to their furry patients, but thimerosal is still being given to our infants!

Vaccination is ABSOLUTELY essential for the prevention of illnesses such as polio, diphtheria and measles, but the Latin medical maxim “primum non nocere” (first do no harm), and the precautionary principal (where if something may



be causing damage, it should be immediately removed from the market place, and used again ONLY once its potential for damage has been exhaustively proven to be non existent) should always, always be observed. I vaccinated my kids as a young doctor in Francistown, and two out of three have been diagnosed as having ADD. It may well be that I am the cause of their problems, more than any doctor / father would ever want to contemplate. There are some very clever scientists out there, working hard at making the world a safer place for our innocent children, and they certainly have my thanks and respect.

So is that it? Once the metal is deeply embedded in the brain tissue, we just dust our medals and walk off into the sunset? Can anything be done to reverse heavy metal damage?

Thank goodness, the answer is a resounding yes! Chelation therapy is standard emergency therapy for acute lead and mercury poisoning. Go to any ER when your child has been accidentally exposed to heavy metals, and the standard therapy he or she will be given is chelation. Pronounced key – lay – shun. Since the use of poison gas in the trenches in World War I, medical investigators have been developing special agents that chelate or remove metal

from people. During the last 30 years, after a few hiccups, we have been getting quite good at this. Nowadays this treatment is very safe, but inexplicably (to me anyway) unknown, and totally underutilised when it comes to reversing chronically accumulated metal body burdens, and the many, many medical problems these cause. There is a mountain of science to back what I have written here. Just go to www.ibcmt.com and click on "literature".

Using chelation therapy, we are now able to dump our body's heavy metal burden into the toilet, where it belongs. It is a lengthy process, I keep on telling my impatient patients that "Rome was not built in a day". Scientists have shown that there is not a single fish that has been examined, from anywhere on this earth (including the poles), that does not have a significant amount of mercury embedded in its tissues. And you will recall we live on the same planet, and have suffered the same fate. You cannot undo the accumulation of decades in a heart beat. Realistically 20 – 30 treatments will be required before chelation can make an appreciable dent in the piles of metallic rubbish that you have accumulated during a lifetime of eating, drinking and breathing on our poor old dirty and abused planet. ♦

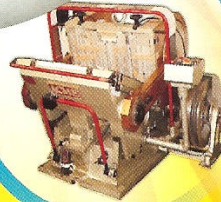


GLOBAL PRINTERS



star 7
★★★★★★

- Full Colour Printing
- Computer Stationery
- Designing / Photography
 - Die Cutting
 - Hot Foil Stamping
 - UV Varnish
 - Signage



Tel : 392 7626

globalprint@info.bw

Fax : 316 7891

Plot 14397, Gaborone West Industrial Area, P.O. Box 2428, Gaborone. Botswana





Halitosis (Bad Breath)

Vipul Bhatia



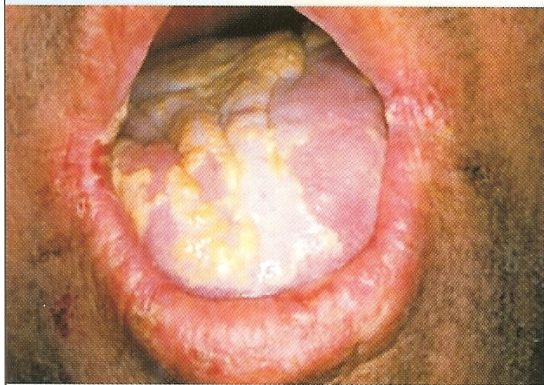
Calculus and tobacco staining due to poor oral hygiene.

Halitosis (Bad breath; Oral Malodour; Breath Odour) is derived from the Latin word for breath 'halitus'. It is a common problem/complaint in adults and many people report either being conscious of having it or at some point have been told by others that they have it. Such people will also sometimes complain of a bad taste in their mouth.

CAUSES

Morning Breath

Halitosis is common upon awakening first thing in the morning – this is referred to as 'morning breath'. This is usually as a result of less saliva production/flow (which reduces oral cleansing) and mouth breathing (which leads to drying of the mouth). This generally does not have any special significance as it is easily reversed upon normal brushing of teeth and rinsing of the mouth.



The tongue is the most common place for bacteria that cause halitosis.

