

alseha

Issue 05, May-July 2014

Putting a focus on health in Qatar

Sport and health; the perfect combination

Meet the Qatari athlete leaping his way to international glory



Advances that changed the medical world

Which factors influence the food you eat?

Tips for raising healthy children

Plus regular features:

- Local and international health news
- Ask the experts
- Fun health facts
- How to contact HMC



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“When my organ donor passed away,
he saved my life.
I wish I could thank him.”

Abdullah thought he was running out of time and options when he was on the waiting list for an organ donation. He survived when he received the organ he needed from a man who had wished to donate his organs at the end of his life.

By registering as an organ donor while he was alive, not only did he save Abdullah's life, but also brought tremendous happiness and joy to his family.

To give the gift of life, register as an organ donor at Qatar Organ Donation Center (Hiba) at Hamad Medical Corporation.

The gift that lasts a lifetime.



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Welcome to issue five of *Al Seha* magazine!

I'm pleased to bring you another great magazine full of informative health tips, articles and news. At HMC, we're committed to the health and wellbeing of the population of Qatar and in recent years we have expanded our efforts to promote health in the community. *Al Seha* is a prime example of this and since its launch in 2012 the magazine has played a vital role in helping to raise awareness about the importance of healthy lifestyles.

In this issue we meet Mutaz Barshim, Qatar's Olympic bronze medalist, to find out how sport has positively influenced his life, while the tremendous progress made in recent years by HMC's Ambulance Service is highlighted as it continues to provide high-quality emergency care. There's also a wide selection of health promotion articles including the health benefits of sunshine, the signs and symptoms of tuberculosis, and an article challenging readers to ask themselves "Which factors influence the food you eat?". As well as all of this, you can keep up-to-date with the usual round-up of news stories from HMC, Qatar and abroad.

Each issue of *Al Seha* is produced with you, the reader, in mind so please do let us know if there is a specific topic you would like us to feature. You can send your articles suggestions and comments to us at alseha@hmc.org.qa

On behalf of the editorial team I hope you enjoy this latest issue.

Ali Abdulla Al Khater

Executive Director

Corporate Communications



**Tell us what you think
about *Al Seha***

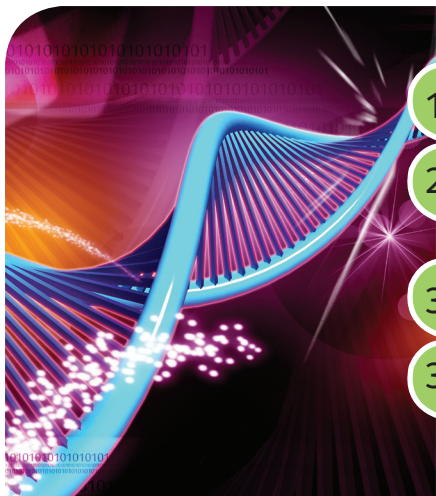
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Disclaimer: While great care is taken to ensure that all articles in *Al Seha* magazine are accurate as at the time of publication, readers should be aware that the content is not intended to be a substitute for informed medical advice or care. Readers should not use information contained in *Al Seha* to diagnose or treat a health issue. Always consult a qualified health professional.



Contents



Cover Stories

12

Advances that changed the medical world

22

Meet the Qatari athlete leaping his way to international glory

30

Which factors influence the food you eat?

36

Tips for raising healthy children



16

Could a lack of sunlight be damaging your health?

26

Home safety in Qatar

28

Tuberculosis - What you need to know



Regular Features

03

HMC roundup

09

Qatar focus

18

International health news

32

Everything you ever wanted to know about olives

34

Ask the experts

38

Fun health facts

40

How to contact HMC

Myths dispelled as part of World Cancer Day

The theme of this year's World Cancer Day, held on 4 February, was 'debunk the myths'. To mark the day, Hamad Medical Corporation (HMC) used the experiences of real patients to highlight some common misconceptions about cancer and help people understand the facts. During February, through newspapers and other media channels, a number of HMC's patients spoke about their personal experiences with cancer, from diagnosis through to treatment and recovery, to help the public understand the facts.

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

The facts: Talking about cancer means better understanding and better social acceptance of the disease, therefore it is necessary.

Myth 2: Cancer...there are no signs or symptoms

The facts: There are signs and symptoms of many cancers and awareness of these can help save lives, as early stage cancer is a lot more treatable.

Myth 3: There is nothing I can do about cancer

The facts: Cancer is indiscriminate so you can never be immune to it, but there are plenty of ways to reduce the risk, for example, by eating healthily, taking regular exercise and avoiding tobacco products.

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

The facts: In Qatar, everyone has the right to cancer care.



HMC honored at the Arab Health Awards

Hamad Medical Corporation's (HMC) achievements were formally recognized at the 2014 Arab Health Awards, held in Dubai on 28 January. HMC's Cancer Transformation Program received top honors in the Patient Centered Care Award while the Emergency Radiology team won the Excellence in Radiology category. In addition, Dr Ibrahim M Fazwy Hassan, Director of Medical Intensive Care at Hamad General Hospital, Deputy Medical Director for the Hamad Ambulance Service and Assistant Professor of Medicine and Genetic Medicine at Weill Cornell Medical College Qatar, took home the Cleveland Clinic Young Clinician of the Year Award.

The Arab Health Awards recognize the outstanding achievements of individuals and organizations that have contributed to the growth and development of the healthcare industry in the Middle East.

Dr Ibrahim M Fawzy commented on the awards: "It is with great pleasure and joy I accept the award of Cleveland Clinic Young Clinician of the Year for the Middle East. I share this honor with the fantastic Medical Intensive Care Unit and the

fabulous Ambulance Service. I am truly blessed to be part of a dedicated patient-focused team. I would like to thank each and every physician, nurse, allied health professional and the wider Hamad Medical Corporation family for their commitment and support."



National Sport Day activities promote healthy lifestyles



Hamad Medical Corporation (HMC) marked National Sport Day with a series of events to highlight the role an active lifestyle plays in helping to prevent health problems, such as high blood pressure, obesity, diabetes, cancer and heart-related illnesses.

Activities on the day included a number of sporting events as well as opportunities for simple health checks, such as measuring people's height and weight, blood glucose levels and blood pressure.

Nursing teams were also on hand to provide health tips on how to maintain healthy blood glucose and blood pressure levels, while nutrition experts from HMC educated attendees on how to prevent weight gain and offered information on healthy eating.

Mr Ali Al Khater, Executive Director of Corporate Communications, said: "HMC is committed to the health and wellbeing of the population of Qatar and places a specific emphasis on staff and their

families. HMC is a strong advocate of people participating in Qatar's National Sport Day and we want to encourage our staff to be active and healthy.

In recent years we have expanded our efforts to promote health in the community. Al Seha magazine, the Kulluna health and safety campaign, and the recently formed Hamad Injury Prevention Program are all wonderful examples of HMC's commitment to improving the health of the nation."



HMC and Qatar Charity raise money for recovery work in the Philippines and Somalia



Hamad Medical Corporation (HMC) has been working with Qatar Charity to raise money for those affected by last year's natural disasters in the Philippines and Somalia.

In November last year, the Philippines was hit by Typhoon Haiyan which caused untold devastation affecting more than nine million people. Somalia was also hit by extreme weather in November following a cyclone which triggered days of heavy rain and flash floods. Whole villages were swept away and hundreds of people were left dead or homeless.

An outreach committee was formed consisting of HMC employee volunteers

to enable fundraising for relief efforts across HMC hospitals and clinics.

"The fundraising was a direct result of the enormous support from HMC staff who were eager to help aid efforts in both countries," said Mr Ali Al Khater, HMC's Executive Director of Corporate Communications. "Many of our staff knew people directly affected by the devastation and did not hesitate to offer assistance where they could."

Generous donations have been received from both staff and patients and will be used to support recovery efforts in both countries.



New program initiated to reduce injuries

As part of its efforts to improve public health and reduce the number of preventable injuries in Qatar, Hamad General Hospital (HGH) recently launched the Hamad Injury Prevention Program (HIPP). HIPP is a community outreach initiative to improve public health and safety. The program is an integral part of the trauma service in Qatar and a net result of the research and stakeholder engagement carried out by the trauma leadership at HGH, looking at the most common and high risk incidents. They then translate the data to provide safety advice and interventions for the public.

Dr. Hassan Ali Saoud Al Thani, Head, Trauma Surgery Section, Surgery Department at HMC said: "We are

extremely proud of our team for implementing this successful program to add to HMC's accomplishments. The Hamad Injury Prevention Program will contribute to reducing injuries and unnecessary deaths from trauma in Qatar."

To date, HIPP has focused its efforts on strengthening its partnerships with internal and external stakeholders.

The program has been able to identify high-risk groups, partner with relevant government and non-government organizations and educate the public through traditional (print, TV and radio) and new media (online magazines). HIPP has collaborated with the Ministry of Labor for construction worker safety, with schools for pedestrian safety education



and with the Ministry of Interior for worker pedestrian safety. During 2013, HIPP organized and participated in local and global efforts related to injury prevention. Notably, for pedestrian safety and victims of road traffic injury, HIPP took part in the second UN Global Road Safety Week and the World Day of Remembrance for Victims of Road Traffic Injury.

New treatment for severe heart attack patients introduced at the Heart Hospital



Earlier this year Hamad Medical Corporation's Heart Hospital (HH) launched a new emergency treatment for severe heart attack patients. The 24/7 Primary Percutaneous Coronary Intervention (PPCI) is an emergency procedure performed by an interventional cardiologist. Performed as soon as possible after a heart attack takes place, it has been shown to be the best possible treatment for severe heart attack patients. The introduction of PPCI by the HH is the first nationwide program in the region and one of the first worldwide.

The program is linked with a trans-satellite telemetry system in HMC's ambulances which provides cardiologists in the HH with real-time 12 lead Electrocardiogram (ECG) and other vital information that indicates whether a

patient would benefit from the PPCI procedure. This means the HH team is able to be prepared at theater for the patient's arrival, saving precious time in these critical cases. PPCI, also known as a coronary angioplasty, is carried out by cardiac catheterization, without the need for surgery. It is used to treat narrowed or blocked arteries of the heart, usually formed due to the buildup of cholesterol.

