



BP ALIVE!

2009



BP Healthcare Group
www.bphealthcare.com

Wellness Solutions Provider

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BP ALIVE!

CONTENTS

Greetings from BP Healthcare Group!

- 1 **Chairman's Message**
- 2 **Deputy Chairman's Message**
- 3 **Group Managing Director's Message**

BP Pulse – *Our commitment to your health & beauty*

- 4 **Taking Healthcare The Holistic Way** – *By Lovy Beh*
- 5 **BP Aesthetic Solution** – *By Dr Kee Yong Seng*
- 7 **Audiometry** – *By Helder Araujo*
- 9 **Hello!! Can You Hear Me?** – *By Helder Araujo*
- 11 **Immunohistochemistry Service** – *By Dr Julia Munchar Bte. Munchar Jajuli*

The Vital Stats – *What you need to know about yourself*

- 13 **All You Need To Know About Blood Pressure** – *By Dr Chew Chee Keong*
- 15 **Men's Health** – *By Dr Wong Kim Leng*
- 17 **Women's Health** – *By Dr Leong Hui Shan*
- 20 **Growing Pains – Life With Childhood Diseases** – *By Dr Jasmine Lau*
- 22 **Cancer - Early Detection And Prevention** – *By Dr. Yap Chee Wei*
- 24 **Mammogram** – *By Dr Lim Aik Boon*
- 27 **Silent Killer – Renal Cell Carcinoma** – *By Dr Quah Say Chuan*

BP Lifelines – *Giving back to the community*

- 29 **BP Food Testing Services: Eating Safer Food** – *By Ong Chiang Hock*
- 31 **How BP Logistics Ensures Biohazard Safety And Specimen Handling** – *By Reuben Poh*
- 32 **Pharmacy Services Extended!** – *By Caroline Poh*
- 33 **'Pack-Up' Good Health For Your Travel** – *By Lovy Beh*
- 35 **Medicines Check Up** – *By Ho Nee Lick*
- 36 **Smoking Cessation - Start Today** – *By Dr Yap Chee Wei*
- 37 **Health @ Work** – *By Dr Chew Chee Keong*
- 39 **A Role To Play - Public Health** – *By Ho Pooi Yee*
- 40 **BP Business Solutions** – *By Lisa Ang*
- 41 **MOU Between BP Healthcare Group And International Medical University Group** – *By Agnes Poh*
- 42 **BP Charity** – *By Agnes Poh*
- 43 **BP POLO News Update** – *By Reuben Poh*

Chairman's Message



Dato' Beh Chun Chuan
Chairman,
BP Healthcare Group

2008 has been a bittersweet year for BPHG. As BPHG celebrates several successes and growth, the global economic crisis tremor travels across continents, inevitably rocking businesses around the globe. Commodities are suffering with record low prices and exporters are facing low overseas demand. Local banks are more selective and slant towards risk adverse steps thus making business expansion difficult.

In light of this, BPHG's 27 years of experience and solid foundation would help anchor the company throughout the market turbulence. Fortunately, BPHG is still enjoying good growth from all its business entities. Overall, in 2008, BPHG

recorded an increase of 27% profit against 2007. Maintaining our focus on the group's value-added expansion, we had hired more specialists and doctors last year and we expect more to join us in the coming months. Currently, we have two Specialist Diagnostic Centres namely, Ipoh and Cheras. We expect to transform at least five more Diagnostic Centres to Specialist Diagnostic Centres soon.

Ultimately, Glenmarie had received its' building's Certificate of Fitness and renovation work is expected to be complete and fully-operational by the end of the second quarter of 2009.

DC Ipoh had also acquired the neighbouring land and is expected to erect a multi-storey building to accommodate more specialists' facilities.

Last year, BPDC added the Coloured Doppler Ultra-sound, Audiometry, Hearing Aids, Aesthetic Medicine and Echocardiogram services to their vast portfolio.

Meanwhile, BP Pharmacy launched their Travel Health services which comprise of the BP Travel Kit and travel vaccination at all our BPDagnostic Centres.

BP Food Testing (BP FT) included more testing facilities to meet the growing demand attributed from the Authorities' requirement, consumers and food manufacturers. In 2009, BP will be introducing two new high-end analytical systems – Gas Chromatography Mass Spectrometry and Liquid Chromatography Quadruple Mass Spectrometry.

Lastly, I would like to thank all my diligent and committed staffs and our BPHG customers for continuously supporting us in making 2008 a successful year.

Best Wishes

Deputy Chairman's Message



Chevy Beh
Deputy Chairman,
BP Healthcare Group

My fellow colleagues,

I'm very honoured and proud to be part of the BP Healthcare Group.

For those of you who do not know me, allow me to introduce myself. I received my Bachelors degree from the University of Virginia with a double major in Economics and East Asian Studies. I completed my studies in three years. At University of Virginia, I was the captain of the Collegiate Polo Team and was merited the American-Intercollegiate All Stars. I also studied at various institutions, among them, Cambridge University, Harvard University, Stanford University and Beijing University.

I am a Chartered Alternative Investment Analyst (CAIA). I have been working as an investment banker for the past two years in New York City. My area of expertise includes advising Chinese companies that are interested in raising funds in the U.S Capital Market. I am a National Association of Securities Dealers (NASD) registered representative (Series 7, 63, 65). I am the co-founder and Chief Financier Officer of Compradore Capital, LLC.

As the 2nd generation of BP Healthcare Group, I humbly hope to bring innovative ideas to the company in continuing its growth. With my global exposure in finance as well as my work experience, my contribution to the group will be providing financial advice and talent management skills to the company. I look forward to a new chapter with BP Health Group.

Sincerely

Group Managing Director's Message

2009 marked BP Healthcare Group (BPHG)'s 27th year of business. The Group's progress over nearly three decades stems from dedication, sacrifice and cooperation of all staff and the support of our customers and stakeholders.

Beginning with the sub-prime loan crisis in the U.S. and the financial crisis in European countries, a chain reaction is taking place in the global economic environment, such as the downturn in consumption, negative trends in economic indicators, and sliding stock prices which lead to a challenging 2009 for all businesses.

It is the Group's determination to sustain its' business growth that utilizes this opportunity to continuously develop our business by vertical and horizontal integration in this challenging environment.

The Group shall embark on several major developments in 2009.

Expansion & Consolidation

There were 4 new Diagnostic Centres (Bayan Lepas, Alor Setar, Kota Kinabalu and Kuchai Lama) which commenced operation and there was an upgrading of 2 Diagnostic Centres to Specialist Diagnostic Centres in 2008.

The Group shall continue to consolidate and expand our operations which include identifying suitable operations to be transformed to Diagnostic Centres or to be upgraded to Specialist Diagnostic Centres.

Several new services such as the Wellness Coaching Card, Travel Health, Audiometry/Mobile Audiometry, Hearing Aids, Aesthetic Medicine and Colour Doppler Ultrasound procedures were introduced in all Diagnostic Centres in 2008. More innovative and value-added services shall be introduced to further enhance delivery of quality services to our customers in 2009.

Branding & Promotion

Despite the gloomy outlook, the Group continues to embark on a series of branding & promotional activities in building BP Healthcare Group as a household brand name in Malaysia

a) BP Bulletin

A quarterly bulletin, BP Living has been published since October 2008 and is circulated to our customers and business associates to provide up-to-date health news and promotions in the form of electronic and/or hardcopy newsletter.

b) BP Magazine

Our annual magazine, BP ALIVE was first published in 2007. Many readers have given feedback to our editorial board that it was very useful and informative. The second issue was published in 2008 with increased readership. We hope that future issues will continue enlightening our customers with more information about our group

c) BP Public Forum

Our first public forum was held on 17 October 2008 in the Pearl of the Orient, Penang which received overwhelming response from the participants. In fact, the response has encouraged us to organise more similar forums throughout Malaysia, especially from multi-national corporations that realise the importance of our forum, particularly on Occupational Safety and Health.

The upcoming second public forum shall be held in Kuala Lumpur in the first quarter of 2009, followed by other regions.

Poh Bee Kuan
Group Managing Director,
BP Healthcare Group



d) BP Goes Green

Climate change, renewable resources, energy consumption, responsible investing, alternative fuels – terms that were once used only by environmental activists are now considered essential to global business strategy. It is no longer acceptable to create and sell products or services without considering the environmental implications on customers, employees, partners and the planet.

Going green is a way of life and BP Goes Green, is an initiative to reduce the impact of the Group's business operations on the environment. We do this through engaging in sustainable and environmentally responsible business practices by promoting earth-friendly living and loving it.

Corporate Social Responsibilities & Community Services

The Group seeks to support and work in partnership with local communities where we are based. The Management and employees are involved in community projects and charitable causes, in line with the Group's collective sense of responsibility.

In 2009, the Group shall focus on charitable activities in raising awareness of hearing health and hearing loss prevention among students. It is found that 58% of 16-30-year-old adults have no idea that using their MP3 and iPod players incautiously could cause noise-induced hearing loss. One in 10 people with a personal MP3 or iPod could suffer permanent hearing loss because of listening to excessively loud music.

The Group shall organise a nationwide audiometry screening program in schools to educate students on noise-induced hearing loss and the importance of preserving hearing into old age.

The Group shall also organise our first BP Charity Run and Polo Charity Exhibition Match to raise funds in support of some non-profitable organizations.

Continuing Medical Education & Continuing Professional Development

Continuing Medical Education & Continuing Professional Development shall remain the Group's emphasis in enhancing our employees' competency and knowledge in delivering the highest quality patient care to our customers.

I would like to take this opportunity to thank every staff of BP Healthcare Group, our shareholders, our business partners and all our customers, who play a part in supporting us. With your continued support, trust and loyalty, I am confident that the Group will progress further to achieve greater success.



Taking Healthcare The Holistic Way

BY Lovy Beh

Prevention is better than cure

Most of us are already aware of the pivotal role that regular health screening has on our health. With existing high standards and excellence in providing health diagnostic services to the public, BP Healthcare has made a few paradigm shifts to take its services to higher level – Holistic Healthcare.

Holistic healthcare is an integrated approach to healthcare services that treats the "whole" person, not simply the symptoms and disease alone.

At BP Diagnostic Centres, we provide a head-to-toe body examination in a single visit, which combines medical examination with other diagnostic tools that give you a thorough body examination to rule out any deviations from good health. Hand-in-hand with our comprehensive health examination packages, our diversified team of healthcare professionals comprising doctors, pharmacists, nutritionists and nurses, will address every issue of your health. Your options will include medical, pharmacological or non-pharmacological solutions, diet intervention or wellness advice.

Living your life in wellness not only promises a healthy and better quality of life with reduced risk of modern-day illnesses but also longevity. Imagine going through chronic pain, fatigue and malaise every day – you may be surprised that a simple lifestyle change may be the key to free you from your agony. As your lifestyle partner, we offer weight management, detoxification, diet therapy in preventing stress complications, and smoking cessation programmes. Here, we provide professional advice that is tailored to your needs to guide, support and coach you to wellness.

We believe that lifestyle modification could be your body's own natural healing process. "With effective lifestyle modification, people can live 14 years longer and have a reduced cardiovascular disease risk", say researchers at the University of Cambridge, UK and the medical research council of UK.

BP Healthcare has also embarked on new services such as Audiometry and Aesthetic care. Ultimately, we aspire to be your partner in health and beauty.



BP Aesthetic Solution

BP Alive joins aesthetician, Dr. Kee Yong Seng as he works to bring out the best in you and shows you that what you see in the mirror may not be all you could be.

BY Dr Kee Yong Seng



There comes a time in most people's lives when we look in the mirror and are unhappy with what we see. The skin may look sallow, be sun damaged, or there could be lines that are appearing and not going away. There may be scarring, or perhaps we just want a brighter, firmer and younger look. BP Healthcare Group currently provides aesthetic services for rejuvenation & cosmetic purposes. We offer a wide range of treatment from wrinkle reduction to acne treatment and all treatments are carried out to professional standards by a fully trained doctor and beautician.

Being a well-known healthcare screening centre, we also have a comprehensive facial analysis system to examine your facial complexion. The VISIA Complexion Analysis is a machine which uses multi-spectral imaging to reveal damage on and beneath the surface of our skin that is not detected by visual examination alone. VISIA imaging allows us to evaluate your skins' health and appearance based on spots, UV spots, brown spots, red/vascular areas, wrinkles, texture, pore size and porphyrins (bacterial content) that affect your complexion. By SEEING IS BELIEVING, with VISIA we can easily demonstrate your actual skin condition and provide individual targeted skin solutions. The system generates comprehensive reports to add to your record which tracks your progress to a healthier, more youthful looking complexion.



■ Easily demonstrates actual skin condition.

Here we have a wide range of skin care products that are of superior quality and efficacy in delivering visible results! Therapeutic Dermatologic Formula (TDF) is among the leading brands of dermatologist- and aesthetic physician-prescribed skincare we use. Our aim is to carefully listen to your needs and to provide thoughtful consultation based on VISIA facial analysis for skincare solutions to acne, pigmentation and aging skin.

Besides essential skin care products, we also provide variable in-office aesthetic procedures such as Facial Treatment, Chemical Peel, Derma Roller and Silk Peel.