Exogenous Factors

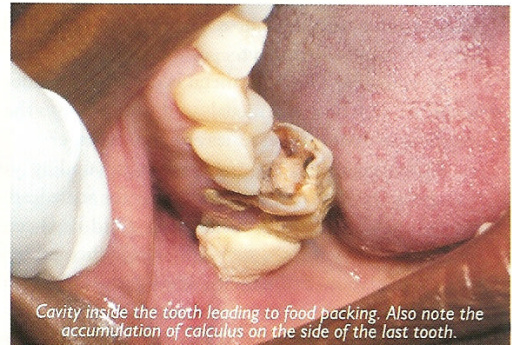
During the course of the day, various things we eat and drink can lead to halitosis. Foods containing items such as garlic, onions, spices, radish, cauliflower, cabbage etc are common culprits. Drinking certain alcoholic drinks and smoking are also habits that can lead to halitosis.

Endogenous Factors

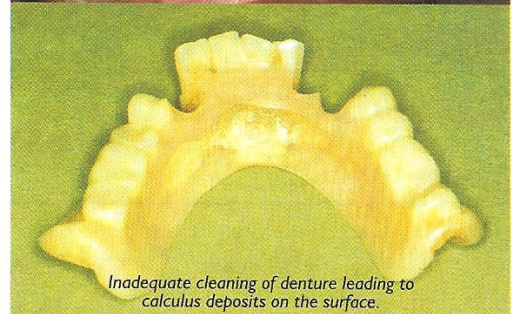
Halitosis not caused by the above mentioned factors is most often due to:

Bacterial Activity

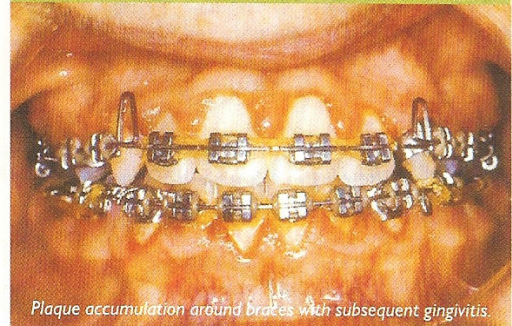
- Poor Oral Hygiene
- Not brushing teeth and tongue well or using dental floss to clean in-between teeth leading to accumulation of food particles, plaque and calculus.
- Gingivitis (Gum disease)
- Swollen gums that bleed easily-usually due to accumulation of plaque/calculus on tooth surfaces.
- Alveolar Osteitis



Cavity inside the tooth leading to food packing. Also note the accumulation of calculus on the side of the last tooth.



Inadequate cleaning of denture leading to calculus deposits on the surface.



Plaque accumulation around braces with subsequent gingivitis.

- Infection after extraction (removal) of a tooth.
- Pericoronitis
- Infection of gums due to a wisdom tooth.
- Mouth Ulcers
- Caused by various factors such as stress, vitamin B deficiency, smoking cessation etc.
- False teeth (Dentures & bridges) and braces
Food debris accumulating due to inadequate cleaning.

Starvation

Lack of a balanced or inadequate diet.

Drugs

Certain types of drugs (e.g. phenothiazines) cause a dry mouth as a side-effect and this can lead to halitosis.

Systemic Disease

- Respiratory Problems
- Sinusitis; Nasal Sepsis; Tonsillitis; Bronchitis; Lower Respiratory Tract Infections etc can cause halitosis.
- Gastrointestinal Problems, e.g. Gastro-esophageal Reflux Disease.
- Hepatic (Liver) Failure
- Renal (Kidney) Failure
- Trimethylaminuria (Fish-malodour Syndrome)

In some people a certain enzyme in the liver is lacking and so they are unable to break down trimethylamine which is then excreted in bodily fluids and via their breath. This malodour is severe.

PSYCHOGENIC FACTORS

Not everyone who believes they have bad breath actually have it. Such people are normally very sensitive to other people's perceived behaviour towards them, misinterpreting it as an indication that they have halitosis. This is known as 'halitophobia'.

HOW IS IT DIAGNOSED?

Diagnosis is mainly subjective and done clinically by a dentist who will perform a full history, examination and assessment.

HOW IS IT MANAGED?

Oral Hygiene

Prevention is better than cure and the first step is to ensure that one maintains immaculate oral hygiene. In most instances, this alone, will manage halitosis.

- Regular visits to your dentist for professional cleaning and checkup (usually every 6 months).
- Brushing twice daily with a fluoride toothpaste.