Dr. A.A Gehani, Chairman of Cardiology at the HH, said: "Time is a very crucial aspect of our work. We often find patients suffer heart attacks in the early hours of the morning and we wanted to make sure we were able to support them with this emergency procedure, if it would be of benefit to them, as soon as possible."

Did you know?

HMC's Blood Donor Center is the main center supplying blood to all governmental and private hospitals in Qatar. Donated blood is vital to many hospital operations and medical procedures. Without sufficient supplies of blood many life-saving operations would not take place and lives would be lost. The Blood Donor Unit is open from 7am till 9pm Sunday to Thursday and on Saturdays.

For more information telephone 4439 1081.

HMC's Ambulance Service

Providing high quality emergency care to the people of Qatar



The Ambulance Service fulfills an essential role for the people of Qatar; a life saving one. Every incident the Ambulance Service is called to offers different challenges in terms of the injuries faced, the number of people affected, the location and the support required.

In the last four years demand for the Ambulance Service has increased by more

than 25 percent. In 2013, the service received more than 130,000 calls, to which 1,454 staff, 167 ambulances, 20 rapid response vehicles and three helicopters were available to respond. To meet this increase in demand the Ambulance Service has transformed the way it operates in order to provide the best possible care to their patients.

Increase in personnel

The Ambulance Service has increased staffing levels to ensure they are there for patients when they are needed. As a result, the service now has 40 percent more staff than in 2009. This includes a 28 percent increase in personnel in the National Command Centre, so the majority of emergency calls are answered within five seconds.

The Ambulance Service looked at the levels of specialist care required to support the increased demand. They implemented a system where clinical staff are either paramedics or critical care paramedics (CCPs), depending on their level of training. There are currently 110 CCPs in the service; a figure which has risen from seven in 2009. The greater numbers of CCPs mean more specialist care can be given to patients at the scene, providing a high level of care even before arriving at a hospital.

Expanded LifeFlight fleet

In September 2013, the Ambulance Service introduced new helicopters to its LifeFlight fleet. The new Augusta Westland 139 helicopters are flown by highly trained pilots from the Qatar Emiri Air Force. LifeFlight is used for the fast transit of patients from emergency scenes to hospitals. Each of the new helicopters can carry two patients at a time and the expansion of this service has enabled LifeFlight to be in operation 24-hours-a-day. All helicopters are equipped with the latest advanced life

support medical equipment and carry two medical crew and two pilots.

New world-class ambulance fleet

Since early 2012, the Ambulance Service has introduced in stages 100 new emergency ambulances. Built to world-class specifications by Mercedes Benz, the new vehicles have narrower bodies to enable faster progress through traffic, enhanced warning systems, improved safety features and a state-of-the-art stretcher system. The new ambulances help crews deliver improved care at the roadside and on the move, and enhance the patient's level of care while on board. The vehicles are fitted with GPS location technology to shorten response times and electronic data transmission ensures fast transfer of clinical information direct to the hospital before arrival.

Dispatch points across Qatar

To ensure the Ambulance Service's crews reach patients as quickly as possible, the service has set up 44 dispatch points across the country in the areas they are

needed most. These dispatch points are supported by six main stations to create a hub and spoke arrangement. The purpose of these dispatch points is to help the service reduce its response time to incidents by redistributing standby stations, so that a greater area of Doha is covered in a minimal time span.

Roll out of automated external chest compression devices

In order to save lives in the event of sudden cardiac arrest, a steady supply of oxygen to the heart and brain is required. In an effort to improve the quality of care, the Ambulance Service introduced LUCAS II Chest Compression devices as standard for all its ambulances. In addition to being the first such roll out in the world, this has allowed for over 95 percent of suitable patients to be provided with automated external chest compression. This has benefited patients by providing a safe and efficient means of performing CPR in accordance with the latest scientific guidelines.



New 4x4s desert operations

Since the start of the 2012/2013 winter camping season, the Ambulance Service has been operating four new Toyota LandCruiser GX vehicles specifically for operational use in the desert. The 4x4s, which are stationed at bases in Sealine and Al Udeid, are primarily used to transport injured patients from sand dunes to the nearest tarmac road, where they are met by one of the Mercedes Sprint ambulances. The rapid responders are all equipped to provide essential emergency care. In cases of serious injury, the 4x4 unit can also prepare a landing site for one of the LifeFlight helicopters.

Lifesaving telemetry system

In May 2013, the Ambulance Service, in conjunction with the Heart Hospital, launched a new telemetry system enabling paramedic crews to transmit vital information for heart attack patients. The system, currently fitted to 60 ambulances in the fleet, allows paramedics to record and transmit the patient's Electrocardiograph (ECG) from

the scene to the clinical team leader in the National Command Centre. The clinical team leader then makes an informed decision as to whether the patient should be transported to the Heart Hospital or to Hamad General Hospital. If the patient is being transferred to the Heart Hospital, the ECG is transmitted from the ambulance to the Heart Hospital for the cardiologist to look at before the patient arrives. This enables staff at the Heart Hospital to be prepared with the appropriate treatment for the patient before his arrival.

Raising public awareness

A campaign to raise awareness of how the public can support the Ambulance Service was launched to great success in January 2013. The campaign, called 'Help us help you', featured school visits, mall stands, billboards, radio adverts and internal promotion to reinforce its messages. The campaign's central message was 'Know the 5 to save a life' and was aimed at providing practical, lifesaving tips for the public.

'Help us help you' campaign's five key messages are:

- Dial 999 immediately
- Know your location
- Answer all questions
- Follow all instructions
- Give way to ambulances



National conference promotes physical activity and health



Aspetar, Doha's world-leading specialized orthopedic and sports medicine hospital, recently held Qatar's 1st National Conference on Physical Activity and Health.

The conference, run as part of Aspetar's Healthy Lifestyle Program, aimed to promote physical activity and create active healthy communities.

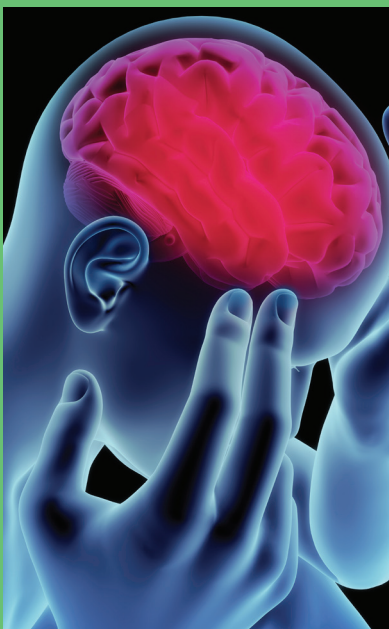
The event brought together experts from around the world to discuss best practices for promoting physical activity in Qatar. Scientific sessions addressed various aspects of physical activity and nutrition, including:

- Physical activity, exercise and health
- Trends in physical activity and sedentary behavior
- Environmental factors and physical activity
- Physical activity in people with chronic disorders

- Community and school based intervention for physical activity promotion
- Nutrition and physical activity

Commenting on the conference, Dr Khalifa Al Kuwari, Director General of Aspetar, said: "Chronic diseases, such as diabetes, hypertension and obesity, are on the rise due to non-healthy diets and a lack of physical activity. By bringing together experts from around the world, this conference served as a national platform to unify efforts to help tackle this growing problem."

Strategy announced to transform the way mental illness is perceived and treated in Qatar



At the end of 2013, His Excellency Abdullah bin Khalid Al Qahtani, the Minister for Public Health, launched Qatar's National Mental Health Strategy. This ambitious five year plan will develop a high quality mental health system and transform the way mental illness is perceived and treated in Qatar. Qatar is investing in mental health care provision and recognizes that changes to service delivery and increasing awareness about mental health can improve the lives of many individuals and families.

The National Mental Health Strategy is a comprehensive response to address the mental health needs of the people of Qatar. Research undertaken in Qatar estimates that one in five people experience a mental illness at any one time, but that less than 25 percent of those who need mental health services

are accessing them. Local studies also found that the level of mental health knowledge is low and that negative perceptions about mental illness cause people to delay or avoid seeking help.

The new strategy guides how Qatar's mental health services will develop in the future and highlights education as a key element in the prevention and treatment of mental illness. Key objectives of the strategy include:

- Helping families and communities to identify mental health issues
- Confronting the stigma associated with mental health issues
- Detailing the correct patient pathways for seeking treatment
- Dealing with preconceptions associated with mental illness

Doha team climbs Mount Kilimanjaro to raise awareness about organ donation



On 25 December, a Doha-based team of climbers reached the summit of Mount Kilimanjaro, the highest mountain in Africa, and raised the flags of Qatar and Qatar's Organ Donation Center. The team embarked on the five-day trek to raise awareness about the importance of organ donation and the work of the donation center.

Qatar's Organ Donation Center was launched in the presence of Her Highness

Sheikha Moza bint Nasser in 2012 and is the home of the Qatar Donor Registry, the first registry of its kind in the Middle East. Recent awareness campaigns have helped grow the donor registry from just 2,000 names in 2012, to currently more than 20,000.

Michael Arbow, a Canadian living in Qatar, was inspired by his daughter's story to climb Mount Kilimanjaro with a team of fellow Canadians including Lori Burns and

Don Bastarache. Arbow's daughter, Elspeth, was born with cystic fibrosis and required a lung transplantation to save her life after her lung function deteriorated. Four years ago, thanks to modern medicine and the sacrifice of an organ donor, Elspeth received a double lung transplant. Today at age 17 she is a college student and is actively enjoying her first year at Canada's University of Toronto.

Elspeth's story inspired her father, and a team of fellow Canadians, to climb Mount Kilimanjaro; the rooftop of Africa.

"For me and my team, this was a way of thanking all organ donors, raising awareness of the Organ Donation Center's work and thanking the people of Qatar for the opportunities they have given me," Mr. Arbow said.