SilkPeel™ Dermalinfusion™ is the only procedure that provides both non-invasive exfoliation and delivery of skin-specific topical solutions, leaving customers with fresher-feeling and better-looking skin. With a patented handpiece, it deeply delivers the vitamins, antioxidants and other therapeutic ingredients that your skin needs most.



SilkPeel™ is unique because it does not use crystals or other abrasive particles that may irritate the skin. It has no down time and the procedure is fast and comfortable. It complements most treatment programmes by providing a gentle but effective mechanical peeling of dead skin. It works excellent in acne cases and rejuvenation programmes with the electroporation infusion procedure.



The Derma Roller is another revolutionary device with minimal risk, short healing time and no sun-sensitivity after treatment. It can improve different skin problems such as stretch

wrinkles, open pores, acne scars or just as a rejuvenation procedure for patients with thin and sensitive skin. The roller has hundreds of surgical steel micro-needles to create pin point punctures into the dermis - the majority of which are simply pushing your pores open temporarily and stimulating the release of growth factors that stimulate collagen and elastin production in the skin without damaging it.

In order to get synergistic and enhanced cosmetic results, we have introduced a complete yet affordable facial rejuvenation programme which includes facial treatment, microdermabrasion (SilkPeel) and electroporation infusion therapy for individual skin types and problems. Each session takes about 60-90 minutes. You can have your skin pampered every 2-4 weeks. We used to say, there are no ugly women but lazy women in maintaining their beauty. By joining the skin rejuvenation programme, there will be no more excuse for even lazy people to be more aesthetic.

BP Healthcare Group always keeps moving forward to improve and provide the best solution to our customer. Besides the rejuvenation programme, we also have the wrinkle erasing programme, the fat dissolution programme and the facial contouring programme. In the near future, we will introduce more aesthetic programme like laser therapy for pigmentation, hair removal, lesion removal, skin tightening and laser toning programme.

***BP Healthcare takes care of your health
We also provide aesthetic solution for better quality of life.***





Audiometry

BY Helder Araujo

With new bass boost systems introducing loud and louder music, the development of massive super-highways and the increase in the decibels of background noise in urban centres, it is no wonder that there is a rising need for screening to detect the state of one's audio health.

What is Audiometry?

Audiometry is a technique used by an audiologist (a professional in non-medical diagnosis and management of hearing and balance disorders) or a doctor to measure hearing. Usually, audiometry is performed when hearing loss is suspected. Many health organisations recommend screening newborns for hearing loss, ideally, before they leave the hospital. This type of testing differs from those for adults. Paediatric screening should continue for school-aged children up to adolescence.

Hearing testing is a means of evaluating an individual's overall hearing function. The tests are used to determine if there is something wrong with the hearing (auditory) portion of the inner ear. They are often used as an initial screening to decide if more expensive tests like magnetic resonance imaging (MRI) are needed. They are sometimes used in conjunction with vestibular testing to diagnose specific disorders, such as Meniere's disease. Finally, hearing tests can be used to decide if a hearing aid might be helpful.

How is Audiometry done?

Audiometry testing is performed in a soundproofed area. Earphones are placed and the audiologist uses an audiometer to produce sounds of different frequencies and intensities. The person taking the test is asked to indicate if he or she can hear the sounds being generated. The test can be repeated using a small vibrator attached to the area behind the ear. This device emits vibratory sounds conducted through the bones of the skull to the inner ear. This is called a pure-tone bone conduction hearing test,

Audiology

The term Audiology (from Latin: *audire*, "to hear"; and from Greek: *λόγος*, *logos*, "knowledge") is the study of the entire field of hearing. This includes the anatomy and function of the ear, impairment of hearing, and the evaluation, education or reeducation, and treatment of persons with hearing loss.

Employing various testing strategies (e.g. hearing tests, otoacoustic emission measurements, videonystagmography*, and electrophysiologic tests), audiology aims to determine whether someone can hear within the normal range, and if not, which portions of hearing (high, middle, or low frequencies) are affected and to what degree.

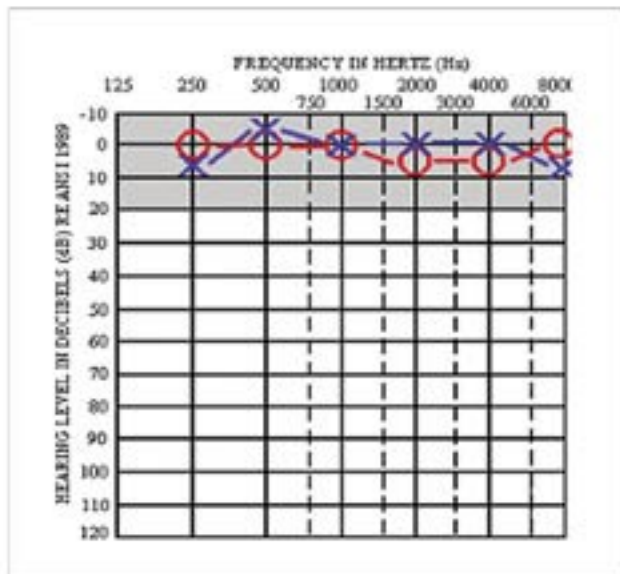
If an audiologist determines that a hearing loss or vestibular abnormality is present he or she will provide recommendations to a patient as to what options (e.g. hearing aids, cochlear implants, surgery, appropriate medical referrals) may be of assistance.

* Videonystagmography is a series of tests used to determine the causes of a patient's dizziness or balance disorders.

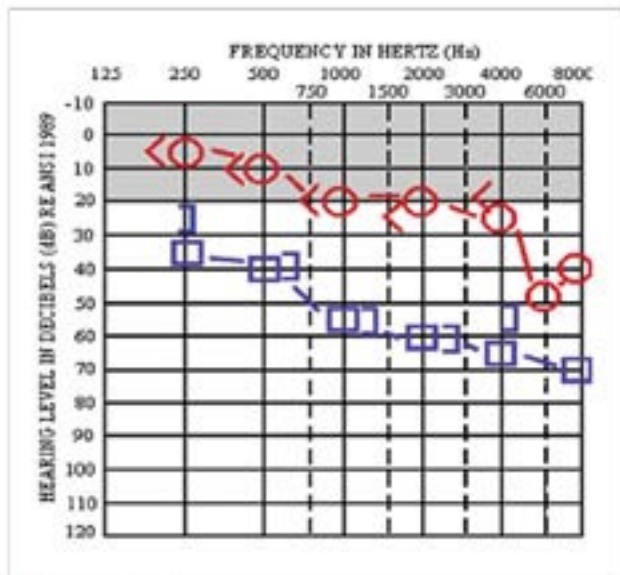
which detects hearing loss from a structural or an obstructive cause, such as earwax. Results of the test are recorded and printed on a graph called an audiogram.

An audiogram illustrates the range of hearing across different frequencies and volumes. Frequency is listed from left to right and low to high pitch, much like the keys

on a piano. Intensity, or volume, ranges from the top to the bottom and quiet to loud. Starting from the top to the bottom of the audiogram is like increasing the volume bars displayed on a cellular phone. The right and the left ear are plotted separately on the graph. At each frequency level tested, an "O" signifies the hearing threshold, or least intense sound heard in the right ear while an "X" signifies the softest sound heard in the left ear. Hearing is considered to be normal if sounds from 250 Hz through 8000 Hz can be heard at volumes of 25 dB or less.



■ Normal audiogram



■ Abnormal audiogram

What is considered normal?

Pure-tone audiometry measures how well someone can hear sounds of a different pitch and volume. Pitch or frequency is measured in cycles per second or Hertz (Hz). Most speech sounds are in the 500- to 4000-Hz range. People with hearing loss usually have the most difficulty with high-frequency sounds and consonants, such as S, F, SH, CH, or H. Volume or intensity is measured in decibels (dB). Usual conversation ranges between 45 and 60 dB.

Audiometry

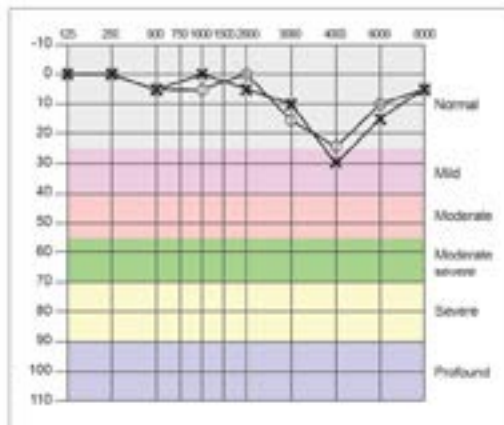
Audiometry is the testing of a person's hearing ability. Typically, audiometric tests determine a person's hearing levels with the help of an audiometer, but may also measure the ability to discriminate between different sound intensities, recognize pitch, or distinguish speech from background noise. Results of audiometric tests are used to diagnose hearing loss or diseases of the ear, and often make use of an Audiogram.

Audiogram

An audiogram is a graph that shows the softest sounds a person can hear at different pitches or frequencies. An "O" often is used to represent responses for the right ear and an "X" is used to represent responses for the left ear. The closer the marks are to the top of the graph, the softer the sounds that can be heard.

Hearing loss is often described in words as follows:

- Normal hearing
 - < 25 db HL (adults)
 - < 15 db HL (children)
- Mild hearing loss = 25-40 db HL
- Moderate hearing loss = 41-65 db HL
- Severe hearing loss = 66-90 db HL
- Profound hearing loss = 90+db HL



What if I can't hear?

Consult your doctor if you are having problems with your hearing or with understanding others, such as difficulty listening in background noise or needing to increase the volume on the telephone. Protect your hearing by wearing properly fitted earplugs or earmuffs when in a noisy environment.

References
<http://oem.bmj.com>
<http://medlineplus.nlm.nih.gov>



Hello!! Can you hear me?

BY Helder Araujo

Hear ye! Hear ye! Are you deaf? Anyone you know who has a hearing disability? Would you like to give them the joy of hearing? The ability to hear clearly, the sound of birds, waterfalls, people around you, the cars, trains and many more. Although some sounds are not as pleasant as others, would you like to see them remain in a world of silence?

Well, now you can grab the opportunity to help your loved ones. BP Healthcare Diagnostic Centres are offering free hearing tests and all you've got to do is call or go to any of our Diagnostic Centres.

Loss of Hearing

Besides the physical disability that may happen during birth or because of an accident, age is also a main cause of hearing loss. A disease, trauma or long-term exposure to damaging noises are some of the reasons that may contribute to this loss.

You can also do some basic tests to check your hearing. Do you notice that people seem to mumble or speak in a softer voice than they used to? Or do you sometimes need to ask people to repeat themselves since you miss some of their keywords? Do you have difficulties in joining a group conversation? Does background noise bother you when you are together with other people? Do you find talking on the telephone difficult? If you answer yes to many of these questions, it is time for you to visit your doctor.



Hearing Test

A method called the audiogram will be used to determine your type of hearing loss. An audiometer and headphones will be used to generate different pitches and loudness scales over a range of frequencies. The results will be spread over a chart called an audiogram and from the shape and direction of this chart, your hearing condition will be known, whether you exhibit mild, moderate or serious hearing loss.

A professionally prescribed hearing aid will improve your hearing and BP can help you to select the best hearing aid possible. Although, hearing aids can help enhance your current hearing state, they would not be able to retain your hearing as when you were young. The mechanism works as an amplifier and it contains a microphone that converts sound into electrical signals. The loudness of this electric signal will then be amplified and it later sends this to the ear.

If you're not deaf but having difficulty in separating background noises, you do sometimes require hearing aids. The loss of the ear's 'fine-tuning' causes many people to have difficulty hearing when there is any kind of background noise such as the rumble of traffic or children playing in the same room. With a hearing aid it can help to improve your hearing. A hearing aid really helps in these situations. BP performs this test and best of all, it is given free! The hearing test should take no longer than 30 minutes. It is broken down into 4 basic parts which are: **case history**, **otoscopy**, **audiometric evaluation** and the **recommendation outcome**. The technology involved during a hearing test may include directional microphones to focus on the particular source and to reduce the background noise; speech recognition technology to distinguish between speech and noise; bluetooth technology for wireless connection and also the treatment involved in aiding severe hearing losses. Over the years, hearing aids have advanced tremendously and have been listed as among the top 25 inventions of the last 25 years.

Case history is more like a quick chat between the patient and the hearing professionals to have a basic understanding of case and explore the options available. Later, if necessary, **otoscopy** is performed to examine your ears to ensure that they are wax-free and not blocked from the ear canal to the eardrum. Then, the **audiometric evaluation** will be done to clarify the degree of the hearing loss. Various elements will be used by BP's professionals to get the results required. Lastly, once all these tests have been performed, a **recommendation** is made depending on the level and the seriousness of your case. This is where you'll get to know more about your hearing, hearing aids or any suggested listening devices.



Hearing Aid Benefits

The information is very helpful as you may understand a lot of things regarding the hearing impaired and also the benefits of having hearing aids. What hearing aids do is they improve and boost the balance of whatever is left from a patient's hearing. Innovations such as Open Fit™ technology provide amplification where you need them and it does this without any discomfort caused by blocking the ears.