- Regular use of dental floss to clean in-between your teeth (where your toothbrush cannot reach).
- Brushing of your tongue or cleaning with a tongue scraper daily as the back part of the tongue often harbours bacteria associated with halitosis.
- Rinsing your mouth with water or mouthwash after meals.
- If you wear dentures, take them out of your mouth in the night and leave them soaked in mouthwash or diluted hypochlorite (e.g. Milton solution).
- If you have bridges, use super-floss to clean between the bridge and the gums.
- If you wear braces, use inter-dental brushes to clean in-between the wires.

DIET

- Avoid foods containing ingredients such as garlic, onions, spices etc where possible or before meeting with people.
- Eat a good breakfast, take regular meals and eat a lot of fresh fruit (pineapple is particularly good as it contains an enzyme that helps clean the mouth).
- Certain herbs (e.g. parsley, sage, peppermint, rosemary, cardamom) have been reported to reduce halitosis.
- Keep your mouth moist by chewing sugar-free gum and sucking sugar-free sweets as they stimulate saliva production which has a natural cleansing action on teeth.

HABITS

Avoid consumption of alcohol and smoking where possible.

CONCLUSION

Halitosis is a common problem which many people are embarrassed to talk about. It can easily be prevented or treated by following a few simple steps. If left untreated, it has the capability of destroying one's self-esteem as well as social, personal and work interactions. ♦

References:

1. Scully C, Felix DH. Oral Medicine – Update for the dental practitioner. British Dental Journal 2005; 199(8): 498-500.
2. Rosenberg M, Scully C. Halitosis. Dental Update 2003; 30: 205-210.
3. Heasman P, Preshaw P, Smith D. Periodontology. Churchill Livingstone. 1997.

DIAGNOSTICS
UPDATE.COM

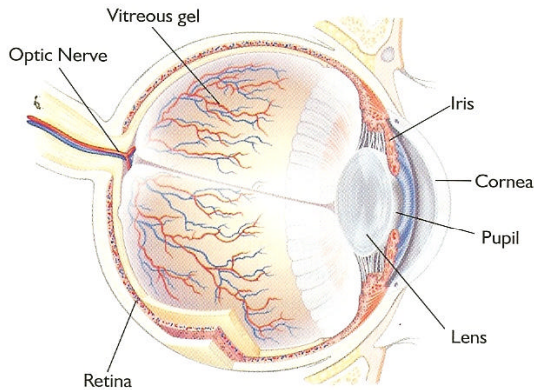
Advertising
Tariffs

Description	Size	Price
Strip	190mm wide x 100mm high	P2000.00
Half Page	190mm wide x 128mm high	P2500.00
Full Page - Inside Pages	190mm wide x 277mm high	P3500.00
Inside Back Cover	190mm wide x 277mm high	P4000.00
Inside Front Cover	190mm wide x 277mm high	P4500.00
Outside Back Cover	190mm wide x 277mm high	P5000.00

For bookings, please call Production Plus
Tel: 316-7568 • Fax: 316-7578 • email: tiger@mega.bw



Vitreous Floaters



Have you ever look towards the clear blue sky to admire its beauty, only to be petrified by the sight of specks floating across your field of vision? These specks usually look like threads, spots, or cobwebs, and resemble something from our biology classes when we looked at all kinds of microscopic things, under the, um, microscope.

to the retina. Vitreous humour is mostly water, with only one percent of its volume consisting of solid elements, a network of collagen and hyaluronic acid. The water retained by hyaluronic acid is released slowly as a person ages, thus partially liquefying the gel. The collagen breaks down into fibrils, which ultimately become the floaters.

Additionally, as the gel liquefies and shrinks, the fibres that are attached to the retina tend to pull away and may become visible as floaters. The shrinking vitreous can cause mechanical stimulation of the retina, causing a person to see flashes. If the vitreous is released from the retina, a large floater, known as Weiss ring, forms. Part of the retina may be torn as a result of this detachment, causing the blood to leak into the vitreous, and lead to sudden appearance of numerous small floaters, accompanied by flashes of light and possibly the loss of peripheral vision. This is a serious condition, requiring immediate medical intervention. Otherwise, one may lose one's eyesight completely due to damage to the retina.

It is usually difficult to focus on these eye floaters because they follow the motion of the eye and remain to the side of our gaze. Usually our brain "tunes them out", but sometimes when we are looking at clear, light-coloured, and brightly-lit surfaces, we can see them with some detail. When

we read a book or newspaper, the white paper tends to make them very noticeable and they become an irritation, require rapid movement of the eyes to get them to "go away".