You can read more about the team's journey on their Facebook page <https://www.facebook.com/Breatless4breath>

Qatar researchers discover new diabetes test



Researchers from Weill Cornell Medical College in Qatar and Hamad Medical Corporation have discovered a screening test which could offer a quick and easy diagnosis for people with diabetes.

The new test is non-invasive and involves taking a swab of an individual's saliva. Currently, diabetes diagnoses are done by taking blood or urine samples, but these have to be carried out by a nurse or doctor and are not suitable to public screening campaigns. By using a swab to diagnose diabetes, screening programs could easily be carried out in schools, malls and workplaces.

According to the International Diabetes Federation, 50 percent of the world's diabetics are undiagnosed. This is particularly concerning for health

professionals as early diagnosis of diabetes is essential in order to manage the symptoms and reduce the risk of developing complications. Due to a lack of symptoms, or only mild symptoms, in the early stages, many people are unaware that they have diabetes. Diabetes is one of the most pressing health burdens in the Arabian Gulf, having reached epidemic proportions. It is also a leading cause of blindness, nerve damage, kidney failure and lower limb amputation.

The study, which involved more than 350 Arabic and Asian people, is to be published in the Journal of Clinical Endocrinology and Metabolism.

Qatar Cardiovascular Research Center Executive Director honored by Queen Elizabeth II



At the start of the year, Professor Sir Magdi Yacoub, Executive Director of the Qatar Cardiovascular Research Center (QCRC), was awarded the Order of Merit in the New Year's Honor's list announced by Buckingham Palace.

The Order of Merit is restricted to a maximum of 24 living members at any time, and previous recipients have included Nelson Mandela, Florence

Nightingale and Sir Winston Churchill. It is awarded in recognition of the highest level of achievement in the arts, literature, learning and science.

Sir Magdi is the Founder and Director of the Magdi Yacoub Research Network which created the Qatar Cardiovascular Research Center in collaboration with Qatar Foundation and Hamad Medical Corporation. Knighted in 1991 for his

services to medicine and surgery, Sir Magdi's research covers areas including tissue engineering heart valves, stem cells, heart muscle regeneration, inherited diseases and vaccinology amongst others. He also maintains a strong, ongoing interest and commitment to global health in developing countries.

Sir Magdi has an active interest in global healthcare delivery with particular focus on developing programs in Egypt, the Gulf, Mozambique, Ethiopia and Jamaica. He is Founder and President of the Chain of Hope charity, treating children with correctable cardiac conditions from war-torn and developing countries and establishing training and research program in local cardiac units.

QCRC was developed in 2010 to research priority areas of cardiovascular disease for Qatar and the Gulf region. It currently has around 25 full time international scientists working at its facility in Doha, and collaborates closely both with HMC and a number of international partners.

Did you know?

Qatar is faced with critical public health challenges, with over 60 percent of deaths caused by chronic diseases, injuries, and congenital diseases, driven by risk factors that are largely preventable.

www.nhsq.info

Advances that changed the medical world

Modern medicine can do truly amazing things. It's now possible to transplant organs, operate on unborn children and use stem cell therapy to cure diseases. Yet only a relatively short time ago – just a few centuries – that medicine was very basic. Here we look at some of the greatest medical breakthroughs in history.

X-ray



How was it discovered?

It is thought that German physicist Wilhelm Conrad Röntgen discovered x-rays by accident in 1895. Röntgen was experimenting with a cathode ray tube – a device that accelerates and deflects electrons onto a screen to create images – and took an image of his wife's hand. The image, which showed the bones of her hand but no flesh, was the first x-ray as we now know it. Röntgen was awarded the Nobel Prize in 1901 for his discovery.

What does it do?

X-rays allow doctors to see through a person's skin and inside their body. This allows them to accurately diagnose health issues, for example, broken or fractured bones.

What was medicine like before?

Prior to the discovery of x-rays doctors would have much less information on which to base a diagnosis, and subsequently, diagnoses would more likely be incorrect.

Insulin



How was it discovered?

In 1921, scientists Frederick Banting, John Macleod, George Best and Bertram Collip isolated the hormone insulin and purified it so that it could be artificially given to people. It is believed that the following year, 14-year-old Leonard Thomson was the first person to receive insulin artificially to treat a diabetic coma.

What does it do?

Insulin is a hormone that enables the body's cells to absorb glucose (sugar) from the blood. When the body fails to produce, or utilize, insulin it cannot control the levels of sugar in the blood, potentially leading to a diabetic coma.

What was medicine like before?

Today, diabetics can be treated with insulin injections and lead normal lives. Yet prior to the medical use of insulin diabetes was considered a terminal disease as there was no solution to controlling the body's blood sugar levels.

Anesthesia



How was it discovered?

By the mid 1850s, both ether and chloroform were being used regularly as methods of surgical anesthesia. Chloroform, introduced in 1847 by James Simpson, Professor of Obstetrics in Edinburgh, emerged as the more viable form, as it took action faster and was non-flammable.

What does it do?

Anesthetic agents produce a loss of sensation and feeling in the body by suppressing responses from the nervous system to the brain. The loss of feeling can be either local (in only one body part) or general (the entire body, rendering the person unconscious).

What was medicine like before?

Before the introduction of anesthesia medical procedures were often incredibly painful, with many patients dying from post-operative shock. Patients undergoing surgical procedures would be held down, or tied to a table, and would feel each incision and action. The introduction of anesthesia meant surgeons could take more time over their procedures – as patients were not in pain – and access areas deep within the abdomen and chest.

Germ theory



How was it discovered?

In the 1850s an English scientist called John Snow linked an outbreak of cholera to a specific water pump in London. He then analyzed the water and found a source of cholera in the pump. His discovery was dismissed by many people at the time but a few years later French chemist and microbiologist, Louis Pasteur, showed that fermentation and putrefaction are indeed caused by organisms in the air.

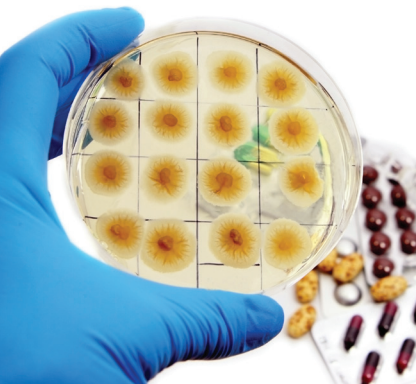
What does it do?

Germ theory is simply the understanding that all contagious diseases are caused by microorganisms. It has provided a scientific basis on which the causes of many diseases can be identified.

What was medicine like before?

Before the identification of germs, very little was known about the causes of diseases. Without knowing the cause of diseases, it was very difficult for doctors to cure, and importantly, prevent them. Subsequently, treatments varied widely and often had no scientific basis to them.

Penicillin



How was it discovered?

In 1928, Alexander Fleming discovered penicillin almost entirely by accident. Fleming noticed that mold inside a petri dish, left out overnight after a previous experiment, was actively repelling the bacteria surrounding it. The mold was the first known form of antibiotic, penicillin.

What does it do?

Penicillin is a form of antibiotic that eliminates infection-causing bacteria. Antibiotics are used widely in the treatment and prevention of many common bacterial infections.

What was medicine like before?

Before the use of penicillin, and other antibiotics, infections that we now consider relatively harmless would frequently lead to death. Additionally, surgical procedures would often cause infection that could not be treated, with death a common outcome.

Smallpox Vaccination



How was it discovered?

In 1796, Dr Edward Jenner carried out a now famous experiment on an eight-year-old boy, James Phipps. Dr Jenner noticed that milkmaids who suffered from the mild cowpox disease never contracted smallpox. He wanted to test his observations, so by inserting pus taken from a cowpox pustule into Phipps' arm, Jenner subsequently proved that having been inoculated with cowpox Phipps was immune to the smallpox disease.

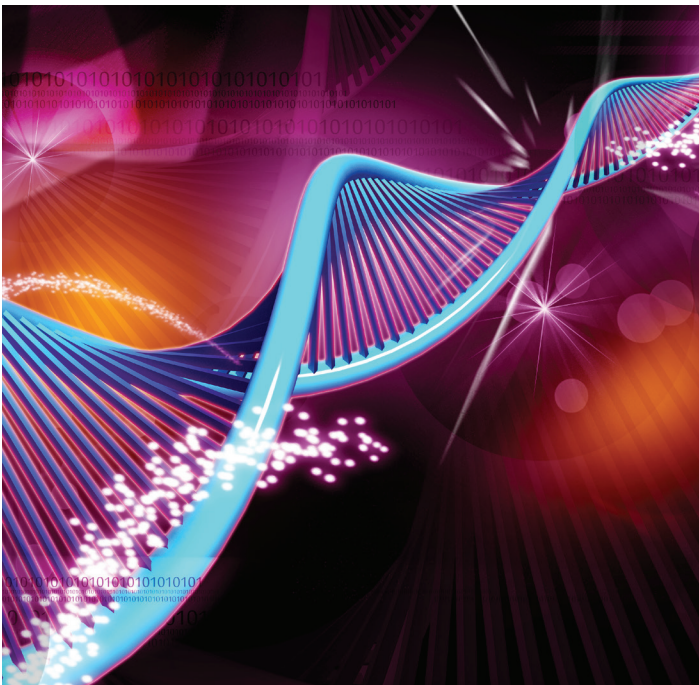
What does it do?

The smallpox vaccine enables the body to develop immunity to the disease. It is made from a type of virus related to smallpox, but does not actually contain the smallpox virus and cannot give the recipient smallpox.

What was medicine like before?

Smallpox killed millions of people, especially children, before the introduction of the vaccine. Around 300 million people are estimated to have died as a result of the disease in the 20th century alone.

DNA



How was it discovered?

In 1868, Swiss physician Friedrich Miescher isolated something that nobody had ever seen before in the nuclei of cells. The substance, which Miescher called nuclein, today makes up the 'NA' element of DNA (deoxyribonucleic acid). Yet it wasn't until the 1950s that much was understood about nuclein. At this time a group of scientists including Francis Crick and James Watson identified the structure of DNA and produced the double-helix model.