If you think hearing aids are big, beige and boring, think again! BP has just rolled-out one of the world's most advanced hearing systems - **AUDY**. It represents a new pinnacle in hearing aid technology as these digital hearing aids enable and empower patients with a new lease of life. They are also available in a range of designs and colours, which means that you don't have to be stuck with the same boring design and are able to choose the design that you desire. Upgrades in the latest technology help even the more severe cases.

A patient's self confidence, personal and professional relationships will improve with hearing aids as they will have a sense of independence and security, increased mobility, easier communications and self satisfaction. Getting a new hearing system is only the beginning of the journey at BP. What's there to wait? If you feel your loved ones deserve a quality hearing aid, just visit any of our DCs.





Immunohistochemistry Service

BY Dr Julia Munchar Bte. Munchar Jajuli

Immunohistochemistry is a new diagnostic service currently available through the Histopathology Service at BP Clinical Laboratory. Since its' introduction in July 2008, we have performed a total of 97 immunohistochemistry cases in the past seven months. Immunohistochemistry is a method of localisation of antigens or proteins in tissue sections through antigen-antibody interactions and are visualized by a marker such a fluorescent dye or enzyme.

This technique was first developed by Albert H. Coon and his colleagues in the 1950s and has since undergone various expansion and development. With a wide range of antibodies for many specific antigens being developed for paraffin embedded tissues, immunohistochemistry has emerged as the most valuable adjunct to Hematoxylin and Eosin (H&E) staining in diagnostic histopathology.



Common cases

With advances in the treatment of cancers, surgeons and oncologists now demand accurate characterization of malignant tumours. One of the major roles of immunohistochemistry is in establishing accurate diagnosis of malignant tumours. This technique has equipped the histopathologist with the tools needed to tackle the most common problems in tumour pathology, especially the characterisation of the undifferentiated

and poorly differentiated malignant tumour.

In our experience with four of these 97 cases of immunohistochemistry that were performed for the specific identification of cases belonging to the family of small round cell malignancies, we were able to correctly identify two cases of lymphomas and two cases of small cell undifferentiated neuroendocrine carcinomas. The

panel of antibodies used in these cases include cytokeratin (CK), leucocyte common antigen (LCA), chromogranin, vimentin, S-100 protein and desmin. There were seven cases of lymphomas which were further subtyped into five cases of B cell type and two cases of T cell type Non-Hodgkin's lymphoma according to the WHO / REAL classification of lymphoid neoplasms.

Immunohistochemistry is also used as a predictive marker for certain tumours, especially for breast cancer. The analyses of estrogen and progesterone receptors in breast cancer remain the most reliable and best predictor of tumour response. They help to identify breast cancers that are most likely to respond to endocrine treatment.

Expanding demand

The role of immunohistochemistry in the identification of primary site for metastatic tumours is also one of the most fruitful applications of immunohistochemistry. Besides immunohistochemistry, other techniques can be used in the identification of primary tumour site such as electron microscopy, flow cytometry and molecular techniques but these methods are expensive and require specific setup and expertise.

The immunohistochemistry service provided by our laboratory is still in its infantile stage. This can be seen in the

The majority of cases that we received for immunohistochemistry studies were for this reason. There were a total of 83 cases (85%) of breast carcinomas performed for estrogen and progesterone receptor studies. 75 out of the 83 cases (90%) of breast carcinomas were further assessed for HER2 (c-erbB2), the current immunohistochemical analysis for the status of breast cancer in prediction of response to trastuzumab, a new adjuvant drug. There were four cases of hepatocellular carcinomas which also had estrogen receptor assessment.

usage of the vast majority of our antibodies as a predictive marker of breast cancer and for basic use in tumour diagnostic panels that help to characterize neoplasms. However, we plan to expand our immunohistochemistry availability to the application of molecular techniques if there is a demand.

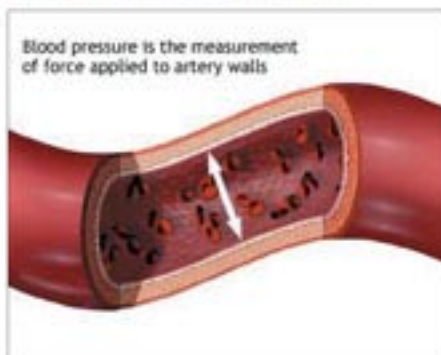




All You Need To Know About Blood Pressure

BY Dr. Chew Chee Keong

One of the four vital signs measured by health professionals, blood pressure refers to the pressure or force exerted by circulating blood on the walls of blood vessels. Blood is pumped out from the heart through the pulmonary artery to the lungs (pulmonary circulation) or aorta to the other parts of body (systemic circulation). Generally, blood pressure decreases as blood moves through arteries, arterioles, capillaries, venules and veins.



Blood pressure is the measurement of force applied to artery walls

Blood pressure, as mentioned by the public or commonly measured by health professionals, is arterial blood pressure. Arterial blood pressure can be measured by manual mercury sphygmomanometer, aneroid and electronic devices. The unit of measurement for blood pressure is millimeter mercury or mmHg.

Classified into two main types, systolic blood pressure (SBP) and diastolic blood pressure (DBP), each are a measure of blood pressure during the cardiac cycle, or when the heart pumps blood through the blood circulatory system. SBP denotes the

highest pressure at the beginning of the cardiac cycle, while DBP is the lowest pressure when the heart is fully relaxed (resting phase of cardiac cycle). Mean arterial pressure (MAP) is calculated using two thirds of the SBP plus one third of the DBP while pulse pressure (PP) is the difference between the SBP and the DBP.

There are few methods to measure blood pressure, most common among them, non-invasive methods. Invasive BP measurement is only done in a hospital setting for critically ill patients or patients who have undergone major surgical procedures and require close monitoring.

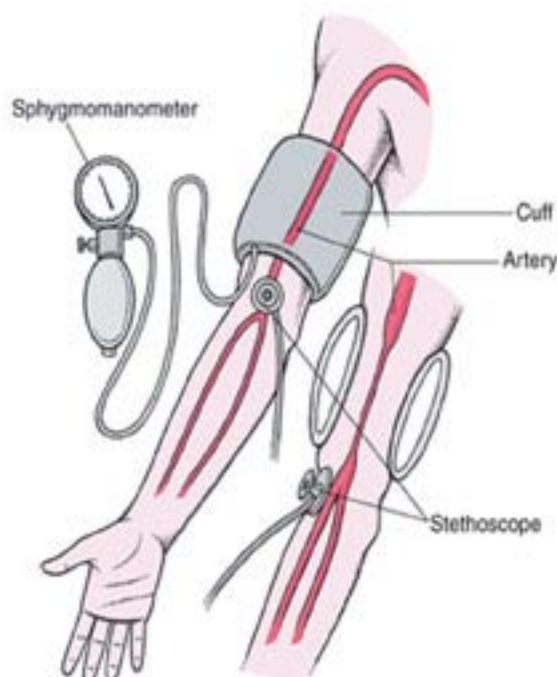
Non-invasive methods

Non-invasive methods to measure BP include auscultatory (listening) or oscillometric methods. These methods are relatively simple procedures compared to invasive methods, fairly safe if done correctly, is less traumatic and causes minimal discomfort to patients.

TIPS

Sphygmomanometer, also known as the blood pressure meter, is the device used to measure blood pressure and consists of an inflatable cuff and a manometer.





The auscultatory method requires a sphygmomanometer and a stethoscope. An inflatable cuff (with different sizes) is wrapped around the patient's arm at the same level of the patient's heart. The cuff is then attached to a mercury or aneroid manometer and tightened to the appropriate size. It is then inflated to a level while arterial blood flow becomes occluded or blocked. This can be confirmed by feeling the radial pulse as no pulse is felt while artery is occluded. Then, the stethoscope is put on the brachial artery, at the elbow, and the cuff is deflated slowly.

When blood begins to flow into the artery again, the turbulence of the flow creates a pounding sound called the first Korotkoff sound. The examiner should get the BP reading now and this reading is the systolic BP. The pounding sounds continue while the cuff is deflated further. Diastolic BP is taken when the Korotkoff sound is disappearing. When the Korotkoff sound is heard continuously in some patients, the fifth Korotkoff sound is used as a measure for the diastolic BP.

Conventionally, the mercury manometer is considered the gold standard for BP measurements. However, electronic BP instruments have largely replaced mercury manometers in many healthcare centres and hospitals because it is more convenient, user-friendly and is acceptable in accuracy. Mercury manometers are scarcely used in US now.

Besides this, the oscillometric method is also used in general practice. This method is similar with the auscultatory method but an electronic pressure sensor (transducer) is used to detect blood flow. In real life, the sensor is a calibrated electronic device with a display that shows numerical readings. These gadgets vary in accuracy depending on the brand and quality of the machine. More importantly, the electronic devices are calibrated from time to time and are compared to a standard device to ensure the reading measured is accurate. It is useful for untrained personnel, especially for home BP monitoring. However, patients with cardiac arrhythmia, pregnant ladies with pre-eclampsia, etc. are less suited for such devices.

Blood Pressure Ranges for Adults Above 18

The following table shows the classification of BP for adults above 18.

Category	Systolic, mmHg	Diastolic, mmHg
Normal	<120	<80
Pre-hypertension	120-139	80-89
Stage 1 hypertension	140-159	90-99
Stage 2 hypertension	>160	>100

Home BP Monitoring

Since blood pressure is such an important vital sign, regular monitoring of your blood pressure, especially those who suffer from hypertension, is crucial. It allows early detection of hypertension, monitors BP control for hypertensive patients and excludes white coat hypertension in certain patients. With the availability of user-friendly electronic devices, home BP monitoring is as easy as ABC.

TIPS

White coat hypertension is when a patient exhibits an elevated blood pressure reading when being in a clinical environment. This is a common phenomena due to the anxiety experienced by patients during a medical visit.

To obtain an accurate reading, do not to smoke, take any caffeinated drinks or exercise vigorously 30 minutes before a BP reading is taken. A BP reading should be taken at a different period for a given day (morning, afternoon and evening).

Here's How: Taking Your BP Reading Correctly

1. Relax and rest for 5 minutes before taking your BP.
2. Lie down or be seated with your wrist held at the heart level for accurate reading.
3. Use the appropriate cuff size for your arm. Inappropriate cuff size (too small or too large) can result in an inaccurate reading
4. Be still while the reading is taken.





Men's Health

BY DR. WONG KIM LENG

It is widely acknowledged that there is a gross disparity in the help seeking behaviours between sexes. Women tend to be more proactive and hence are more accessible to preventive programmes.

In the 1990s, the Ministry of Health initiated a Men's Well-being programme, and at its' inception, the programme was limited to Prostate Diseases. By now, the world over has a widened scope of Men's Health, encompassing every aspect, from cardiovascular disease to aesthetics, including the once taboo subject, erectile dysfunction.

The common diseases in the spectrum of Men's Health are as follows:

Diseases of the Circulatory System

- Coronary Artery Disease
- Stroke
- Hypertension

Metabolic Diseases

- Diabetes Mellitus
- Dyslipidaemias (Cholesterol)

Cancers

- Lung Cancer
- Colo-rectal Cancer
- Prostate Cancer
- Testicular Cancer
- Naso-pharyngeal Cancer
- Bladder Cancer

Genito-urinary Diseases

- Benign Prostate Enlargement
- Erectile Dysfunction
- Sexually Transmitted Diseases
- Hernias
- Infertility

Skin

- Baldness (Alopecia)

Hormonal

- Partial Androgen Deficiency/Andropause
- Hypothyroidism

Others

- Deafness
- Addiction, Smoking

The spectrum of disease is very wide and hence, only the common ones are highlighted above. However, the various categories above are not exclusive, as many diseases are inter-linked. For instance, Diabetes mellitus, high cholesterol, high blood pressure and obesity seldom occur alone. Collectively, they are known as the Metabolic Syndrome which increases the likelihood of dying from a heart disease by 12.5 times among men.

Similarly, erectile dysfunction has recently been recognized as a predictor of cardiovascular disease in diabetic men. Since it may also be a consequence of clogged arteries, it is no longer considered a disease confined to the genito-urinary system or the nervous system. Hence, it is currently also considered a circulatory disorder.

Rome was not built in a day

Men are twice as likely to die from a heart attack when compared to women, and their heart disease manifests 10 years earlier. While there are certain unfavourable inherent factors like age, gender and ethnicity, which we can't modify, men can reduce their cardiovascular risks by having adequate exercise, keeping to an optimal weight and controlling their blood cholesterol, sugar and blood pressure levels to the optimal. Since cardiovascular disease, strokes and diabetes do not occur overnight, care must be taken to prevent them by adhering to a healthy lifestyle years before their onset. Hence, Metabolic Syndrome is considered a lifestyle disease.

Why men, why?

I have always believed that in health, women are more fortunate, as they have a longer life expectancy and lower mortality rates. On top of the usual visits to doctors due to minor illnesses, women have extra access to doctors during pregnancy or during routine Gynae visits. Men on the other hand, may not visit a doctor until there are symptoms, and most diseases, for instance, cancers involving men, are seldom noticed until perhaps too late. This is primarily because cancers in men are deep-seated in the internal organs.

With the exception of diseases involving the female genital tract, the death rates for all diseases are higher in men. The following are probable causes:

1. Men may have a less healthy lifestyle, including risk-taking at younger ages.
2. Society discourages healthy behaviour in men and boys.
3. Men are less likely to visit physicians for preventive purposes, disease.