These eye floaters are basically the "debris" deposited inside the vitreous humour of our eyes. Since they are inside the eye, they are not simply an optical illusion.

Some floaters are congenital, known as *Muscae volitantes*, or "flying flies". These are leftover cells and fibres of protein from the embryonic stage of our lives, mainly caused by the regression and disintegration of hyaloids artery, which runs through the vitreous humour during development of the foetus. Usually we don't notice these cells because they are small, but as we age, they become more and more visible.

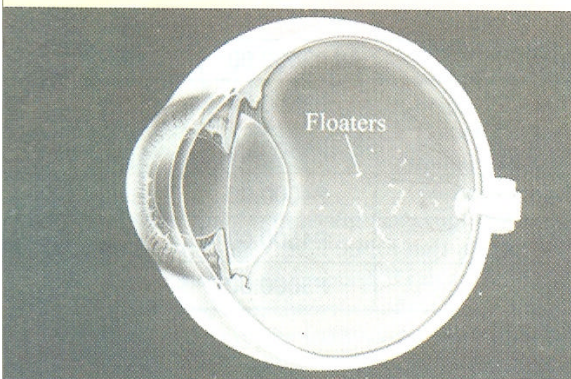
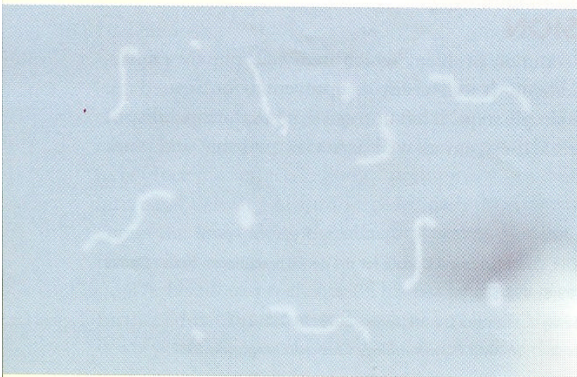
Most people usually come to terms with the floaters, as the brain adapts to their presence. In many cases, the floaters settle down and move out of the line of vision. There are no treatments that one can use to get rid of them, although, in rare cases, when the number of these floaters is so numerous that they interfere with one's vision, ophthalmologists can perform vitrectomy or laser vitreolysis.

Vitrectomy involves removal of the vitreous humour using a surgical instrument and then replacing it with artificial gel. Laser treatment is used to vaporize the collagen strands of the floater. Both procedures are only for severe cases because they can lead to cataracts, retinal detachment, and severe infection. These procedures do not completely remove the floaters. However, these procedures may be necessary to deal with complications of diabetic eye disease, retinal detachment, or trauma to the eye, where a foreign body may have entered or passed through the eye.

Floaters are visible because of the shadow they cast on the retina, or the refraction they cause as the light passes through them. Their perception is known as myodesopsia. They can cause the vision to blur temporarily, until they move to a different

part of the eye. People may experience them in their 30's or 40's, but they are usually associated the people in their 50's and above. By the age of 70, almost everyone will have floaters in their eyes.

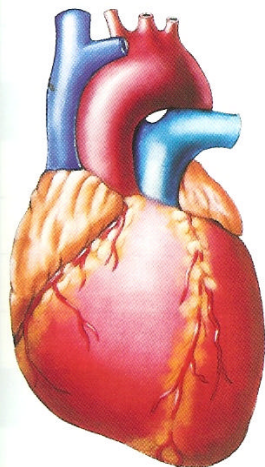
Vitreous humour is the clear gel-like substance inside our eyes, which gives it shape and form. It is held together by a membrane that is attached





Heart Attack Causes

Kiran Bhagat



Until recently we knew there were several risk factors. But until a major study published in 2004, called the Inter-Heart study, we have no large scale scientific research quantifying the risk from these factors. Until this study was reported, we believed that the risk factors you mention - smoking, high cholesterol, high blood pressure and others including diabetes, stress, abdominal obesity, a sedentary lifestyle, eating too few fruits and

vegetables - accounted for about half of all heart attacks and that the other half remained to be explained. Results from this study concluded that the risk factors contributing directly to about 90 percent of heart attacks and that therefore the vast majority of heart attacks can be prevented.

This study was unique in that it was huge - it included almost 30,000 people from 52 countries (including Botswana) - and for the first time included a cross section of the world's population - blacks, whites, Asians, Africans, Americans - not just white men. Half of the participants had had heart attacks and half were healthy. All were of similar age and gender and from the same region.