What does it do?

DNA, contained in chromosomes in the nuclei of the cells, is the chemical that carries genetic information. It is often referred to as the building blocks of the body. DNA is the hereditary information that is passed down from generation to generation. Everybody's DNA is 99 percent identical; only one percent of a person's DNA is unique.

What was medicine like before?

It's not so much a question of what couldn't be done before DNA, as what can be done since. DNA has given scientists a far more in-depth understanding of the human body and is being used by researchers in an attempt to find new cures for diseases.

Tobacco use kills **5.4 million** people
a year – an average of one person
every six seconds – and accounts for
one in 10 adult deaths worldwide

Tobacco kills
up to half of all users

It is a risk factor
for six of the eight
leading causes of death
in the world

There are **more than 4000**
chemicals in tobacco smoke, of which
at least **250** are known to be **harmful**
and more than **50** are known to
cause cancer

Contact the Smoking Cessation Clinic
at Hamad Medical Corporation
for advice on how to quit smoking

Tel: 4439 2778



مؤسسة حمد الطبية
Hamad Medical Corporation

HEALTH • EDUCATION • RESEARCH

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Could a lack of sunlight be damaging your health?

Exposing your skin to natural sunlight can offer many health benefits, yet people are often wary of the sun's rays due to reports linking sun exposure with skin cancer and premature ageing. While there are undoubtedly risks associated with getting too much sunlight, many health professionals are now concerned that the risks are outweighing the benefits and people are not getting enough sunlight.



Vitamin D and sunlight

Vitamin D is essential for healthy bones and its deficiency can lead to a range of health conditions including osteoarthritis, type 2 diabetes and hypertension. Vitamin D deficiency in children can lead to rickets; a condition that affects bone development and causes the bones to become soft, leading to bone deformities.

The easiest and most effective way to increase your vitamin D level is through exposure to natural sunlight. Cells in the skin react to sunlight in a unique way and stimulate its production.

Vitamin D plays a crucial role in aiding the absorption and utilization of calcium in the body. Without sufficient amounts of vitamin D present in the body, much of the calcium will not be absorbed. Vitamin D can be sourced from certain foods – notably eggs, dairy and oily fish – however it is almost impossible to get sufficient amounts of vitamin D from diet alone.

Osteoporosis risk

A lack of vitamin D, leading to poor calcium absorption, is a major contributor to osteoporosis. Osteoporosis is a common condition that affects bone density, resulting in a loss of bone strength. In its severest form, the bones of osteoporosis sufferers may become so fragile that even the slightest knock or fall can result in a fracture. Although commonly associated with post-menopausal women, osteoporosis can also affect men, younger age groups and children.

Vitamin D deficiency in Qatar

Simply by living in Qatar, a country with a high number of hours of sunlight per year, people should be guaranteed to produce enough vitamin D with very little effort. Yet this is frequently not the case. Studies have repeatedly shown that Arab



“A 2013 study conducted by Hamad Medical Corporation found up to 90 percent of people in Qatar could suffer from some level of vitamin D deficiency.”

women who dress modestly – wearing a veil and abaya – are particularly vulnerable to vitamin D deficiency. A 2013 study conducted by Hamad Medical Corporation found up to 90 percent of people in Qatar could suffer from some level of vitamin D deficiency. The study assessed the vitamin D levels of HMC staff and found nine out of 10 had low levels of this important vitamin.

Religious and cultural traditions dictate that Arab women rarely expose their skin when outside their homes. The key to vitamin D synthesis is through direct sunlight onto the skin, as the sun's rays do not penetrate clothing sufficiently in order to stimulate vitamin D production in the cells. Arab women should be aware of the issues that may limit their Vitamin D pools and make a conscious effort to expose their skin to sunlight in the privacy of their own gardens.

How long should you spend in the sun?

The answer to this requires a balancing act between spending sufficient time in the sun to absorb enough vitamin D and avoiding overexposure which could put you at risk of skin cancer or the effects of premature ageing. There isn't one answer for everyone. It depends on a number of factors, including:

- The time of year, as the sun's rays are more powerful in the summer
- The time of day, as the sun's rays are most powerful between midday and 3pm
- Your skin color, as lighter skin will be at a higher risk of sunburn

As a general rule, just 15 minutes exposure to direct sunlight, three or four times a week, should be enough to boost your vitamin D levels significantly. Professor Alexander Knuth, Medical

Director of the National Center for Cancer Care and Research, notes: “Fair skinned individuals should expose their skin for not more than 15 minutes without sunscreen. But for the darker Arab population this time is calculated as one to two hours due to the melanin content of the skin.”

Vitamin D supplements

You can also boost your vitamin D levels by taking supplements. Supplementation is good for people who cannot get sufficient amounts of sunlight, or are worried about exposing their skin. “Vitamin D is not actually a real vitamin by definition as it is produced by the body itself and normally does not need external supplementation. It is fat soluble and therefore can accumulate if administered in too high doses. Therefore, people should consult with their pharmacist or primary health doctor to ensure the correct daily dose is taken,” explains Professor Knuth.

Children's fitness levels declining, global study finds



A global study of children's fitness levels has found many children cannot run as fast as their parents could when they were young. The findings of the study, presented at the American Heart Association's annual meeting in November 2013, suggest children's fitness levels may be declining.

Researchers from the University of South Australia's School of Health Sciences analyzed data from as far back as 1960, involving more than 25 million children in 28 countries. They found that, on average, children today run a mile 90 seconds slower than children 30 years ago.

The findings support experts' concerns over the health and fitness levels of

today's children. Health issues such as obesity and diabetes are now much more prevalent in children than in previous generations. The study identified obesity as the major reason behind children's declining fitness levels. Dr Grant Tomkinson, Lead researcher at the University of South Australia's School of Health Sciences, said: "About 30 to 60 percent of the declines in running performance can be explained by increases in fat mass."

"If a young person is generally unfit now, then they are more likely to develop conditions like heart disease later in life," explained Dr Tomkinson.

UK supermarket bans children from buying high-caffeine energy drinks

At the end of 2013, Morrisons became the first supermarket chain in United Kingdom to restrict sales of high-caffeine energy drinks to children less than 16 years of age.

The move follows guidance given by the British Soft Drinks Association's code of practice and the government's Food Standards Agency; both of which advise that children should only consume small amounts of caffeine. More specifically, they recommend that products containing more than 150mg of caffeine per liter must carry the warning: "Not suitable for children, pregnant women and persons sensitive to caffeine." To put this into context, Red Bull, the UK's biggest selling energy drink, contains 320mg per liter.

Guy Mason, head of corporate affairs at Morrisons, said: "We decided to take a

leadership position by running a limited trial across the UK as we have become increasingly aware of the concerns of politicians, teachers and parents about the potential impact of high-caffeine energy drinks on young people.

The ban, currently implemented on a trial basis in selected stores, comes amid growing concern about the impact of these type of drinks on children's health.



Ireland sets out plans to be 'smoke free'



In a new tobacco policy launched at the end of 2013, Ireland's Health Minister, Dr James Reilly, says he wants Ireland to be tobacco free by 2025. The policy document, Tobacco Free Ireland, outlines plans to introduce a ban on smoking in

cars with children, in addition to an annual increase on tobacco excise duty over the next five years.

Dr Reilly acknowledges that making Ireland smoke free is an extraordinary challenge, but he believes that is the goal the country should be working towards. "And do it we must, because for every two young people who become addicted to tobacco, one of them will die as a consequence. Around 5,200 Irish people die each year from diseases caused by smoking. These are all preventable, avoidable deaths," he explained.

A large focus of the tobacco policy is aimed at preventing young people from taking up smoking. Dr Reilly noted that if no new smokers were recruited by cigarette companies, the companies would disappear within a generation. "For the industry to simply maintain the size of its customer base in Ireland, it is estimated that 50 Irish children have to start smoking every single day. We know

that half of them will ultimately die from their addiction," he pointed out.

Ireland has been one of the world's most proactive countries in terms of its efforts to reduce the number of smokers. In 2004, smoking was banned from cafes, restaurants and other public indoor spaces and more recently, many public playgrounds have become smoke free.

Tobacco Free Ireland's plans include:

- Annual excise duty increases on tobacco products should be applied over a continuous five year period
- Develop and introduce legislation prohibiting smoking in cars where children are present
- Promote tobacco free campuses for all schools, healthcare, governmental and sporting facilities
- Ban all self-service tobacco vending machines
- Develop legislation for the introduction of standardized (plain) packaging for tobacco products

It's never too late to start exercising

People over 60 years-of-age who take up regular exercise can lower their risk of major ill health and dementia, a study published in the British Journal of Sports Medicine suggests.

Researchers from University College London recorded the exercise habits of 3,500 healthy people at or around retirement age. They found that those who began a regular exercise routine were three to four times more likely to remain healthy over the next eight years than those who remained inactive. More specifically, the study found that exercise reduced the risk of heart disease, stroke, diabetes, Alzheimer's and depression.

Aside from the health benefits, study participants reported finding day-to-day tasks much easier, including house work, shopping and dressing.

Exercising regularly throughout your entire lifetime is the perfect scenario. However, as this study shows, it is never too late to begin. Lead investigator Dr Mark Hamer, from University College London, said: "The take-home message really is to keep moving when you are elderly. It's a cliché,

but it's a case of use it or lose it. You do lose the benefits if you don't remain active."

The researchers pointed out that physical activity doesn't have to mean going to the gym or an organized fitness class; walking, gardening and other physical activities can provide health benefits.



Being fat and fit not possible, study suggests



Health experts frequently debate whether a person can be considered fit and healthy if they are overweight. For example, some experts believe that an obese man who exercises four to five times a week can be considered fitter than a man who has a poor diet but is of optimal weight. But a new study, published in the *Annals of Internal Medicine*, contradicts this idea, suggesting the idea of 'healthy obesity' is a myth.