Most are quite contented with routine blood tests involving blood sugar and cholesterol, which are, admittedly, important preventive parameters. But do they reflect the probability of an existing arterial blockage in a person with a silent heart disease?

The Male Menopause

Ageing invariably slows down all our reactions, but when an ageing man experiences symptoms of tiredness, low sex drive and increasing waistline, he could be experiencing andropause. Unlike the menopause which it is characterised by mood swings, hot flushes and the end of the menstrual cycle, andropause is more subtle and more difficult to identify as it is not typically characterised by a sudden cessation of a bodily process like menstruation. Moreover, the onset of andropause varies greatly, from as early as 40 years to as late as 60 years of age.

DIY

What positive steps can men take on their own accord?

They can try their level best to maintain their Body Mass Index (BMI) below 23 (Asian BMI) and Waist Circumference at or below 90cm.

According to our third National Health and Morbidity Survey of 2006, 43% of Malaysians aged 30 years and above have high blood pressure, many of whom are not even aware of it. Only about a quarter of those treated are under control. From my own observation, patients deliberately reduce their blood pressure, diabetic and cholesterol medications as a result of advice from friends and relatives, who forewarn them about the unfounded fear of kidney and liver complications arising from these treatments. Is there any wonder why cardiovascular diseases are on the rise?

No, but a treadmill ECG test does.

Similarly, should we be contented with numerical reductions in our blood tests after medication? It is important to remember that chronic diseases such as high blood pressure, heart attack, stroke and diabetes are the consequence of a prolonged unhealthy lifestyle. To optimise the effect of the medications at a given dose and to simultaneously reduce our risks, we need Therapeutic Lifestyle Changes (TLC). Otherwise, one will not be able to sustain the benefits of risk reductions. This simply means that one needs to complement their medications with a sustainable healthy diet, quit smoking and have adequate weekly exercises, all of which are addressed in the Wellness Coaching Programmes available at BP Diagnostic Centres.

Since a significant proportion of men who also suffer from occupational hazards, conditions such as deafness, injuries, backaches and skin diseases are not uncommon. However, they usually involve some form of disability, and therefore, preventive measures are needed, apart from subjecting them to periodic health screening for Occupational Diseases.

Health Screening

BP Diagnostic Centres offer a wide range of screening to make risk identification and reduction more effective. Screening ranges from cardiovascular parameters such as Stress ECG, Carotid Ultrasound, blood tests to Prostate imaging. A Stress ECG is more sensitive in men and it is a good screening test for high-risk patients, particularly when the chest pain is in doubt. Similarly, an existing blockage of the blood vessels in the neck (Carotid Artery) can be viewed with the available ultrasounds. In addition, services such as Quit Smoking and Weight Management are also available.

It is imperative to have a consultation with a medical doctor, who will take into careful consideration the medical history, physical examination, blood tests results and various machine tests reports to come to a proper conclusion, and make the necessary recommendations to improve one's health.



Women's Health

BY Dr. Leong Hui Shan

Women account for 49.7% of the Malaysian population and since the 1900s have been experiencing longer life expectancy from 50 years to 76.4 years at the turn of the new millennium, and is expected to continue rising. To enjoy this, it is essential that women take charge of their own bodies and comprehend how to maximize their health. It is also helpful that men understand and are supportive of the health concerns of women.

Women's health concerns cover a wide spectrum and, is today,

viewed as a distinctive field. While many health conditions affect both men and women, a number of health issues affect only women such as pregnancy, childbirth and motherhood, menopause and gynaecological malignancy. Even though these stages are considered normal occurrences in a woman's life, things can get complicated if one does not plan ahead and anticipate problems. With the advances of medicine, especially in diagnosis, more diseases and conditions unique to women are being recognized.

Different Stages, Different Strokes

The different stages in a woman's life requires different strokes to deal with the issues in her life. For many, pregnancy is a joyful event which may be complicated with various medical conditions such as gestational diabetes melitus, hypertension in pregnancy, pre-eclampsia and eclampsia. Therefore, it is important for women to plan their pregnancy and have a thorough pre-pregnancy medical check-up, looking for any existing medical problems such as congenital heart disease, thalassaemia or thalassaemia trait, infections which may affect the fetus, metabolic disorders, anaemia and thyroid disorders. These medical conditions may be dangerous to both mother and baby if not properly managed. A woman should undergo treatment and proper counselling prior to pregnancy if she has a health problem.

At the other end of the spectrum is menopause, which signifies the permanent end of menstruation. Menopause usually happens more or less in the late forties and early fifties and along with it brings a multitude of symptoms – hot flushes, malaise, headaches, vaginal dryness, insomnia, anxiety and depression, just to name a few. Many women arrive ill-informed, not knowing what to expect, when or how the process might happen, and how long it might take. As a result, a woman who happens to experience florid perimenopausal symptoms may be confused and anxious, fearing that something abnormal is happening to her. There is a strong need for more information and more education on this subject.

The Other Arenas

Other health concerns for women include significant changes to certain parts of their bodies over time. One of the main concerns of women is bone health as osteoporosis, frequently described as a silent thief of bone and an inevitable part of aging, is a disease of the bones that lead to an increased risk of fractures. In osteoporosis, the bone mineral density (BMD) is reduced, bone micro-architecture is disrupted, and the amount and variety of non-collagenous proteins is altered. Advances in detection and treatment, coupled with a better preventive knowledge, and widely available bone density scans has made it possible for women from high risk groups to step forward. Risk factors for osteoporosis include family history of osteoporosis, poor dietary calcium intake, lack of vitamin D, menopause, medication such as steroids and certain types of metabolic disorders such as Cushing's syndrome and thyrotoxicosis.

Another lady-killer is cancer. Let's start with gynaecological malignancy, which includes cervical cancer and ovarian cancer. The human papillomavirus (HPV) infection is the main risk factor for cervical cancer, with the HPV being a group of viruses that can infect the cervix. HPV infections are very common and are transmitted through sexual contact with most adults having been infected with HPV at some time in their lives. Some types of HPV can cause changes to cells in the cervix, which lead to genital warts, cancer, and other problems. The Pap smear can detect cell changes in the cervix caused by HPV and treatment of these cell changes can prevent cervical cancer. If a woman is infected, her doctor can discuss ways to prevent infecting other people and if she is uninfected, then the vaccine is available to prevent HPV infection.

Another common cancer that is aggressively affects women is breast cancer, which is no longer confined to affecting women at advanced age. Screening methods such as self breast examination, breast ultrasound and mammography can help to detect breast cancer early leading to early treatment and a better prognosis.

Finally, the National Health and Morbidity Survey (NHMS) III has revealed that the prevalence of lifestyle related diseases (hypertension, diabetes and obesity) has increased significantly. With longer life expectancy, these conditions will further increase the cardiovascular disease burden of our country. It is a myth among the general public that cardiovascular disease has a more benign course in women. In fact, in-hospital and early post-myocardial infarction mortality is greater in women than in men (9% vs 4%). Similarly, following a stroke, women are more likely to die than men (16% vs 8%) and those who survive have a poorer long-term outcome and a lower quality of life. Therefore, increased awareness, early and appropriate investigations and management of cardiovascular disease is important. All women should know the levels and significance of their risk factors. All women above the age of 40, should have their cardiovascular disease risk assessed.

How to be healthy? Let us count the ways...

After understanding women's health problems, let's look at the best tips that keep them healthy.

1 Eat Healthy

Diets rich in fruits and vegetables may reduce the risk of cancer and other chronic diseases as they provide essential vitamins and minerals, fibre, are naturally low in fat and calories, and are filling. Add variety to the choices of fruits and vegetables, depending on what's in season and available. Drink lots of water and go easy on salt, sugar, alcohol, and saturated fat. Choose nutritious and filling snacks.



2 Get Moving

Regular physical activity substantially reduces the risk of developing of cardiovascular disease, diabetes, and hypertension. It also helps control weight; contributes to healthy musculoskeletal state; reduces falls; relieves arthritic pain; reduces symptoms of anxiety and depression; and is associated with fewer hospitalisations, physician visits, and medications. Physical activity need not be strenuous to be beneficial as people of all ages benefit from participating in regular, moderate-intensity physical activity, such as 30 minutes of brisk walking five or more times a week.



3 Be Smoke-Free

Quitting smoking is one of the most important things a lady will ever do as they will live longer and better and protect people around them from passive smoking. It lowers the chance of having a heart attack, stroke, or cancer and for pregnant ladies, quitting improves the chance of having a healthy baby. Most importantly, do not pick up the habit in the first place.

4 Manage Stress

Job stress is a common problem in the Malaysian workplace, leaving few workers untouched. Short-lived or infrequent stress pose little risk but unresolved tension keeps the body in a constant defensive state, which increases the rate of wear and tear to body systems. Ultimately, fatigue or damage results, and the body's ability to repair and defend itself from injury or disease can become seriously compromised. In fact, mounting evidence suggests that stress plays an important role in several types of chronic health problems- especially cardiovascular disease, musculoskeletal disorders, and psychological disorders.

5 Know Yourself and Your Risks

There are conditions that may place a woman at risk of injury, disease, or disability. The genes (family history), environment (at work, home, and play), and daily lifestyle choices and behaviour help define a woman's health and risks. Be aware of what they are and take steps to reduce the risk.

6 Do a Self Breast Examination

This is one screening method a for the early detection of breast cancer to be done every month. Discuss with your healthcare provider about this and other screening methods, including clinical breast examinations, breast ultrasound scans and mammography.



7 Get Routine Examinations and Screenings

Some examinations and screenings by the healthcare provider should be done yearly. Others more often, and a few less often, depending on a woman's age, medical and family history, and individual choices that put her at increased or decreased risk for disease. Examinations and screenings include a mammogram every 1-2 years (over 40 years of age); a Pap smear every 1-3 years; and checks for blood pressure, blood sugar, cholesterol level, sexually transmitted diseases, vision, dental condition, mental health and more.



8 Get Appropriate Vaccinations

Women do not need vaccinations often, but they do want to know what they need and when they need it. Whether at work, school, or leisure, vaccinations help in keeping women healthy, yes, even for adults.





Growing Pains Life with Childhood Diseases

BY Dr Jasmine Lau Yoke Chin

3-month old Annie was visiting me for the third time this week, and it was only Wednesday. Her grandmother just sighed, "Children nowadays are so different. I had taken care of my own ten kids single-handedly those days. But one little Annie can break my bones now." Another classic example of the childcare for offspring(s) of working couples staying in another city.

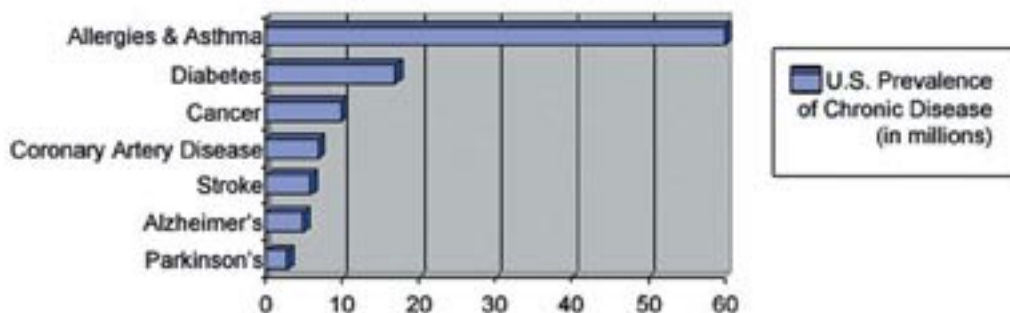
Are our children getting better health care now?

Definitely. With the advance of antibiotics and immunisation, the under-five mortality rate in Malaysia is 12 per 1000 live births in 2005 compared to 42 per 1000 in 1980. Both private and general sectors are dedicating their services to this precious group. Children with disabilities, premature babies with birth weights between 800-1000g and children with cancers are given specialised care and surviving much better than 10 years ago.

Are our children enjoying a better quality of life?

Perhaps not. Urbanization in Malaysia swelled from 37% in 1980 to 63% in 2005. Gone are the days of clean water and fresh air. Working mothers have to rely on substitutes in terms of milk and care. The result: tremendously rising cases of allergies.

In the US, asthma is the most common chronic illness among children. Allergic rhinitis affects 40% of children and atopic dermatitis 10%. One third of Malaysian children have a form of allergy. In fact, 15% of our school children have asthma. If one parent has an allergic disease, the estimated risk of a child to develop allergies is 48%; the child's estimated risk grows to 70% if both parents have a history of allergies. So by 2050, 35% of Malaysian teenagers will have asthma. My son has allergic rhinitis and my daughter has allergic conjunctivitis—100% of my children are in the allergic endemic.



Is there any way out of this?

"When Mei Yee was a one-year-old, she developed a short episode of urticaria. The mother was told about the possible allergens i.e. eggs, nuts, shellfish, wheat and soy. Since then, Mei Yee was only given milk and rice. Her mother also became paranoid about dust and mould in the building. When Mei Yee saw me at three-years-old, she was malnourished with nutritional dermatoses. Both child and mother were unhappy."