The researchers followed their participants for a decade and found that no matter where you live, no matter your race, sex or age, the risk factors for heart attacks are the same.

- The higher the LDL ("bad") cholesterol the higher your risk of heart attack.
- Smoking ranked second among the risk factors. The researchers found that the risk rises with one cigarette; increases by 40 percent if you smoke one to five cigarettes a day; is four times higher than normal if you smoke a pack a day and nine times higher than normal if you smoke two or more packs a day.
- Psychological stress doubled the risk of heart attack and is a greater threat when it is continuous either at home or at work. This was the most surprising finding - researchers didn't expect stress to rank as high as it did among the risk factors.
- Poor intake of fruits and vegetables came next, followed by lack of exercise and sedentary lifestyle.
- Drinking alcohol (in moderation) appears to lower the risk, as previous studies have also shown.

The good news here is that all of the above risk factors CAN be modified by the healthy changes in lifestyle and diet long advocated for heart attack prevention.

This study also showed that only a SMALL minority of heart attacks occur for unknown reasons, about 10 percent - emphasizing how important preventive strategies can be...♦



Costochondritis

Kiran Bhagat

Costochondritis causes chest pain that can get worse when you take a deep breath, cough, change position, or raise an arm over your head. It can mimic heart pain, which has to be ruled out - with an electrocardiogram. Fortunately, costochondritis is far less serious than a heart attack - in fact, it is a relatively harmless condition that eventually goes away. It is due to inflammation in the chest where the upper ribs join with the cartilage that holds them to the breastbone.

No one knows for sure what causes costochondritis. Sometimes, a viral respiratory infection is to blame; sometimes, repeated minor trauma to the chest wall appears to be the cause. Less commonly, bacterial and fungal infections may be responsible.

Non-infectious costochondritis usually doesn't last long. Recovery from the infectious variety can take a long time, but it, too, eventually resolves. In the meantime, you will need relief from the pain. Conventional medicine treats this condition with nonsteroidal anti-inflammatory drugs such as ibuprofen. If they don't help, a steroid injection or local anesthetic may be recommended. Infectious costochondritis is treated initially with intravenous antibiotics, followed by oral antibiotics, and rarely, surgery may be recommended to remove the inflamed cartilage.♦

continued from page 2

Paternal Testing

markers in DNA, scientists can give an answer that is more than 99% accurate.

Example of DNA profile results

The following sample report signifies how relatedness between parents and child is identified on those special markers:

The partial results indicate that the child and the alleged father's DNA match among these five markers. The complete test results show this correlation on 16 markers between the child and the tested man to draw a conclusion of whether or not the man is the biological father.

Private paternity tests

If you are having a private paternity test, you can come directly to Diagnostifirm Laboratory. Bloods will be taken from the mother, father and child. Results will be ready in 3 to 4 weeks and will be explained to you by a qualified Medical Laboratory Scientist. Note: results will only be disclosed in the presence of both parties i.e. the mother and the assumed mother.