Researchers from the Mount Sinai Hospital, Toronto, examined the findings of more than 1,000 previously published studies, assessing over 60,000 people. They concluded that excess fat still carries significant health risks even when cholesterol, blood pressure and sugar levels are within a healthy range.

Dr Ravi Retnakaran, who led the study, commented: "This really casts doubt on the existence of healthy obesity. This data is suggesting that both patients who are obese who are metabolically unhealthy and patients who are obese who are metabolically healthy are both at increased risk of death from cardiovascular disease, such that benign obesity may indeed be a myth."

According to the British Heart Foundation there is no healthy level of obesity. Even if your blood pressure, cholesterol and blood sugar levels are normal, being obese can still put your heart at risk.

People's eating habits strongly influenced by their peers



A new study published in the *Journal of the Academy of Nutrition and Dietetics* suggests people are easily influenced by the eating habits of their friends and colleagues.

Researchers reviewed 15 existing studies; eight of these looked at how much food people ate while the remaining seven examined how people's peers influenced what was eaten. The results

demonstrated that most people followed the eating habits of their peers to some degree, in terms of both the quantity and type of food consumed. The findings reflect a common human behavioral trait of wanting to fit in with others.

"It appears that in some contexts, conforming to informational eating norms may be a way of reinforcing identity to a social group, which is in line with social identity theory," said Dr Eric Robinson from the University of Liverpool.

The findings suggest that people trying to change the way they eat – for example to lose weight or increase their nutrient intake – should surround themselves with likeminded people to give them the best opportunity to succeed.

Hopes grow for peanut allergy cure

A new treatment for peanut allergy has transformed the lives of children taking part in a large UK clinical trial. 85 children with peanut allergy were given small amounts of peanut protein each day. At first, the daily dosage was equivalent to just one 70th of a peanut, well below the threshold for an allergic response. The dose was gradually increased every two weeks to build up the children's tolerance.

The findings of the study, published in the *Lancet*, suggest 84 percent of allergic children could eat the equivalent of five peanuts a day after six months' treatment.

Researcher Dr Pamela Ewan commented: "This large study is the first of its kind in the world to have had such a positive

outcome, and is an important advance in peanut allergy research."

Peanuts are the most common cause of potentially fatal allergic food reactions. At present, there is no treatment or cure, so people with a peanut allergy must avoid them completely. Despite the initial results of the study being very encouraging, researchers have pointed out that much more investigation is needed before the treatment can be offered more widely. The treatment, trialed at Addenbrooke's Hospital in Cambridge, attempted to condition the children's immune systems to tolerate peanut protein.

Maureen Jenkins, director of clinical services at Allergy UK, said: "The fantastic results of this study exceed expectation. Peanut allergy is a particularly frightening food allergy, causing constant anxiety of a reaction from peanut traces. This is a major step forward in the global quest to manage it.



Love Your Kids?



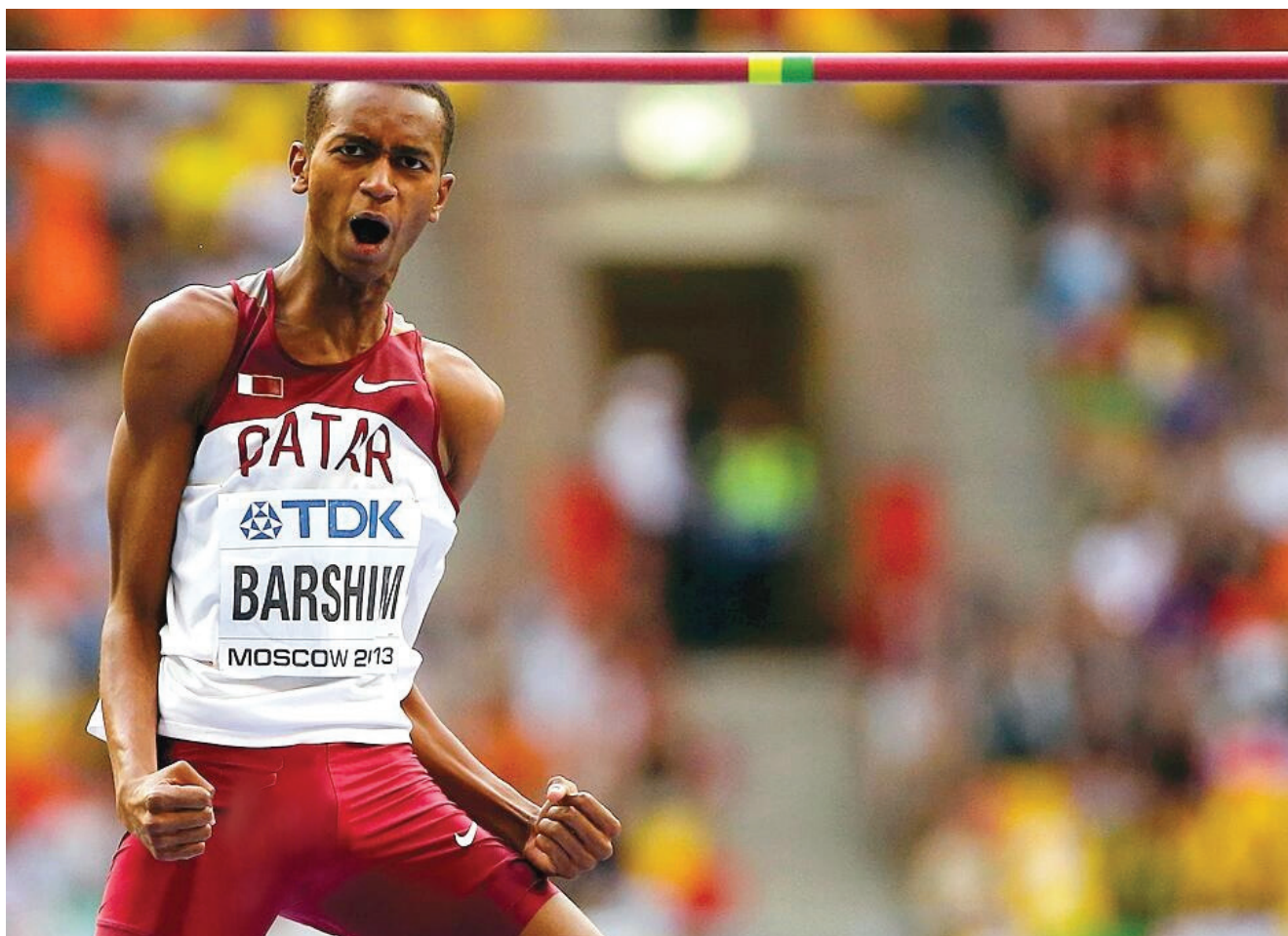
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Meet the Qatari athlete leaping his way to international glory



Al Seha met up with Mutaz Barshim, Qatar's Indoor World Champion and Olympic bronze medal high jumper, as well as Arab Athlete of the Year, to find out how sport has influenced his life.

Can you tell us how you first got involved with sport?

I got introduced to sport at a very young age. My father was part of Qatar's national athletics team, competing in the 20km walk and 10km running events. He'd regularly take me along to his training sessions and competitions, and I'd watch him compete at international events on

television. When I was about nine years old I joined Al Rayyan Sports Club and got into middle and long distance running. But a few years later I switched to the high jump, long jump and triple jump disciplines, eventually focusing on high jump.

I've always found sport to be fun; it's not something that I've ever found difficult to get motivated for. In school I took advantage of the opportunity to try as many different sports as possible, including swimming, football, taekwondo, basketball, volleyball and handball. I loved sport and just wanted to get involved as much as possible.

As a young athlete, did you ever dream of competing at international events and winning medals?

No, not at all! Even when I was about 14 years old, and focusing on the jumping events, I was still just having fun. I think that enjoying sport has to be the first and most important reason to take part. Even as I've got older, and become more successful, having fun is just as important as it used to be. If I didn't get enjoyment from athletics then I think it would be impossible for me to be as committed as I need to.

What was it like competing at the London Olympic Games and representing Qatar?

The entire Olympic experience was amazing; I've never known anything like it before. When I came into the stadium I felt like a Hollywood star, with 90,000 people cheering. There's nothing that can prepare you mentally for that kind of experience. I'd competed in stadiums around the world in front of large crowds, but the Olympic Games was on another level. For any athlete it has to be the pinnacle of their sporting career. In the build up I was injured a month before the Games and couldn't train. It made me nervous about competing and I think it showed in the qualifying session, but once I got into the final I just concentrated on what I needed to do and it all came together in those final jumps.

What advice would you give to young people wanting to get involved in sport in Qatar?

It's important that parents do their bit to encourage their children to get involved in sport and introduce them, just as my parents did, to as many different sports as possible at a young age. Additionally, parents need to remember that they are role models to their children and for this reason they should try to set a good example by getting involved in sport as well. If, from a young age, children see sport as a normal part of family life then they're far more likely to get involved.

From a health point of view, sport is such a positive influence. It doesn't take much motivation to exercise and keep fit when you find a sport that you enjoy, especially if you can do it with a group of friends. Sport and good health go hand-in-hand so it's important that children get involved with sport from an early age, so it naturally becomes part of their daily lives.

How do you think sport has helped you develop as a person?

Sport has given me ambition and a sense of focus. When I was growing up all I wanted to do was play sport, so it kept me on track. At weekends when some of my friends were bored, they'd go out late and do crazy things, but I had a focus and knew which direction I wanted to go. I didn't have lots of free time to go out with friends, I just wanted to do sport and be the best I could. Sport has definitely made me the person I am today and has been a huge influence in my life. I think sport gives people a goal to aim for and teaches them discipline and control. From my own point of view I learnt that in order to succeed as an athlete I had to keep my focus and not be distracted by factors that might prevent me from achieving my goal.





Qatar's leaders place a large focus on sport and have introduced National Sport Day as a way of rising awareness about the benefits of sport – are you encouraged by this emphasis on sport?