Finding the culprit for the allergy can help by avoiding unnecessary restrictions. After proper testing, the child may still keep the adored pet cat, eat their favourite oranges or help with dusting the house. We can focus our attention to the precipitating factor after confirming the allergen.

In this age, there are only three evidence-based methods to test for allergies. The skin prick test, is the gold standard and is both simple and cost effective. It is widely practiced in Paediatrics, ENT surgeons, dermatologists and general practitioners clinics' in the US, Europe and Australia.

The RAST test is a blood test which is easy to interpret but more costly and time consuming. Meanwhile, the most practical would be the food challenge test. However, it is a tedious process and requires parents' full cooperation for elimination of certain elements in a child's diet. It is limited for food allergies.

How do I know the right thing to do?

Haziq has come in for nebulization. His father had discontinued his prophylactic inhaler for two weeks now. Haziq was brought to see a traditional healer in Kedah who has promised to cure him. "I am worried that Haziq will get addicted to the inhaler," explained Haziq's concerned father. Doctor shopping is a common practice among the parents of atopic children.

Education, education and education is still the mainstay of treatment and making the parent or caretaker understand the illness is half of the battle won. They have to know that there is no cure for allergies but controlling the precipitating factors help while waiting for the child to outgrow some of the allergies. This is not easy as many expect instant results in this fast-paced world.

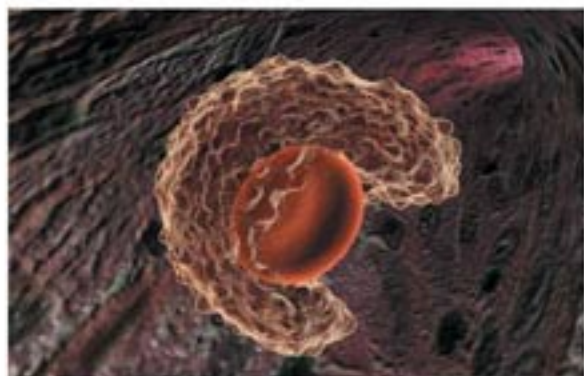
We need to convince the parents to administer the entire array of medications that comprise the treatment regimen. Nasal sprays, inhalers, tablets and syrups form two parts of the symphony, preventor and rescuer. Ointment A for flare-ups, cream B for maintenance, bathe with C etc. The most important aspect is teaching the parents that their children need to eat, play, sleep and learn normally. Growing with excessive restrictions may limit their potential and impede their emotional development.

Ramani shows me her swimming trophy with a big grin. Finally, her allergic rhinitis is controlled with the nasal spray. She is not teased in school anymore, she can join in the games and she keeps a dog called CJ7. The hypertrophied nasal turbinates have regressed and she dutifully administers the nasal spray without prompting from her parents. Most importantly, she and her family finds that she is as normal as every one else.



Cancer - Early Detection and Prevention

BY Dr. Yap Chee Wei



Cancer is still a leading cause of death in most parts of the world, including Malaysia. In fact, it is the second most common cause of death for Malaysians after cardiovascular disease. With the advance of medicine, many cancers are treatable or even curable especially if detected at an early stage. However, many patients only seek medical attention at an advanced stage due to the fact that most cancers have no or minimal symptoms at the early stage. This makes routine medical examination crucial for the public, particularly those in high risk groups.

Detecting aliens

Blood and urine tests do play a role in detecting cancers. For example, blood tests conducted with so-called cancer or tumour markers e.g AFP, CEA, PSA, CA125, CA153 etc may detect liver, colorectal, prostatic and ovarian cancer in some patients. Patients with haematological malignancies, such as leukaemia may also show abnormality in their blood tests. Meanwhile, urine testing is useful as a cheap and simple way to detect cancer of the kidney or urinary bladder. Our DC medical officers have detected quite a number of cases of cancer each year based on preliminary blood and urine tests.

However, blood and urine tests are not sufficient. The accuracy is not high enough for the purpose of early detection for most patients. Other modalities such as imaging (X-Ray, ultrasound, CT scan, MRI, radionuclide imaging) and endoscopy are useful tools to investigate cancer and complement blood tests. Biopsy of the tumour will give definitive diagnosis of the type of cancer with almost 100% certainty.



Preventive action

Part of effective prevention is understanding the risk factors which include genetics, diet, infection, environment etc.

Carcinogenic substances (chemicals or virus etc.) are those which promote cancer cell growth. Among examples of potent carcinogens are cigarette smoke, certain chemicals(nitrosamines) and aflatoxins. Hence, cessation of smoking and avoidance of food contaminated by those chemicals are simple ways to prevent contact with those carcinogens.

Certain cancers are proven to have links with infectious agents. For example, Hepatitis B and C are responsible for about 90% of liver cancer (70% and 20% respectively) while certain strains of the Human Papilloma Virus (e.g 16 and 18) are known to cause cervical cancer and the *Helicobacter pylori* (a bacteria that lives in the human stomach) increases the risk of stomach cancer tremendously.

Broken links

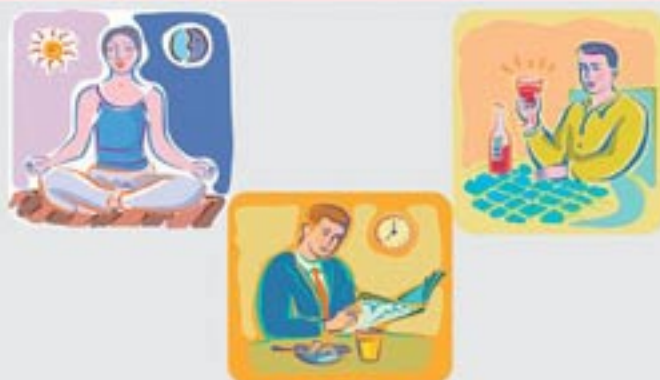


While liver, cervical and stomach cancers are common worldwide, including Malaysia, they are preventable. There is a vaccine available for Hepatitis B that is now given to all newborns as recommended by the WHO (total 3 doses). In Malaysia, it has been given to newborns since 1989. Since the introduction of the hepatitis B vaccine, the incidence of liver cancer has reduced.

There are 2 vaccines available at the moment for the prevention of HPV infection, thus reducing the risk of cervical cancer. There are a few simple methods to test whether an individual is infected by H. pylori. Eradication therapy is offered for those reactive for H. pylori and the cure rate is approaching 90%. Successful eradication of H. pylori will reduce the risk of stomach cancer greatly.

The blueprint

All of us wish to live a healthy life. It is simple to say but not so easy to implement. Regular exercise, having a healthy and balanced diet and staying away from smoking and excessive alcohol consumption are important. In addition to that, get yourself vaccinated, take supplements if necessary and attend medical check-ups regularly. Consult your medical team (doctors, nutritionists, pharmacists and nurses etc) regarding your health problems and doubts. Finally, a healthy body is often accompanied by a happy mind, so learn to live happily and enjoy a healthy life.





Mammogram

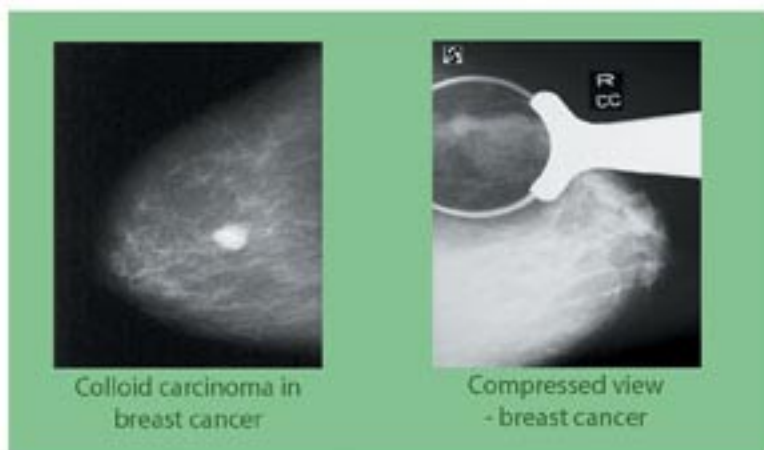
BY Dr. Lim Aik Boon

In this day and age, the word mammogram is no longer a stranger in our collective vocabularies. It hangs at the edges of conversations about annual health screenings and is at the heart of dialogues about a life threatening disease, cancer. BP Alive lifts the veil over mammograms in this issue.

What is a Mammogram?

A mammogram is an X-ray picture of the breasts. It is used to find tumours and to help differentiate between non-cancerous (benign) and cancerous (malignant) growths. Screening mammogram has a detection rate of about 77.8-95%. It is able to reduce the mortality rate of breast cancer by about 30%.





Why and on whom is the test for

Mammography is performed to screen healthy women for signs of breast cancer. It is also used to evaluate a woman who has symptoms of a breast disease, such as a lump, nipple discharge, breast pain, dimpling of the skin on the breast, or retraction of the nipple. Screening mammograms are important for early breast cancer detection. The American Cancer Society recommends a mammogram screening every year for all women aged 40 and above. The Malaysian National Cancer Institute recommends a mammogram screening every 1 to 2 years for women aged 40 and above. They also recommend younger women (less than 40) who have symptoms of breast cancer or who have high risk factors of the disease undergo an annual mammogram screening as well.

What are the established risk factors for breast cancer?

Sex/Gender

Breast cancer is almost an exclusive disease of the female. Being female is the single most important risk factor. Only 1% of breast cancer cases are found in males.

Age

An increasing age is associated with an increased risk. Breast cancer is extremely rare before the age of 25 years.

Geographical and racial variation

Breast cancer is more common in western countries compared to Asian and African countries. The National Cancer Registry of Malaysia showed that Chinese women have the highest risk of breast cancer in Malaysia with a 1 in 14 lifetime risk of getting the disease, followed by Indian women at 1 in 15, and Malay women with a 1 in 24 lifetime risk of getting breast cancer.

A previous history of breast cancer

If you have had breast cancer on one breast before, you now have 4 times the risk of developing breast cancer in the opposite breast.

A family history of breast cancer & genetic risks

A woman with a mother or sister (first degree relative) who develops breast cancer at a young age, has twice the risk of developing breast cancer herself, and this risk increases to 4 times if 2 first-degree relatives are affected.

For men, they are at a higher risk if his father or brother or son has had breast cancer. Female relatives of men with breast cancer often have an increased risk of breast cancer. In some reports, 60% of men with breast cancer have female relatives with breast cancer.

It is important to know how old they were at the time they were diagnosed.

Only 5-10% of women with breast cancer have a genetic defect

A history of benign breast disease

Women with atypical hyperplasia, a type of benign breast disease, where the cells are mildly abnormal, have a 4-fold risk of developing breast cancer. A history of fibrocystic disease or proliferative disease may carry a very slight increased risk as well.

What are the established risk factors for breast cancer?

Menstrual cycle

Early menarche (onset of menstruation) before the age of 12 years old, and late menopause (cessation of menstruation) after the age of 55 years are associated with a 2-3 times increased risk of breast cancer.

Parity

Nulliparity (never having borne children) or late age at first childbirth (after the age of 30 years) increases the risk of breast cancer.

Exposure to ionising radiation

Exposure to ionizing radiation e.g. X-rays, particularly between the age of puberty and 30 years, can substantially increase the risk of breast cancer. However, exposure to significant levels of radiation that are clinically important is rare.

Socio-economic status

Women of higher socio-economic status are at greater risk of breast cancer compared to women of lower socio-economic status.

Diet

The composition of the diet has been thought to influence the risk of breast cancer, and may account for the differences in incidence rates between countries. However, only weak or non-existent associations have been found in case-control studies. There is also some evidence that alcohol consumption results in a slight increase in risk of 1.4 to 2.0.

Body size

Obesity in postmenopausal women is associated with an increased risk of breast cancer.

Oral contraceptives (OCP) and hormone replacement therapy (HRT).

Prolonged oral contraceptive usage is associated with breast cancer diagnosed in premenopausal women; however the risk is only around 1.2 times.

The dose of oestrogens prescribed in HRT is very low, and the risk of breast cancer increases only after more than 5 years usage, and even then the risk of developing a tumour with favourable prognosis is about 1.8 times compared to those who never used HRT.

Amongst women who have used HRT for more than 5 years, the relative risk is about 2.6.

KEY MESSAGES

1. Knowing your risk profile could help to determine if you need screening examinations.
2. Not having any of the known risk factors does not mean that you are "safe"! The majority of women who develop breast cancer do not have a family history of breast cancer and do not fall into any other special high risk category!
3. Since breast cancer cannot be prevented, it is important to have reduced mortality from breast cancer by early detection and treatment before the cancer spreads.

For self breast examination, please visit this website <http://www.radiologymalaysia.org/breasthealth/SBE/index.htm>

Silent Killer - Renal Cell Carcinoma

BY Dr. Quah Say Chuan

A 47-year-old gentleman, L, came to the BP Cheras Diagnostic Centre for general health screening in November 2008. L was apparently well with no complaints or symptoms. The purpose of his visit was to determine his health status. He decided to sign up for our DC2A health screening package which consists of blood and urine tests including tumour markers, ECG, lung function test, bone mineral density test and ultrasound of the upper abdomen.