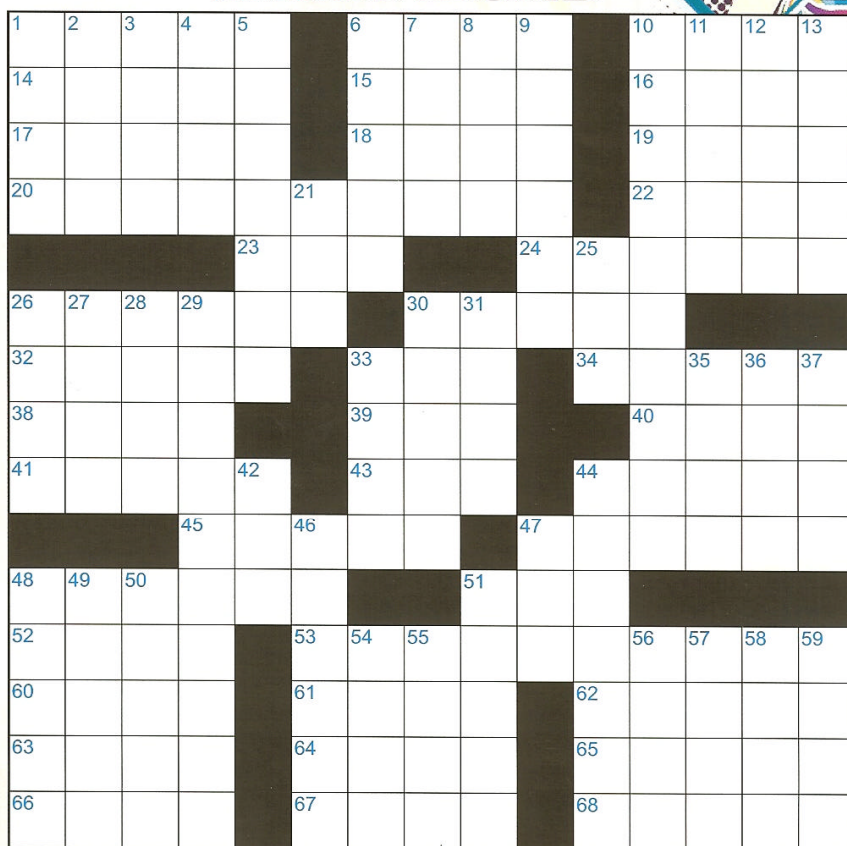
Court-directed paternity tests

If you are having a court-directed paternity test, the clerk of the court will give you a written request that you will take to the Laboratory. When determining the relationship between two individuals, their genetic profiles are compared to see if they share the same inheritance patterns at a statistically conclusive rate. Results will be communicated to the clerk of court.♦



fun & games

CROSSWORD



Scramblers

Unscramble each of the clue words then copy and unscramble the circled letters to form mystery words

Theme: Physics

TGLIH

□ □ □ □ ○

RITVYAG

□ □ □ □ ○ □ □

LERCITPA

□ □ ○ □ □ □ □ □

HMNAICECS

○ □ □ □ ○ □ □ □ ○ □

SAINEMTMG

□ □ □ □ □ □ □ □ ○ □

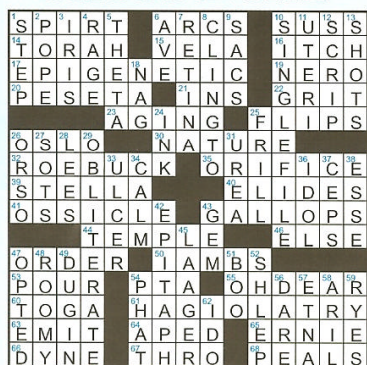
TETEILICRYC

□ □ □ □ ○ □ □ □ □ □ □ □

□ □ □ □ □ □ □ □ ○ □ □ □ □ □ □ □

Last Issue solutions

CROSSWORD



Scramblers

- ECNIROAT = REACTION
- NOSTOULI = SOLUTION
- NELTEEM = ELEMENT
- LEMECUOL = MOLECULE
- RIPCEODI = PERIODIC
- SAMS = MASS

Mystery Words:
AINMOCDIA = AMINO ACID

Across:

1. Secure
6. Opportunity
10. Cracker spread
14. Slur over
15. Sugar source
16. Blow chunks
17. Small green fruit
18. Song and dance, e.g.
19. Like the Kalahari
20. Crustacean trap
22. Shoestrings
23. Unit of hope?
24. Rubber
26. Flock leader
30. Mistake
32. Painter Laurence Stephen
33. Five Roses, for one
34. Snake charmer's snake
38. Dwarf Buffalo
39. Parenthesis, essentially
40. Rind
41. Halfhearted
43. Baked food with pastry
44. Fight
45. Bing, bang or boom
47. Royal home
48. Rolled into a ball
51. Sprinted
52. Jewish month
53. Internet
60. Lavish affection (on)
61. Long, long time
62. Pertaining to algae
63. Very large or heroic
64. Pink, as a steak
65. Control, symbolically
66. Kind of top
67. Sketched
68. "The Divine Comedy" poet

Down:

1. Unload, as stock
2. Assortment
3. Arm or leg
4. Bad day for Caesar
5. Demolish
6. Hair-raising
7. Zither's cousin
8. "I'm ____ you!"
9. Perfume sampler
10. Small wading birds
11. Atmospheres
12. Instant
13. Born earlier
21. Piercing locale
25. "Arabian Nights" menace
26. ____ du jour
27. First-class
28. Exchange
29. Complete mess
30. Bone-chilling
31. Contest
33. Last call?
35. Boxing prize
36. Fishing rod attachment
37. On the safe side, at sea - ____-eyed
44. Enclosed by sloping roof
46. Omang card
47. Vehicle
48. Military trainee
49. Drug for Parkinson's disease
50. Dine at home
51. Extend, in a way
54. Calendar span
55. Yawner
56. "Not guilty," e. g.
57. Not "fer"
58. Quitter's word
59. "... or ____!"