Yes, absolutely. I think Qatar has the right attitude when it comes to focusing on sport as a way forward for the country and its people. Qatar is a fantastic place to be for young athletes. There is so much support in terms of coaches, medical care and training facilities that it gives up-and-coming athletes every opportunity they need to be successful. National Sport Day generates an enormous amount of interest in sport and I've noticed a marked increase in the number of people in Qatar getting into sport. There's definitely been a positive change, not only for children, but also in the number of families taking part in sport.

So what's next for you, what are your goals for the future?

In the short term, it's about continuing my development as an athlete; continually striving to improve physically, mentally and technically. Of course I always have one eye on the major international competitions, such as the Athletics World Championships in 2015 and the Olympics in 2016. I've had a taste of medal success at the highest level and it's given me the hunger for more.

Medal success:

- Gold medal at the 2014 Qatar's Indoor World Champions
- Bronze medal at the 2012 Olympic Games
- Silver medal at the 2013 World Championships
- Gold medal at the 2011 Asian Athletics Championships
- Gold medal at the 2010 World Junior Championships

Did you know?

Mutaz Barshim

Born: 24 June, 1991 at Women's Hospital, Doha

Nationality: Qatari

Sporting event: High jump

Personal best high jump: 2.40 meters, a Qatar national record



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gave way,
we got there
faster**

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Home safety in Qatar

People spend more time in their home than anywhere else. For this reason, more accidents happen at home than any other location. In this article, the Hamad Injury Prevention Program at HMC's Trauma Section, Department of Surgery, offers advice on how to reduce your risk of getting injured at home.

Bathroom falls



Dr. Husham Abdelrahman, Director of the Hamad General Hospital Trauma Resuscitation Unit, recently conducted a pioneering study on bathroom falls in Qatar. Some of the key findings include:

- Around 40 patients a year are treated by HMC's Trauma Center for serious injuries as a result of bathroom injuries; more than motorbike or bicycle injuries.
- The most common injuries to younger people, less than 60 years old, were to the head, face and abdomen.
- Hip fracture was the most common injury suffered by victims 60 years of age and above.
- The most common cause of bathroom accidents was slipping on the floor.

- One out of every 18 older victims (above 60 years of age) died as a result of their bathroom injuries.

Take the following steps to prevent bathroom falls:

- Keep your bathroom floor dry and free of objects that can be a tripping hazard, such as toys, weighing scales and wires.
- Use rugs and mats that lie flat and have a non-slip undersurface.
- Fit handrails that are securely attached to the walls, especially for people with reduced mobility, as getting into and out of the shower or bathtub poses a high risk of injury.
- Ensure adequate lighting in the bathroom.

Home fires



- Every year in Qatar there are about 450 home fires reported to Civil Defense.
- The peak months for home fires are May, June and July.
- There are six to seven deaths and 80 to 100 hospital admissions for serious burns every year.
- Almost half of all home fires start in the kitchen.

Take the following steps to prevent injury due to fires:

- **Have a working smoke detector.** The risk of a death or serious injury in a home fire is four times higher in homes without a smoke detector. Detectors frequently save lives by alerting residents to the danger while the fire is still in its early stages. All homes should have a smoke detector in the kitchen and outside each room that people sleep in at night. The

unit must be changed every 10 years, the batteries changed every year and it must be tested monthly.

- **Leave firefighting to the professionals.** Despite the presence of fire extinguishers and hoses, expert advice is to leave the scene of the fire and notify Civil Defense unless you are adequately trained and able to operate firefighting equipment.
- **Devise an escape plan.** It is important to pre-plan and practice escape routes for each room of the house, taking into account potential areas in which the fire could have started. Identify a 'rally point' where the family must gather to take a head count after escaping the fire.
- **Do not re-enter a burning building.** People are often injured when trying to go back into a burning house to save possessions or people trapped inside. It is best to leave this to trained experts and remain a safe distance away from the house after exiting.
- **Exit a burning house with care:**
 - Stay low to the ground as this keeps you out of the densest smoke that can cause asphyxiation. Most deaths occur due to asphyxiation, even before the fire engulfs the victim.

– Before opening a door check the temperature of the room by putting your hand on the door handle or under the door. If either is warm to touch then it is best to explore another escape route as it is likely that a fire is raging inside the room.

- **Extinguish all fires and ashes fully.** Make sure grills, stove ovens, cigarettes and candles are completely extinguished before leaving them unattended. Grilling indoors and smoking in bed can cause fires and asphyxiation. Cigarettes are one of the leading causes of home fires.

Child safety in the home

- In Qatar, up to 60 percent of all serious injuries to children up to nine years of age occur in their own home.
- For infants, up to one year old, the most common causes of injury are falls and burns.
- For toddlers, aged one to four years, the most common causes of injury are falls, falling objects and burns.
- For older children, aged five to nine years, falls, bicycle accidents and falling objects cause the most home injuries.

Take the following steps to prevent your child suffering an accident in the home:

Fall prevention. 50 percent of child injuries in the home are fall related. Give children a clear play area; free of hazards such as wet floors, wires and an excessive number of toys, balls etc. Fit a non-slip rug or carpet that will lessen the impact of falling on a hard floor.

Burns prevention. Where possible, keep your children out of the kitchen, especially when cooking, and keep matches and lighters in a secure cabinet. Always check the temperature of bath water before putting the child in, especially for infants.

Falling object prevention. Children can be injured when flat screen televisions, and other heavy items of furniture, fall



onto them as they are trying to reach or climb onto them. The best preventative measure is to safely secure heavy furniture and televisions to the wall.

Drowning prevention. A child can drown in less than two minutes in as little as five centimeters of water in absolute silence. The number one piece of advice for all families is to ensure children are supervised at all times; whether in the bath tub or swimming pool, or near buckets of water and or other collections of water. 80 percent of children drown when no one is watching them.

Vehicle-related injury prevention. It is not uncommon for a child to be hit by a parents' car while they are reversing out of the garage or driveway, sometimes called a 'back-over'. Most cases in Qatar have involved children aged five to nine years of age and a number have even resulted in fatal injuries to the child. It can be very difficult to see a small child in your car's mirrors, so be sure to know exactly where your children are when reversing and make it a habit to walk around your vehicle before you drive off when young children are around.

Tuberculosis

What you need to know



What is Tuberculosis?

Tuberculosis (TB) is an infectious disease that commonly affects the lungs, caused by the bacteria *Mycobacterium tuberculosis*. TB is contagious and can be passed from one person to another via small droplets released from the lungs into the air by coughing and sneezing. About 30 percent of the world's population is infected with TB, but only a small number of these people will become sick from the disease. TB is one of the leading causes of death in many low-income countries, despite being curable and preventable.

The disease is present in every part of the world and no country has managed to eliminate it completely, yet the total number of people becoming ill due to TB, as well as the TB death rate, has been decreasing since 1990.

Global TB facts from 2012

- 8.4 million people became ill due to TB
- 1.3 million people died from TB, including up to 70,000 children
- About 80 percent of reported TB cases occurred in just 22 countries

“TB is one of the leading causes of death in many low-income countries, despite being curable and preventable”

As part of its Millennium Development Goals, the World Health Organization (WHO) aims to reverse the TB epidemic by 2015. The WHO's Stop TB Strategy focuses on providing greater access to diagnosis, treatment and care for everyone with TB.

Latent TB infection and Active TB

- **Latent TB.** After being exposed to an active TB case, people may become infected with TB but not display any symptoms of the disease, as their immune system controls the bacteria. Their chest radiographs are usually normal. Latent TB is not contagious, but can develop into active TB if left untreated.
- **Active TB.** This condition causes symptoms to develop and can make the person very ill. Active TB can be passed on to other people if left untreated. Symptoms of active TB include:
 - Coughing up blood or mucus
 - Chest pain
 - Fever
 - Night sweats and chills
 - Weight loss
 - Extreme fatigue

Though TB predominantly affects the lungs, other parts of the body – such as kidneys, spine and brain – can also be affected, leading to other localized symptoms.

Risk factors

Anyone coming into contact with a person with active TB is at risk of getting TB themselves. However, there are a number of factors that increase the likelihood of contracting the disease, including:

- **Poor immune function.** A strong, fully functioning immune system is capable of fighting TB bacteria, but when the function of the immune system is compromised, the person is more vulnerable. HIV/AIDS, diabetes, cancer, certain medications and malnutrition can all contribute to a weakened immune system. People with HIV are up to 30 times more likely to

develop active TB than those without HIV. For this reason, the increase of HIV around the world has contributed to TB becoming more prevalent in many developed countries. Unhealthy lifestyle habits, such as smoking tobacco and drug or alcohol abuse, can also inhibit immune function and increase susceptibility to TB.

- **Geographical location.** People living in countries with high TB rates are at greater risk of contracting the disease due to the increased likelihood of coming into contact with someone with active TB. India, China and many parts of Africa all have high TB rates.

Treatment

Medications, specifically antibiotics, are used to treat TB. Due to the strength of the bacteria, antibiotics will normally be prescribed for at least six months but a longer duration is required for TB of the brain and bone. The exact type of drug, as well as the treatment duration, will vary for each individual case.

Antibiotics have been used to treat TB for more than six decades. During this time, drug-resistant strains of TB bacteria have developed that do not respond positively to traditional drug treatments. People with active TB must take a combination of drugs to control the bacteria and prevent resistant strains. The increase of drug-resistant strains has inhibited efforts to eliminate TB and made it more difficult to control.

In countries where TB is prevalent, young children are often vaccinated to prevent

the development of severe TB, such as TB Meningitis and Disseminated TB. The TB vaccination is not given to adults as it does not work effectively in older people.

TB in Qatar

In 2012, there were 511 new TB cases in Qatar. The majority of these TB cases were expatriates who developed TB while in their home country and subsequently moved to Qatar. A national screening program and the implementation of preventative therapy for patients exposed to TB have both contributed to a decrease in TB cases in the Qatari population over recent years, from 48 cases in 2003 to 14 last year.