The ultrasound for the upper abdomen was done for him on the same day and we found a tumour at the mid-pole of his left kidney measuring 4.92cm x 4.04 cm x 3.98cm suggestive of renal cell carcinoma (commonest cancer of the kidney). He was referred to an urologist immediately for further evaluation and management. He had a CT scan at the referred medical centre and a similar diagnosis was made. The urologist advised him to go for radical nephrectomy (surgery to remove the entire affected kidney, nearby adrenal gland, lymph nodes and other surrounding tissue).

Ultrasound picture of L, showing the left kidney with a loss of central echo complexes (central brightness commonly seen in



Ultrasound picture of L's left kidney, picture on the left show the whole left kidney, the mass is not clearly seen and can be missed in inexperienced hands. Picture on the right shows the mass when the scan was done at



Ultrasound picture of L, scan done transversely showing a mass at mid pole of left kidney.



Renal cell carcinoma (RCC) accounts for approximately 3% of adult cancers and 90-95% of tumours arising from the kidney. It is characterized by a lack of early warning signs, diverse clinical manifestations and resistance to radiation and chemotherapy, although some cases respond to immunotherapy.

RCC has a male-to-female preponderance of 1.6:1. This condition occurs most commonly in the fourth to sixth decades of life. Why the cells become cancerous is not known, however, a history of smoking greatly increases the risk for

developing renal cell carcinoma. Some people may also have inherited an increased risk to develop renal cell carcinoma, and a family history of kidney cancer increases the risk. Inhalation of a diversity of chemicals may be causal and obesity especially in women is a significant risk factor. Hypertension may be associated with an increased incidence of RCC.

The classic triad is haematuria (blood in the urine), loin pain and an abdominal mass. Although highly suggestive of RCC, the triad is actually a "too late triad"

Another ultrasound picture of L, showing the mass in the left kidney with vascularity (blood flow[yellow colour]) present in the mass.



because by the time patients present with symptoms, their disease is often advanced beyond a curative stage. Apart from that, only 15 % of sufferers presented with this triad. 25%-30% of patients are asymptomatic and their RCC are found on incidental radiologic study.

Signs may include:

- Abnormal urine colour (dark, rusty, or brown) due to blood in the urine (found in 60% of cases)
- Loin pain (found in 40% of cases)
- Abdominal mass (25% of cases)
- Malaise, weight loss or anorexia (30% of cases)
- Polycythemia (5% of cases)
- Anaemia resulting from depression of erythropoietin (5% of cases)
- The presenting symptom may be due to metastatic disease, such as a pathologic fracture of the hip due to a metastasis to the bone
- Enlargement of one testicle known as varicocele (usually the left, due to blockage of the left gonadal vein by tumour invasion of the left renal vein - the right gonadal vein drains directly into the inferior vena cava)
- Pallor or plethora
- Hypertension (high blood pressure) resulting from the secretion of renin by the tumour (30% of cases)
- Elevated calcium levels (Hypercalcemia)
- Paraneoplastic disease
- Approximately 30% of patients with renal carcinoma present with metastatic disease. Organs involved include:
 - Lung (75%)
 - Soft tissues (36%)

- Bone (20%)
- Liver (18%)
- Cutaneous sites (8%)
- Central nervous system (8%)

2 pictures showing renal cell carcinoma



The treatment options for renal cell cancer are surgery, radiation therapy, chemotherapy, hormonal therapy, immunotherapy, or combinations of these. The five year survival rate is around 90-95% for tumours less than 4cm. For larger tumours confined to the kidney without venous invasion, survival is still relatively good at 80-85%. For tumours that extend through the renal capsule and out of the local fascial investments, the survivability reduces to near 60%. If it has metastasized to the lymph nodes, the 5-year survival is around 5 % to 15 %. If it has spread metastatically to other organs, the 5-year survival rate is less than 5 %. For those that have tumour recurrence after surgery, the prognosis is generally poor. Renal cell carcinoma does not generally respond to chemotherapy or radiation. Immunotherapy, which attempts to induce the body to attack the remaining cancer cells, has shown promise. Recent trials are testing newer agents, though the current complete remission rate with these approaches are still low at around 12-20% in most series.

Back to L's case, he doesn't smoke, neither is he obese. He is 47 so is in the range where RCC commonly occurs. Exposure to chemicals will be difficult to determine, however with environmental pollution, I am sure all of us are exposed to various chemicals to a certain extent daily. Apart from the slight increase in his cholesterol level, all other blood test results are normal including his tumour markers test. The normal tumour markers test is understandable since there is no specific tumour marker for detection of RCC. His tumour is still confined to the kidney and he is asymptomatic so I believe we managed to detect the tumour at early stage and his prognosis should be relatively good.



BP Food Testing Services: Eating Safer Food

By Ong Chiang Hock

Food Safety is a scientific discipline which describes the handling, preparation, processing and storage of food in ways to prevent food-borne illnesses. With increasing health awareness, the emphasis is on consuming safer food in our everyday life.

Guidelines, procedures, food safety systems and food safety codes have been implemented worldwide by different international organizations such as WHO (*World Health Organization*), and introduced in different countries by their own regulatory agencies to ensure that food is safe for consumption and to reduce the incidence of food poisoning. In Malaysia, this matter is overseen by our *Food Safety and Quality Division* (previously known as *Food Quality Control Division*), Department of Public Health, Ministry of Health Malaysia via the *Food Act 1983* and *Food Regulations 1985*.

Food testing plays a vital role in ensuring the safety of food. At BP Healthcare, food testing is carried out in accordance with the quality control requirements of HACCP/ISO, GMP (*Good Manufacturing Practice*) & *Halal* certifications. Through food testing, we can determine & ensure that the food does not have the following:

- Excessive bacterial counts
- Excessive preservatives / additives
- Prohibited colouring
- Pathogenic bacterias

- Heavy metals contamination
- Pesticides contamination
- Adulteration with prohibited chemicals
- Adulteration with antibiotics/drug residues
- Non-compliance with specific claims
- Not on par with the specific food standards
- Non-compliance with labelled nutrition facts as per *Food Act & Regulations*.



Different edibles are subjected to different testing:-

For poultry and seafood products, investigations for the following are essential: microbiology, antibiotics (chloramphenicol & nitrofurans metabolites), drug residues (beta-agonists), heavy metals (lead, mercury, & cadmium) and chemicals (formaldehyde, hydrogen peroxide, sulphur dioxide, & phosphate).

Meanwhile, fruits & vegetables require only heavy metals and pesticides testing while processed food (raw materials and end products) require microbiology, heavy metals (lead, mercury, cadmium, arsenic, tin, & antimony), preservatives (benzoic acid, sorbic acid, & sulphur dioxide), artificial colouring, and nutrition facts analysis. Since most food contain preservatives to prevent the food from deteriorating, the amount of these preservatives is controlled via food testing as excessive amounts can be harmful to health.



Other than testing the food itself, food safety also involves microbiological examinations of the food processing environment. Food contact surfaces are tested using swab tests, and bacterial colonization and contamination are controlled via air sampling. Water used for food processing is also analysed for quality control.

Our commitment to you is to ensure our food testing services not only complies with accredited methodologies, but we also implement new testing services from time to time to fulfil testing demands in the food industry. With the recent melamine outbreak, BP Food Testing offers ELISA/HPLC assays for detecting melamine contamination in food.

In 2009, BP is committed to further investing on another two new high-end analytical systems with higher sensitivity and specificity.

GC/MS (Gas Chromatography Mass Spectrometry) for lower detection and quantitative analysis of volatile compounds eg. alcohol, fatty acids, pesticides, etc.

LC-MS/MS (Liquid Chromatography Triple Quadruple Mass Spectrometry) for lower detection and quantitative analysis of non-volatile compounds eg. melamine, drugs, antibiotics, etc.

BP will be investing more than RM1.5M on these two systems.



Melamine Screening

Melamine (Cyanuramide) is a chemical used (combined with formaldehyde) to produce melamine resin, a very durable thermosetting plastic and melamine foam, a polymeric cleaning product.

Recent reports show that melamine may have been added to food products unscrupulously to pass off as protein during food-testing by government agencies.

Melamine was added to the milk in China to form the bulk and to gain greater profits.

The high nitrogen content in Melamine can cause the protein content of the food to appear higher than it actually is.

Ingestion of food which had been adulterated with melamine can lead to kidney stones and renal failure.

As announced by the Ministry of Health Malaysia, the allowable limit for melamine in children's food/infant formula should be < 1 ppm and in any food for adults should be < 2.5 ppm.

There are several methods to test for melamine, eg. ELISA, HPLC, GC-MS, & LC-MS/MS.

In BP, we are able to screen for Melamine in food (milk powder, creamer, cereal products etc.) using ELISA/HPLC method.

For further information, please contact:

BP FOOD TESTING SDN BHD
 5001, 1st Floor, Jalan New Ferry,
 12100 Butterworth, Penang.
 Tel: 04-3333448
 Fax: 04-3239513
 Email: bpft@bphealthcare.com

How BP Logistics Ensures Biohazard Safety And Specimen Handling

BY Reuben Poh

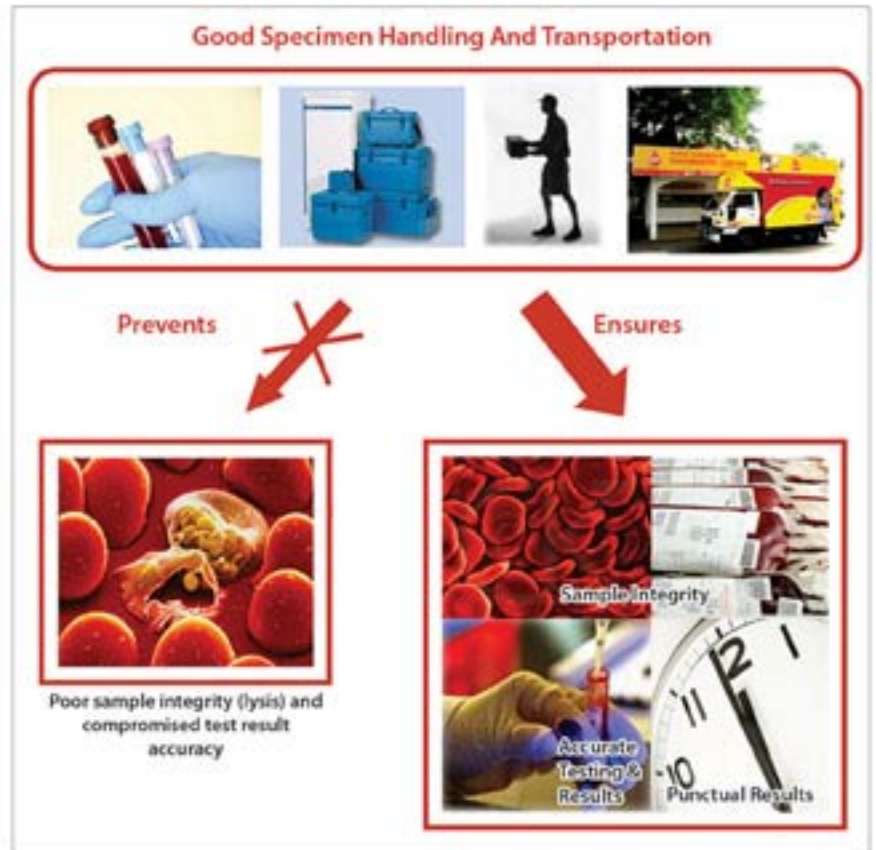
Every specimen's journey from the collection site to its final destination depends on appropriate sample containment, suitable packaging, time-critical delivery and biohazard safety.

BP Logistics is the outsourced service provider to BP Healthcare Group which is both accredited and certified ISO by Standards Malaysia. Hence, the logistic operations are also fully assessed and evaluated by governing bodies to ensure good handling and transportation of specimen.

BP Logistics has invested millions of Ringgit to provide dedicated logistic services to our customers. We are the only laboratory and diagnostic centre chain in Malaysia which provides such dedicated logistic services.

We understand that all specimens need special attention where there are issues of temperature, public safety, integrity and timing. Our professional staff are well-trained to understand these issues and provide specialised service.

All specimens are collected using leak-proof, barcode-labeled containers, and recorded on a barcode-labeled request form stating the



POOR LOGISTICS

Blood samples are extremely sensitive to heat and vibration. Just like goldfishes. **Poor handling does NOT ensure sample integrity.**





Poor logistics that do NOT employ appropriate measures to minimize vibration and heat exposure.

Dead goldfish

Haemolysed sample

GOOD LOGISTICS

Good logistics with BP Logistics:





BP Logistics:

- Well protected vehicle to minimize heat exposure
- Appropriate handling by trained staff
- Employs logistic routes to minimize vibration



particulars of the patient and the tests ordered. The use of barcode technology for patient and sample identification helps to maximize process efficiencies and reduce errors such as clerical or transcription errors.

Specimens collected from clinics or collection centers are kept in specially designed courier bags which provide soft padding to cushion and protect the specimen. The inner wall of the bag is made from special material to ensure the temperature in the bag remains cool.

Our vehicles, which are used to transport large quantities of specimen, are customized to handle all types of medical supplies including temperature-sensitive packages. Our customers can depend on professional handling from the start to the finish for fast pick-up and immediate delivery upon arrival.



Pharmacy Services Extended!