Dr Abdullatif Al Khal, Head of the Hamad Medical Corporation (HMC) Infectious Diseases Unit and National Tuberculosis Program Manager, explains: "We make sure patients who have TB, or those being given preventive therapy, undergo the directly observed treatment short-course. Patients are monitored closely and need to swallow pills in the presence of nurses to ensure the whole course of treatment is completed. This is an essential part of the national TB control program."

To ensure all TB patients diagnosed in Qatar are able to benefit from access to high-quality and patient-centered treatment, HMC is developing an integrated Infectious Diseases Hospital at Hamad bin Khalifa Medical City, which will include the National TB Program. The new facility, due to open in 2015, will have an Inpatient Unit as well as other facilities needed to treat TB successfully.

“A strong, fully functioning immune system is capable of fighting TB bacteria, but when the function of the immune system is compromised, the person is more vulnerable.”

Which factors influence the food you eat?

It may seem like a strange question to ask, but “Why do you eat? what you eat?” If we did a survey the most common response would probably be “Because I’m hungry.” While hunger is undoubtedly the biggest influence on when people eat, it should not greatly influence what people eat.

For most people living in developed countries there are more food choices than our ancestors would have ever thought possible. Take a walk around any supermarket and you’ll find numerous options of meat, fish, fruit, vegetables and cereals.

Compare this situation to that of pre-historic man. Historians tell us that Stone Age man was a hunter and gatherer and that their main source of food was berries and edible plants, combined with occasional meat that they hunted. Their choices were limited, to say the least. It was a

case of ‘eat what you find’ rather than ‘eat what you want’. The history of mankind goes back thousands of years, yet it was really only during the 20th Century, with the Industrial Revolution, that the availability of food became abundant.

Having a wide selection of food to choose from is a good thing, but when people take the unhealthy option too often it can be detrimental to their health. Many people don’t pay enough attention to whether the food they eat is good for them; their choice simply comes down to a combination of convenience and taste. Yet food is the fuel that drives our bodies and feeds our cells. The human body needs food to provide energy and

nutrients to maintain optimum health. Numerous studies have shown a link between the food people eat and their health, with poor diet directly related to conditions such as heart disease, diabetes and certain types of cancer, while nutritional improvements are directly associated with improved health.

Here are a few of the most common factors that influence food choices:

- **Finance.** Food accounts for a significant part of a family’s monthly budget, so it’s important to choose foods within your budget. People with low incomes have a more limited choice of food than those with higher earnings.
- **Emotion.** People’s mood often determines what, and how much, they eat. This can work in various ways as people react differently due to their emotional state. When depressed, some people tend to seek solace in food and gorge on what’s commonly referred to as comfort food; products high in sugar and fat. Conversely, when depressed, some people may lose their appetite altogether and eat very little.



“Many people don’t pay enough attention to whether the food they eat is good for them; their choice simply comes down to a combination of convenience and taste.”

- **Impact on health.** Food has a major influence on health, in both a positive and negative way. Eating a diet that is low in saturated fat, salt and sugar, with lots of fruit and vegetables, is very important, but often overlooked.
- **Taste.** Logically, people eat food that they like the taste of and avoid food they dislike.
- **Convenience.** Today, fewer people cook at home than a generation ago, choosing instead to opt more frequently for ready meals and takeaway foods. While processed meals can be prepared very quickly, they tend to have higher amounts of salt, sugar and fat than home cooked meals.

When choosing what to eat, all these factors must be considered in order to ensure that the most balanced decision is made. So next time you go shopping, or are planning a meal, take a minute to think about what it is that you require from your food. Yes, you want it to taste good, but how about it being nutritionally beneficial as well?



Everything you ever wanted to know about olives

1. The olive tree, *Olea europaea*, is native to countries in Asia and Africa and along the Mediterranean Sea.
2. Unripe olives are green in color and as they ripen they turn black or dark purple.
3. Olives are a fruit, not vegetables as many people believe.
4. Olive oil contains no cholesterol, salt or carbohydrate.
5. Olives are rich in vitamin E and healthy fats.
6. An olive tree can live up to 600 years.
7. It can take up to 10 years for an olive tree to bear fruit.
8. Globally, people consume approximately 2.25 million tons of olive oil each year.
9. Spain, Italy and Greece are the top olive producing nations in the world.
10. Since 1990, consumption of olive oil in the United States has increased significantly. In the last two decades its consumption has increased from 30 million gallons to nearly 70 million gallons a year.
11. 2,550 olive branches were used at the 2004 Olympics Games when the tradition of crowning Olympians with an olive wreath was reintroduced.

Hear what our expert has to say

"Olives, whether eaten whole or as olive oil, offer exceptional health properties.

Olives contain an abundance of antioxidants, protective disease fighting compounds found in plants. Few other foods with high fat content offer such a wide range of antioxidant nutrients. All these elements combine to reduce excessive inflammation and keep the body healthy. They also work to neutralize the damaging effects of free radicals on the body's cells, which can contribute to disease and ill health.

Despite being high in fat, olive oil is a better choice compared to other oils for your heart. The majority of fat found in



olives is monounsaturated fatty acid and oleic acid, both healthy forms of fat. These elements suppress the production of unhealthy cholesterol which has been shown to play a role in the development of cardiovascular disease. Even though monounsaturated fat is good for your heart, it is still high in calories. So it should be consumed only in moderate amounts if you are concerned about weight gain and excess calorie intake.

Care must be taken when using olive oil for frying. Shallow frying is safe; but with deep frying and intense heating the olive oil is heated beyond its smoke point and starts to break down chemically. This results in the oil losing most of its antioxidants, releasing toxic chemicals in the form of smoke and producing free radicals (atoms that damage healthy cell)."

Prepared by Ms. Aisha Pookunju
Dietitian at Hamad Medical Corporation



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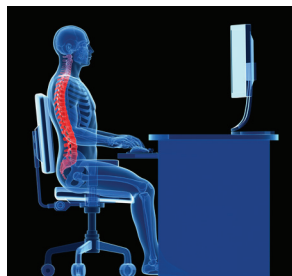
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مؤسسة حمد الطبية
Hamad Medical Corporation

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I experience frequent migraines and have been told that poor posture could be to blame. How can I improve my posture to relieve my migraines?



Headaches are often caused, or triggered, by disorders of the neck or physical and emotional tension. For many people, headaches start as pain or tension at the top of the neck. As the pain worsens, it may spread to the back of the head, the temples, forehead or behind the eyes. Moving the neck or bending

forward for long periods of time tends to make it worse. This happens because the nerves in the upper part of your neck are connected to the nerves in your head and face. The symptoms are generally provoked by neck movements and sustained postures. Physiotherapists, experts in posture and human movement, can competently analyze your headaches and determine if they originate from the neck or soft tissues, and may teach you the preventive strategies or plan a treatment program accordingly. Preventative techniques may include the following areas:

Posture – Think tall. Sit and walk with your chest lifted, shoulders relaxed, chin tucked in and head level. Your neck should feel strong, straight and relaxed.

Work – Avoid working with your head down or to one side for long periods. Frequently stretch and change position. Take mini breaks often.

Sleeping – Awkward sleeping positions will add load and strain to the neck. A down pillow or polyurethane molded pillow is best for most people. Keep your spine and head in line.

Exercise – Routine aerobic practices like walking, jogging and/or swimming are essential. Keep your neck joints and muscles flexible and strong with the correct neck exercises.

Relaxation – Recognize when you are tense. You may be hunching your shoulders or clenching your teeth without realizing it. Practice relaxation techniques.

Start a healthy life now. The sooner you begin, the closer you will be to talking control of your headaches; and of your life!



Ajimsha Sharafudeen
Neurological Physiotherapist, HMC

I always thought grains and cereals were healthy for me, but now I keep reading that carbohydrates contribute to weight gain. Should I be avoiding carbohydrates?



Weight gain can be a result of several clinical and physical factors. Therefore, carbohydrates should not be avoided completely for the purpose of weight reduction. Carbohydrates contribute to the total calorie intake of an individual's diet. The

requirement of this varies from person to person with respect to age, sex, physical activity, ideal body weight and general health. It is important to note that carbohydrates are broken down into two distinct groups:

1. Complex carbohydrates. These include foods such as whole grains and cereals, and should be included in our daily diet. This type of carbohydrate is rich in fiber, helping you to feel full, and contains good levels of vitamins and minerals. By meeting the daily recommended amount you can maintain a healthy balanced meal, with the correct proportion of carbohydrates. This will not lead to weight gain. Complex carbohydrates include:

- Whole grain foods such as oatmeal, whole grain pasta and whole grain breads
- Starchy vegetables such as potatoes, sweet potatoes and pumpkin
- Whole legumes and pulses, including all types of beans and peas

2. Refined carbohydrates and simple sugars. These should be consumed only moderately and monitored as they can contribute to weight gain. This type of carbohydrate is broken down and digested by the body rapidly, leading to excess sugar levels in the blood, which are then converted into fat. Sources of simple carbohydrates include:

- All types of sugars (except artificial sugars)
- White bread
- White pasta
- Breakfast cereals made with white flour
- Soft drinks
- Processed fruit juices
- Sweets
- Honey



In order to avoid weight gain, you should consume mainly complex carbohydrates and limit your intake of refined carbohydrates. However, it is important to note that over consumption of both complex and refined carbohydrates could contribute to weight gain when physical activity is very low.

Aisha Pookunju
Dietitian Supervisor, HMC

My 12-year-old daughter has developed eczema on her arms. Her doctor has prescribed medication to reduce the inflammation, but is the eczema likely to spread to other areas and will she always have eczema?



The term eczema is derived from the Greek language, meaning "to boil out." The name is particularly apt since to ancient medical practitioners it may have appeared that the skin was boiling.

Not all dermatitis (inflammation of the skin) is eczematous (related to eczema); yet nearly all eczematous dermatitis has a similar appearance. Acute lesions are composed of many small fluid-filled structures called vesicles that usually reside on red, swollen skin. When these vesicles break, fluid leaks out, causing characteristic weeping and oozing. When the fluid dries, it produces a thin crust. Eczema is not contagious but may spread with progression of the condition.

One of the most common types of eczema is a condition called atopic dermatitis. Often doctors using the term eczema are referring to atopic dermatitis. Atopy is a very common condition and affects all races and ages, including infants. About one to two percent of adults have the skin rash and it is even more common in children. Most affected individuals have their first episode before

five years of age. Atopic dermatitis spontaneously improves in most individuals after puberty and though eczema may fade in adulthood, people who have eczema tend to have lifelong problems with skin irritation and related problems.

Repeated scratching of the rash can cause toughening of the skin. Small patches of the skin can become thickened and leathery. This condition is called lichen simplex chronicus. Eczema causes skin sores and cracks that are susceptible to infection. These infections are usually very minor, but they do require treatment with antibiotics or they may become very severe.

Treatment for eczema can be managed at home by changing laundry detergents or soaps that may be causing the irritant. Avoid tight-fitting or rough clothing. Avoid scratching the

affected area, applying over-the-counter emollients and anti-inflammatory topical agents. Medical treatment includes prescription anti-inflammatory medications, and steroid creams. Antibiotics may have to be prescribed to clear the affected irritation.



Dr. Emad Sultan
Dermatologist, HMC

I have several silver fillings in my teeth but my dentist told me these can be harmful. Should I have them removed?



Dental amalgam is a silver material used to fill cavities caused by tooth decay. It has been used for more than 150 years in hundreds of millions of patients. Based

on the best available scientific evidence to determine whether the low levels of mercury vapor associated with dental amalgam fillings are a cause for concern, dental amalgam fillings are considered safe for adults and children aged six years and above, as clinical studies found no link between dental amalgam fillings and health problems.

The amount of mercury measured in the bodies of people with dental amalgam fillings is well below levels associated with adverse health effects, even in adults and children over six years of age who have fifteen or more amalgam fillings.

As for the potential effects of dental amalgam fillings on pregnant women and their unborn babies, and on children under the age of six, including breastfed infants, the clinical information is limited about this category. However, the US Food and Drug Administration concludes that the existing data supports that infants are not at risk for adverse health effects from mothers' breast milk. Additionally, the estimated daily dose of mercury vapor in children under age six with dental amalgams is expected to be at, or below, levels that US Centers for Disease Control and Prevention consider safe.

In conclusion, no mainstream dental organizations recommend you replace your amalgam fillings as long as they are in good condition and there is no decay beneath them. Drilling out amalgam will make you lose healthy tooth structure.



However, if you believe you have an allergy or sensitivity to mercury, or any of the other metals in dental amalgam, you should discuss other treatment options with your dentist.

Dr. Ghanim Almannai
A/Chairman, Department of Dentistry, HMC

Tips for raising healthy children

Nobody ever said raising children was easy. In fact, being a parent offers challenges on a daily basis like no other role. Children can be very strong willed yet rarely know what is best for them, so it is up to parents to guide their children and teach them how to live a healthy life. Getting your child off to a healthy start is of great importance as habits formed in childhood, both good and bad, are difficult to lose later in life.



Encourage your child to drink water

Your child's body consists of approximately 60 percent water, yet many children rarely drink water on its own. Sugar-filled juices and soft drinks are frequently the drinks of choice for children, but these can be damaging for their teeth and cause blood sugar levels to soar, sparking hyperactivity. Water should be a child's main source of fluid, with the occasional natural fruit juice.

Be positive and encourage your child

Children have enormous potential and, if given the opportunities and encouragement, can achieve great things. It is important for parents to encourage and support their children with a 'can do' attitude to give them the confidence they need to succeed.

Plan family activities

Children enjoy doing things as a family, so try to get the whole family together for a fun activity at least once a week. This can be anything that gets everyone active, such as a swim at the local pool, a walk along the beach or a bike ride in the park.

Limit television and computer time

It's all too easy for parents to allow their children to watch hours of television or play endlessly on computers. But long periods spent on these devices do little to improve a child's activity level or social development. Set clear rules as to how much television and computer time your children are allowed each day and consider having one or two 'screen free' days each week.

Children don't just eat 'children's food'

Many parents fall into the trap of believing their children will only eat things like pizza, fish fingers, burgers and pasta, but this kind of thinking will limit your child's options. Try to introduce them to as many different foods as possible; they may just surprise you.

Learn to say "no"

Being able to say no to your child can be one of the toughest jobs for parents. Children can be incredibly persistent when they want something, but it is important to remember that parents know best, and saying no is often in the child's best interest.

Out of sight, out of mind

If you fill the cupboards at home with junk food then your children will frequently be faced with temptation. If you must have sweets, crisps or chocolate in the house then keep them out of sight, and reach, of your children. Always try to have a good selection of healthy children's snacks available for when they get hungry in between meal times.

Kick start their day with a healthy breakfast

A healthy breakfast will prepare your child for the day ahead, but choosing a nutritious breakfast can be something of a minefield. Many breakfast cereals contain high levels of sugar and salt, so be careful to choose a healthy option. Wholegrain bread or cereal, fruit, or natural yoghurt are all good choices.

Limit salt intake

Salt is present in many processed foods, including bread, cheese and breakfast cereals, so don't add extra salt to your child's food as they are already likely to be consuming significant amounts.

Check food labels

Children's concentration and behavior can be easily affected by food additives. So, in addition to monitoring the calorie and fat content of foods, be sure to check the full list of ingredients. If you recognize the ingredients – such as flour, water, chicken, salt, olive oil – that's fine, but if the list reads more like a chemistry lesson then it's best to avoid these foods. Remember you want your children to eat real food, not heavily processed products containing large amounts of additives.

Don't smoke; especially around your children

We should all be aware of the damaging health effects of smoking tobacco, including shisha. Children whose parents smoke are more likely to also become smokers as they grow up, while smoking around your children can directly harm their health as they inhale your second-hand smoke. Passive smoking, as it is known, may cause your child to develop respiratory issues and other health conditions.

Get your children involved

Children who help with food shopping, preparation and cooking are usually more willing to try different foods. Give your children the freedom to choose, within reason, what they'd like to eat for dinner or take to school for their packed lunch. Also, by asking them to help cook meals they will be more eager to try the results.

Don't use junk food as a reward or emotional support

Parents frequently use food 'treats', such as ice cream or chocolate, as a reward for good behavior. But while an occasional treat is perfectly acceptable, it is far better to reward your child with a new toy or activity. Additionally, don't reach for the ice cream if your child is upset; instead, try to comfort them with emotional support.

Set a good example

Children look up to their parents as role models. For this reason it is important for parents to set a good example in terms of eating healthy food, exercising regularly and not smoking.



Tobacco smoking is the number one risk factor for cancer, contributing to **22** percent of global cancer deaths and **71** percent of global lung cancer deaths.

There are about **four** to **five** liters of blood in the average human body.

Muscle is made up of approximately **80** percent water.

There are more than **4,000** chemicals in tobacco smoke. Approximately **250** of these chemicals are known to be harmful and more than **50** are known to cause cancer.

The human brain uses **20** percent of the oxygen that enters the bloodstream, yet accounts for only **two** percent of total body mass.

The average human heart beats more than **100,000** times a day or three billion times during a lifetime.

Approximately **five** percent of United Kingdom adults have diabetes. In Qatar the figure is about **16** percent.

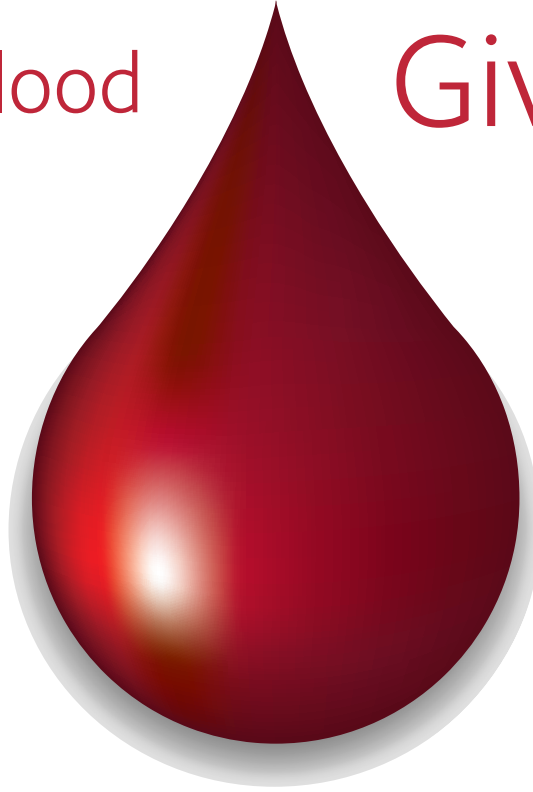
Diabetes is the **number one** cause of blindness in adults in the United Kingdom.

People are about **one** centimeter taller in the morning than in the evening. The reason for this is that cartilage between the bones gets compressed by activity during the day, but expands at night during sleep.

There are around **95,000** miles of blood vessels in the human body. If laid end to end, the blood vessels would reach around the world two times.

Give Blood

Give Life



Hamad Medical Corporation needs more volunteer blood donors.
Give blood and make a difference.

HMC Blood Donor Center:
4439 1081/4439 1082



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How to contact HMC

	المستشفى الكوبي The Cuban Hospital	مستشفى الوكرة Al Wakra Hospital	مستشفى القلب The Heart Hospital	مستشفى الخور Al Khor Hospital
Main telephone number	4015 7777	4011 4000	4439 5838	4474 5555
Outpatient services to make, change or cancel an appointment	4015 7801 4015 7802	4011 4106 4011 4107 4011 4059	4439 5697	4474 5336 4474 5337
Admissions	4015 7888	4011 4035 4011 4036	4439 5676	4474 5275 4474 5274 4474 5276
Patient and Visitor Service Centers for general questions and concerns customerservice@hmc.org.qa		4011 4422	4439 5669 4439 5872 4439 5871	4474 5019 4474 5578
Emergency Departments	4015 7790	4011 4637 4011 4636	4439 5614	4474 5330