BY Caroline Poh

BP Pharmacy is not just about supplying medicines and dispensing prescriptions. We are all about offering holistic patient care and services where our patient's treatment efficacy and success are optimised. Through bi-directional interaction with our patients, our pharmacists play an important role during our FREE Medicines Check-Up session to pick up patient- and medicine-related factors that impede treatment success, including inappropriateness of drug preparation, adverse drug reactions and compliance issues.

In collaboration with BP Diagnostic Centres, our pharmacists are also proactively involved in increasing public health through health awareness campaigns in conjunction with milestone health events. One such example is the Smoking Cessation Awareness in line with World No Tobacco Day, 31st May 2008.

As an established 24-hour online pharmacy service provider, we are always on the go to give you the most convenient and tailored pharmacy care. In the Klang Valley, we offer a different concept of shopping for your pharmaceutical needs with BP Online Pharmacy. With this service, you can enjoy free personal consultations with our pharmacists online. For more information, please visit www.bphealthcare.com.

To complement our travel health services, pharmacists at BP Healthcare have put their heads together to design a must-have premium product, BP Travel Kit. This traveller's medical kit will

definitely make your holiday a hassle-free and memorable one.





'Pack-Up' Good Health for Your Travel

BY *Lovy Beh*

In the midst of all those travel preparations, do not forget one of the most important aspects of your travel – your health.

BP Healthcare has emerged as your travel health partner through the provision of our comprehensive travel health services to ensure you are in perfect health throughout your entire journey. Let us tailor a travel vaccination program to suit your requirements as different vaccines are required depending on your destination and needs. Our travel health consultations

and advice are free of charge. To ensure good health and a hassle-free vacation, our team of healthcare professionals has also put together the BP Travel Kit to relieve common minor ailments experienced by travellers.

Never miss a moment of your holidays due to travel illnesses!

BP Healthcare – Your First Choice Travel Partner

BP TRAVEL KIT – A MUST FOR TRAVELLING

One of the most worrisome problems facing international travellers currently is how to deal with illness or other health emergencies in a foreign country. Travellers not only have to cope with foreign languages and customs but with different water, food and climate and often, the traveller's own immune system may not be able to withstand the different environment of a foreign land.



Therefore, all global travellers are advised to carry a small selection of over-the-counter (OTC) medicines. However, choosing the type of medicines from the wide range available in the market can pose a problem to the layman, not to mention the hassle of packing all the medication together in a handy kit.

Fear not, BP Pharmacy has now launched a new attractive product, the BP Travel Kit, which is a great travelling aid. These travel kits are now available at all BP diagnostic centres and pharmacies.

The BP travel kit comprises a range of carefully selected medicines packed in a compact bag for optimal organization of medications and includes all the necessary medications to provide symptomatic relief and aid recovery of travel illnesses.

It comes together with a user-friendly manual to guide the customers on the indication and dosage of the medications contained inside the travel kit.

The BP travel kit offers a lot of benefits

- **Value for money**
Compared to overseas medicines.
- **Language barrier is no more a problem**
Travellers can have difficulty explaining their requirements in a foreign language. Similarly, a doctor or a pharmacist overseas might not be able to give sufficient information about medicines that they have supplied or prescribed.
- **Availability of medicines**
In some developing countries or remote areas, a good range of medical supplies might not be available or a specific medicine needed to treat a chronic condition might not be marketed.

- **Quality of medicines**
Counterfeit or poor quality might be supplied in some developing countries. BP Healthcare Group & BP Pharmacy purchases medicines from reputable sources.
 - **Hassle-free/ready packed**
Professionally advised and packed to reduce headache organising travel health
 - **All in ONE**
Medicines are dispensed in blister packs and each medicine comes with individual information (i.e. dosage & indication).
There is a separate compartment for storing your current medicines or toiletries.
 - **Well designed package**
The travel kit bag has well-designed space economy and function by our experienced professionals for travel light purpose.
 - **Free E-consult while you are travelling overseas and locally.**
Travellers have access to direct telephone consultation during Malaysia office hours with our medical doctors or pharmacists.
Otherwise is 24/7 through email consultation.
 - **2 years guarantee**
The contents of the kit (i.e. medicine) are exchangeable as long as you retain your receipt and guarantee card.
The guarantee will last for 2 years from date of purchase of the Travel kit.
- The BP travel kit assures you of a care-free & enjoyable holiday. So, please do not forget an important aspect of your travel health partner- the BP travel kit. Visit our BP diagnostic centres and BP Pharmacy nationwide and let our professional team of healthcare professionals give you some important tips about travelling.

Enjoy your Holiday in Good Health.





Medicines Check-up

BY Ho Nee Lick

Nowadays, most people want more detailed information on medicines and health. Since doctors are too busy at their clinics to provide this necessary information, pharmacists play an important role in providing counselling to patients regarding their prescribed medicines.

Bad medicine?

Prescribed medicines are sometimes not taken correctly, resulting in health problems. Therefore, it is vital to understand our medicines because:

- medicines are effective only when taken correctly
- medicines can cause side effects, ranging from mild to life-threatening conditions
- medicines (including vitamins and traditional remedies) will produce adverse reaction when overdoses are taken

Right medicine

During a course of Medicines Check-up, not only will our BP pharmacists ensure the accuracy of the medicine labels, they will also advise the patient on:

- the importance of compliance, i.e. to take the right amount of medicines at the right time and in the right manner
- the reason for taking the medicines
- the appropriate way to take his/her medicines, i.e. time-intervals between doses
- the possible side-effects or adverse reactions that might be

- experienced, and what to do if such conditions occur
- the correct way to administer a drug, e.g. eye-drops
- food and other drugs to avoid to prevent unwanted interactions with the current medications

Bring along

When you come for a session of Medicines Check-up, always bring all your medications along. By the end of a session, you will understand:

- why you need to take your medicines
- how the medicines help to improve your condition
- how to take the medicines correctly
- when to take the medicines
- what side-effects to look out for
- what other food or drugs to avoid
- how to keep your medicine to maintain its effectiveness



Smoking cessation – Start today

BY Dr Yap Chee Wai

Day 1

On the first session, I tried to establish rapport with my coachee. I obtained her smoking history and this enabled me to understand what made her start taking cigarettes. Her previous attempts to quit, reasons of failure and problems encountered during previous quitting attempts were obtained too. I also evaluated her determination to quit smoking and the degree of nicotine dependence by Fagerstrom's Questionnaires. The harmful effects of smoking was explained to her.

I obtained her medical history and performed an examination on her before the end of the first session. CO level was measured using a picometer. An appointment date was fixed after discussion with the patient, 2 weeks from the first interview, to allow better preparation to quit. She was asked to fill in the smoking diary.

Day 14

I met her 2 weeks later. Her smoking diary was reviewed. She was given a pharmacological agent (in this case, nicotine gum) to help her in quitting. The usage, dosage and possible side effects were explained. She was encouraged to use non-pharmacological methods such as relaxation techniques, sugary snacks, exercise etc. I did meet her family member and explained to them that family support was crucial.

Up Till One Month

For following sessions, I met my coachee 1-2 weeks once. I contacted her through phone off and on to find out her progress and the problems encountered. During each visit, CO level was measured. The dosage of pharmacological was reduced and eventually stopped on the fifth session. She did smoke on a few occasions, especially during the first few weeks after the cigarette quitting programme was initiated. My coachee has totally ceased smoking after 1 month. She was followed up for 3 months and has successfully quit smoking.

TIPS

Once someone has decided to quit:

"Do not doubt your decision" - Life is always better as a non-smoker.

"Believe in your ability to quit" - You are stronger than you think.

"Set a Quit Date" - Start today if possible.





Health @ Work

With the advances made in technology, we expect that workplace accidents and hazards would have been reduced significantly. However, the ever changing work landscape means that newer hazards are introduced even as older ones are regulated. With this in mind, BP Alive found out what constitutes a healthy work environment and how BP helps with the regulation of health standards within an industry.

BY Dr Chew Chee Keong

Firstly, we asked ourselves, "What is Occupational Health?"

We found that it simply means:

The promotion and maintenance of the highest degree of physical, mental and social well being of workers in all occupations, the prevention among workers of departures from health caused by their working conditions, the protection of workers in their employment from risks resulting from factors adverse to health, the placing and maintenance of the workers in an occupational environment adapted to his physiological and psychological equipment.¹

Medical surveillance

With the different risks and hazards posed by individual industries, medical surveillance and screening are the two fundamental strategies for optimising employee health. The components of a Medical Surveillance programme should include:

- Pre-employment and pre-placement medical examination
- Biological monitoring and biological effect monitoring
- Health effects monitoring



¹ ILO/WHO Definition(1950)

- Investigation of occupational disease and poisoning including workplace inspections
- Notification of occupational disease and poisoning
- Assist in disability assessment
- Return to work examination after medical removal protection
- Record keeping and monitoring

Meanwhile, the baseline medical examination at a minimum must include the following components:

- Complete medical and occupational history
- Physical examination and systematic examination with emphasis to the system probably to be effected by the chemical
- Lung function test
- Urine analysis
- Biological monitoring (Blood test)
- Other specific test eg audiometry, chest x-ray

Why medical surveillance was implemented?

While the basis of having medical surveillance does not stop accidents from happening in the workplace, it helps on the following ways:

- To indicate the adequacy of control measures
- To identify individuals at increased risk
- To provide baseline for medical data
- To identify and modify disease trend
- To set benchmark for preventive action

What are the common industries which require such testing?

The OSHA Act 1994 covers all persons working in the following industries:

- 1) Manufacturing
- 2) Mining and quarrying
- 3) Construction
- 4) Agriculture, forestry and fishing
- 5) Utilities – electricity, gas, water, sanitary services
- 6) Transport, storage and communication
- 7) Wholesale and retail trade
- 8) Hotel and restaurants
- 9) Finance, insurance, real estate and business services
- 10) Public services and statutory authorities

The exceptions are:

- 1) Armed forces
- 2) On board ships

BP surveillance activities:

When a company needs to determine the health level of its' employees or even potential employees, BP partners this effort in offering health surveillance measures. These measures include:

- 1) Pre-employment examination
- 2) Pre-placement examination
- 3) Medical Surveillance for Chemical Hazardous to Health (USECHH 2000)
- 4) Lung Function Tests (Spirometry)
- 5) Noise exposure monitoring and audiometry for hearing assessments
- 6) Biological Monitoring (monitoring of blood, urine, nails and/or hair levels of toxic agents and their metabolites)
- 7) Biological Effect Monitoring (trend recording and analysis of body changes through the results of specific changes in the body like Renal Function Test, Liver Functions Tests)
- 8) Questionnaire surveillance (eg. for neurotoxicity)
- 9) General health surveillance of workers – annual blood, urine and body examination
- 10) Health Promotion:
 - Stop Smoking Program
 - Hearing Conservative Program (HCP)
 - Medical Surveillance in accordance to CHRA (Chemical Health Risk Assessment) recommendations
 - Healthy Lifestyle Program (Weight management)
 - Stress Management Program
 - Vaccinations

Through these measures, BP is able to partner any company that is covered within OSHA's list for occupational health.



A Role to Play - Public Health

BY Ho Pool Yee

BP Healthcare Group has a role to play in educating the community on ways to improve health and approach a healthy lifestyle. In conjunction with health milestone events such as World No Tobacco Day, May 31st 2008, our diagnostic centres has reached out to many Malaysian smokers regarding the many health benefits of kicking the habit through our Smoking Cessation Awareness Campaign.

The recent launch of our quarterly bulletin, BP Living, in October 2008 also contributes to the improvement of public

health through highlighting recent or seasonal health issues to BP Healthcare members and acting as a regular update on BP's value-added services. The bulletin rewards our members with vouchers to encourage public effort in keeping check of their own health.

On Oct 17th 2008, BP Healthcare organized its' first public forum in line with our public health efforts. The topic of the discussion was 'How to Keep Maintaining Healthy and Productive Employees.' The forum was a great success and it is hoped that in the near future, we would be able to organize more of such events to create health awareness in Malaysia.

BP's First Public Health Forum – How to Keep Maintaining Healthy and Productive Employees

Event Date: 17 October 2008
Time: 2.00pm – 5.00pm
Venue: Wawasan Open University, Jalan Sultan Ahmad Shah, Penang.

BP Healthcare Group is well-known in Malaysia for providing medical laboratory service since more than 27 years ago. The group realized the importance of wholesome screening to the health of Malaysians, hence doctors', radiologists', and nutritionists' services have been incorporated into our range of services.

With our comprehensive range of services, our impressed customers gave us a Thinker – Why not organize a health forum and share the expertise and experience that BP Healthcare Group has?

Wawasan Open University was the first and only venue we looked at to organize this forum. Located along the Millionaire's Row of Jalan Sultan Ahmad Shah, it was previously home to the late Yeap Chor Ee, founder of a prominent banking family in Penang. Situated next to the seaside, the environment is a fusion of historical landmark and modern learning facility.

The forum was organized by the Northern team of BP healthcare group, which handled all aspects of event planning, including packing goodie bags, manning a booth display and welcoming guests with our ambassadors. More than 60 guests from various factories and the private sector from northern Malaysia turned out, each of them getting a goodie bag with our service pamphlets, BP Magazine, special health screening promo voucher and contribution by our pharmaceutical partners.

The forum started with the first topic – Occupational Health Service by Dr Chew (Lead Occupational Health Doctor) which gave the audience practical ideas on healthcare costs involved if screening is not available to identify a possible health risk. Dr Chew also shared vividly on the second topic, which was the Smoking Cessation Program.



Our nutritionist shared on the third topic of the Weight Management Program by briefly discussing the common myths and facts in weight control. Ms Lovy Beh (Pharmacist) presented her topic of Travel Health and Travel Medicine later, in which the public were welcomed to enquire further on travel advice, vaccination and medication prior to flight for vacations or company meetings.

The last topic was "How to improve and keep healthier and productive employees" by Dr Tan Kia Gin (Chief Medical Officer). Recent statistics of Malaysian health was shared along with what BP Healthcare Group provides for early detection of metabolic diseases and awareness.

The participants actively shared their enquiries with the speakers after that. An audiometry van also held a demonstration in the compound for participants to take a peek at what it was about.

The forum ended around 5.00pm and all left gaining experience from this. With the success of this forum, the group targets to organize more similar events throughout Malaysia.



BP Business Solutions

BY Lisa Ang

BP Business Solution (BPBS) was established in Feb 20, 2004 awarded MSC status by the Government of Malaysia and officially established in May 19, 2004, to provide health practitioners with a streamlined and 'green solution' (paperless filing and archiving system) operating system. The digitized solution is compliant with the Private Healthcare Facilities and Services Act 1998.

With BPBS, doctors and nurses can do away with conventional filing systems, archiving of data (i.e. patient card registration system) and it allows the attachment of scanned images and other documents to patient records. With digitized records, searching patient records will be a breeze, compared to going through stacks of cards and files.

Its consultation module allows the doctor to review medical history and allergy notations of the patients easily, further enabling the doctor to provide a highly personalized consultation session with their patient (i.e., they could enquire about the effectiveness of the previously prescribed drugs or any previously noted physical conditions).

BPBS has an inventory module that enables doctors or nurses to track inventory without all the manual procedures (i.e. manual computation of stock balance). Furthermore, doctors can access BP's website to view a patient's blood test results with a feature in the BPBS system that uploads patients' blood results here at the BP Healthcare Group.

Besides this, doctors can also view patients' results online via the BP Healthcare Group website and make online Pharmaceutical purchases or drugs price checking from BP Pharmacy's website ("Online Pharmacy Inquiry System" [OPIS]). All these hotlinks are available in BPBS.

New features have been added to capture paediatric data (i.e. growth charts, vaccination reminders for children) and with "GO



GREEN" in mind, we have adopted Computed Radiography features where digitized X-Ray and Ultrasound images are saved in PACs and exported as JPEG images to be integrated with BPBS' X-Ray and Ultrasound diagnostic reports. Ultrasound images could be printed on glossy paper (3x2 images) on an A4-sized paper for a more professional presentation and reduces paper consumption.

BPBS is always improving, as we implement suggestions/feedback from our current users, enhancements to comply with new MOH regulations, and new technology available.

MOU Between BP Healthcare Group And International Medical University Group

BY Agnes Poh

BP Healthcare Group (BP) and International Medical University Group (IMU) have taken the initiative and effort to collaborate in order to play a more meaningful role in the local healthcare sector. We were honoured to invite Y.B. Dato' Liow Tiong Lai to witness the signing ceremony of the following two Memoranda of Understanding on 21 July 2008 held at the International Medical University:

- a) BP Healthcare Group Sdn. Bhd. and IMU Education Sdn. Bhd. (for industrial training).
- b) BP Clinical Lab. Sdn. Bhd. and IMU Healthcare Sdn. Bhd. (for pathology services).

It is most appropriate that BP and IMU pool together and share their resources and expertise for the betterment of the healthcare sector of the nation. The signing of the Memoranda of Understanding will fulfil the following objectives:

- a) Support and complement the Government's efforts to upgrade the country's healthcare sector, directly or indirectly;
- b) Develop human capital resources and facilitate medial enterprise avenue;
- c) Help to integrate public, private and academic resources for a more robust knowledge-based economy;
- d) Promote mutual maximized utilization of facilities and expertise for BP and IMU;
- e) Undertake mutually beneficial R&D activities;
- f) Exposure of IMU graduates to the world of business enterprise;
- g) Help BP & IMU to discharge their corporate responsibility for the betterment of the nation.

In conclusion, the signing of the Memorandums embody the spirit of commitment, passion and vision of BP and IMU in wanting to move ahead to play a more significant role in the arena of healthcare in Malaysia. With this spirit forging ahead, we are moving in tandem with the Ministry of Health's goal to provide world class health education and service for the betterment of Malaysians.



BP Charity

BY Agnes Poh

BP Healthcare Group has been passionately supporting charity organisations throughout 2008.

In 2008, BP Healthcare Group organized a Health Screening Community Project where part of the proceeds was donated to Persatuan Daybreak, a charity organization for the disabled. Abbott Laboratories (M) Sdn. Bhd. also participated in the said community project as co-sponsor. Our recent charity-based effort in collaboration with Abbott Laboratories (M) Sdn Bhd held from July to August 2008 was a great success. BP Healthcare Group would like to take this opportunity to extend our warmest appreciation and gratitude to all those involved in making this event possible.

Up to date, BP has donated more than RM250,000 over the last 3 years' Health Screening Community Project with Persatuan Daybreak.



■ Left to right: Mrs Nancy Teoh, Data' Sandra Lee, Mr Steven Yap, Mr Wan Sai Pun, Mr Siu Teck Chuan, Mr Lee Nyrt Kean, Mr David Thambyrajah, Ms Lovy Beh, Ms Sarah Ong, Ms Poh Bee Kuan and Ms Lily Wong.

In addition to its achievement in the polo Hall of Fame, the BP Polo Team also participated in the 'Pony Up to End Prostate Cancer' polo match to raise funds for ZERO, a project to end prostate cancer.

PONY UP TO END PROSTATE CANCER

The first annual Pony Up to End Prostate Cancer polo match will be played from 1-4 pm on the 1st of the Victoria International Polo Club in Ulu Yam. Proceeds raised by this polo tournament support ZERO - The Project to End Prostate Cancer's research and the tournament will be played in honor of Gordon, a polo player who is fighting with prostate cancer. The event is a testament to the commitment to do whatever it takes to beat prostate cancer.

Prostate cancer is the second leading cause of cancer death among men in the United States. There is a 1 in 10 chance of a man being diagnosed with prostate cancer in his lifetime. The high survival rate if the disease is caught early. Show the polo player's way to prostate cancer and help research, prevent, cure & the best possible way to live with it.

A variety of polo tickets and individual tickets are available. For more information about the event, or to purchase individual, VIP and lounge tickets or sponsorship, please visit www.fightprostatecancer.org/polotournament.

zero
The Project to End Prostate Cancer

BP POLO News Update

BY Reuben Poh

POLO AMBASSADORS

1st BDG Transatlantic Challenge Tournament (Charlottesville, Virginia, USA)

The Virginia Polo Centre in Charlottesville, Virginia, hosted a series of exhibition matches on 19 and 20 September 2008 which featured teams from Virginia, Oxford and Cambridge University.

The event was put on by the BDG Virginia Polo Society, founded by UVA polo players, Joevy Beh, Mauricio Diaz and Alexander Goodenough.

Joevy Beh, who was the organizing society chairman of the BDG Transatlantic Challenge Tournament, said "I am really fortunate to have a father that brought me around the world to play at the best polo destinations, including Argentina, England and America."

UVA 1

- 1) Emily Dameron
- 2) Camilo Kohn
- 3) Joevy Beh
- 4) C.B Scherer

OXFORD

- 1) Alex Leuba
- 2) Danner Van Akker
- 3) Chevy Beh

UVA 2

- 1) Jose Lopez
- 2) Siika Mutiuk
- 3) Adam Klopp
- 4) Scott Strother

CAMBRIDGE

- 1) Emily Lunn
- 2) Alexander Mark Hallet
- 3) Samuel Outtridge



Joevy Beh receiving the BDG Transatlantic trophy



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COPA POTRILLOS BANCO GALICIA 2008 (ARGENTINA)

Following in his brothers' footsteps (Chevy and Joevy Beh), Garvy Beh recently became the World Under-15 Polo Champion at Copa Potrillos 2008.

The AAP (Asociacion Argentina de Polo) has raised Garvy's handicap to 2 goals after he won the event.



Garvy Beh receiving the Copa Potrillos Banco Galicia trophy in year 2008



Garvy Beh being interviewed by ESPN in year 2008



Joevy Beh (Elder brother of Garvy) was also a former champion being interviewed in year 2000 by Fox Sports.

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Fish Oil – Omega-3 Anti-inflammatory: WHAT, HOW, WHEN?



Dr. Selvaraj Y Subramaniam

Vice President of Society for Anti-Aging,
Aesthetic & Regenerative Medicine, Malaysia
ACTC, Center for Study of Anti-Aging Medicine
Udayana University, Bali, Indonesia

Overview of Omega-3

Omega-3, derived mainly from tissues of oily or cold-water fish, has been used for the prevention and treatment of various conditions such as Alzheimer's disease, coronary heart disease and stroke, autoimmune disorders, rheumatoid arthritis and systemic inflammation. It is an essential fatty acid (EFA) that cannot be synthesized by the body. The two most important derivatives of Omega-3 polyunsaturated fatty acids (PUFAs) incorporated in all cellular membrane phospholipids of the body are docosahexaenoic acid (DHA) and eicosapentaenoic acid (EPA). DHA supports functions of the brain and nervous system. EPA supports coronary health, stimulates anti-inflammatory pathways and improves cellular integrity.

Figure 1 is a summary potential of the diverse medical benefits of Omega-3.¹ Figure 2 shows the American Heart Association (AHA) recommendations for Omega-3 dietary intake.²

Figure 1: Summary Potential of the Diverse Medical Benefits of Omega-3

Medical Speciality	Potential Reduction in Risk or Impact/comment
Cardiology	All cause mortality, sudden cardiac death, ischemic stroke, triglyceride reduction (especially DHA), blood pressure (BP) & heart rate reduction
Dermatology	Psoriasis, skin cancers
Gastroenterology	Colorectal cancer, Crohns disease & ulcerative colitis
Immunol/Nephrology	Asthma, hepatitis, IgA nephropathy
Neurology	Alzheimer's (especially DHA), dementia
O & G / Pediatrics	Maternal child health (especially DHA), cognitive and visual impact
Oncology	Breast cancer, cachexia, colorectal, endometrial & etc. DHA-paclitaxel combination phase 1/11
Ophthalmology	Macular degeneration, retinitis pigmentosa
Orthopedics	Osteoporosis/fracture, arthritis
Psychiatry	Depression, bipolar disorder, schizophrenia, attention deficit disorder
Rheumatology	Rheumatoid arthritis, osteoarthritis, osteoporosis
Surgery	Improve post-op healing, (caution unwanted blood thinning preoperative)
Urology	Prostate cancer, prostatitis, benign prostatic hyperplasia (BPH)

Summary

Modification of the Omega-6 / Omega-3 ratio can be achieved with higher dietary intake of foods rich in Omega-3. Today, most people still tend to consume more foods rich in Omega-6 with an average ratio of 20:1. There is an urgent need

Figure 2: Summary of AHA Recommendations for Omega-3 Dietary Intake

Patients without documented coronary heart disease (CHD)	Eat a variety of (preferably fatty) fish at least twice a week. Include oils foods rich in alpha-linolenic acid (flaxseed, canola and soybean oils; flaxseed and walnuts).
Patients with documented CHD	Consume about 1 g of EPA+DHA per day, preferably from fatty fish. EPA+DHA in capsule form could be considered in consultation with the physician
Patients who need to lower triglycerides	2 to 4 g of EPA+DHA per day provided as capsules under a physician's care
Patients taking more than 3 g of Omega-3 fatty acids from capsules	Above 3 g should do so only under a physician's care. High intakes could cause excessive bleeding in some people

to modify this ratio to less than 4:1. According to Dr. Subramaniam, dietary intake of fish oil from birth can help in early brain development. However, most oily or cold water fish are deep water fish and the fishes do not produce Omega-3. Omega-3 is derived from tissues of oily fish. Fishermen who venture into deep waters for three to four days tend to use chemical preservatives on their fish catch. Although AHA recommends eating oily fish at least twice a week, the way we prepare our fish is also crucial in determining the contents of EPA/DHA. High temperatures during cooking cause oxidization and damages Omega-3. There are many types and brands of fish oil in the market. To select a superior fish oil supplement, it is important to determine the percentage of EPA/DHA in the fish oil labeled product. A proportion of at least 50% EPA/DHA is required for effective anti-inflammatory and anti-aging effects. For diabetics, a content of >50% EPA/DHA is preferable. Hence, GPs should prescribe a reputable brand or type of fish oil (< 2 g EPA and DHA/day) with antioxidants and minimal contaminants that comes with the right amount of EPA and DHA contents for their patients. Excessive consumption of EPA and DHA can cause bleeding in some people and should be avoided. The dosage consumed should only be increased for patients with documented heart conditions after their on-going usage of medication is lowered.

References:

1. Moyad MA, Urologic Oncology: Seminars and Original Investigations 2005;23:36-48. 2. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=4532>. Accessed December 15th, 2008.

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