

Strengthen your bones and prevent osteoporosis

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Osteoporosis is a condition of bone characterised by low bone mass and loss of bone tissue that may lead to weak and fragile bone. People suffering from osteoporosis have an increased risk of bone fracture. Statistically fracture occurs in every one in three women and one in five men over the age of 50 years due to osteoporosis.

Every year October 20 is observed as World Osteoporosis Day launching a year-long campaign dedicated to raising global awareness about osteoporosis.

Risk factors for developing osteoporosis
The most important risk factor for osteoporosis is advanced age. Though osteoporosis can affect people of all ages, it is far more common in older people. This is an unmodifiable risk factor. Women are more likely to suffer from osteoporosis. About one in three women over the age of 50 years will break a bone because of osteoporosis. People who are shorter in size and have thinner bones are more likely to develop osteoporosis and those who have a broken bone or height loss due to any cause, are more prone to develop osteoporosis.

Lifestyle factors affecting bone health
Calcium is a mineral that is needed for maintaining healthy bones. Calcium is essential for bone formation and remodeling. In absence of adequate calcium, bone formation is insufficient and bone remodeling is also inadequate. Circulatory vita-



min D deficiency is common among elderly people worldwide. Vitamin D deficiency is associated with increased parathyroid hormone (PTH) production.

Nutrition has an important and complex role in the maintenance of healthy bones, calcium, phosphorus, magnesium and zinc play a role in bone remodeling. Eating a well-balanced diet rich in calcium and vitamin D, magnesium, potassium and Vitamin K can maintain a healthy bone and prevent the development of osteoporosis.

Many diseases and some drugs are associated with the development of osteoporosis. Important ones include hypogonadal state, endocrine disorders like Cushing's

syndrome, hyperparathyroidism, thyrotoxicosis, and drugs include steroids, barbiturates and phenytoin.

How osteoporosis can be prevented
The most important and natural method for the prevention of osteoporosis is to change or modify the lifestyle habits responsible for it.

Since osteoporosis is a degenerative bone disease its first line of attack occurs when people, especially menopausal women and elderly men lose their bone density rapidly. This is countered or prevented by a lifelong focus on load-bearing exercise that stimulates the bone cell to increase the bone density. Weight-bearing

exercise causes the muscle to pull on the bone while creating leaner muscle which in turn may positively affect joint mobility and flexibility. So making denser bones through stress bearing exercises increase the chances of preventing osteoporosis.

Recommended daily dose of calcium varies from 1000-1300 mg. This calcium needs to be taken with Vitamin D as it helps in calcium absorption by the body. Adequate calcium and Vitamin D taken together throughout the day reduces bone loss and positively stimulate bone density. Building strong bones during childhood and adolescence can optimise bone health and help to prevent osteoporosis later in life.

Find out risk factor for osteoporosis, get tested and treated for any such factors. People who are at risk of osteoporosis need to find out their risk factor for osteoporosis. They are required to get tested whether their bones are osteoporotic and if they require any treatment for it.

The best way to test for osteoporosis is dual-energy X-ray absorptiometry scan (DEXA Scan). It can determine the level of bone density.

So, building adequate bone mass in childhood and adolescent period, maintaining healthy lifestyle habits throughout life, weight-bearing exercise and taking adequate nutritious diet may help in preventing osteoporosis.

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DID YOU KNOW?

Father's nicotine use can cause cognitive problems in children

A father's exposure to nicotine may cause cognitive deficits in his children and even grandchildren, according to a study in mice published in the open-access journal PLOS Biology. The effect, which was not caused by direct secondhand exposure, may be due to epigenetic changes in key genes in the father's sperm.

Exposure of mothers to nicotine and other components of cigarette smoke is recognised as a significant risk factor for behavioural disorders, including attention deficit hyperactivity disorder (ADHD) in multiple generations of descendants. Whether the same applies to fathers has been less clear, in part because in human studies it has been difficult to separate genetic factors (such as a genetic predisposition to ADHD) from environmental factors, such as direct exposure to cigarette smoke.

To overcome this difficulty, the researchers exposed male mice to low-dose nicotine in their drinking water during the stage of life in which the mice produce sperm. They then bred these mice with females that had never been exposed to nicotine. While the fathers were behaviourally normal, both sexes of offspring displayed hyperactivity, attention deficit, and cognitive inflexibility. When female (but not male) mice from this generation were bred with nicotine-naive mates, male offspring displayed fewer, but still significant, deficits in cognitive flexibility.

Analysis of spermatozoa from the original nicotine-exposed males indicated that promoter regions of multiple genes had been epigenetically modified, including the dopamine D2 gene, critical for brain development and learning, suggesting that these modifications likely contributed to the cognitive deficits in the descendants.

HEALTH bulletin



Alcohol consumption and the risk for dementia

In a 23-year study, long-term moderate alcohol consumption was associated with lower dementia risk.

Prior studies suggest a J- or U-shaped relation between alcohol consumption and incident dementia, with moderate alcohol consumption associated with lowest dementia risk. However, these studies were methodologically flawed (e.g., assessed late-life, rather than lifetime, alcohol consumption).

In this long-term, prospective, U.K. cohort study, researchers assessed the association between alcohol consumption and risk for dementia among 9,100 middle-aged people (age range, 35-55 at study inception) without dementia. Midlife alcohol consumption was based on the mean of three assessments.

After mean follow-up of 23 years, 397 participants had developed dementia. After adjustment for multiple variables, abstinence at midlife was associated with significantly higher risk for dementia than was alcohol consumption of 1 to 14 units weekly.

However, among participants who consumed >14 units weekly at midlife, each 7-unit increase in consumption was associated with a significant 18% increase in relative risk for dementia.

Improving primary health care, starting with better data

STAR HEALTH REPORT

On the sidelines of the Global Conference on Primary Health Care, countries from around the world joined the Primary Health Care Performance Initiative to launch the Vital Signs Profiles, which provide a snapshot of the strength of primary health care in low- and middle-income countries.

The Vital Signs Profiles offer a more complete picture of the state of primary health care in different countries than ever before, providing insights into where systems are strong and where they can be

improved. The Vital Signs Profile helps answer several key questions on primary health care systems:

Financing: How much money does the country spend on primary health care?

Capacity: Does the country have policies that prioritise primary health care? Does the system have enough drugs, supplies and health care providers?

Performance: Are people able to get the care they need, without financial or geographic barriers standing in the way? Is the care people receive of high quality?

Equity: Does the system reach

the most marginalised people in society?

PHCPI — a partnership between the Bill & Melinda Gates Foundation, World Bank Group, and World Health Organisation, in collaboration with Ariadne Labs and Results for Development — developed the Vital Signs Profiles to help policymakers, donors, advocates and citizens better understand and ultimately improve primary health care.

Governments and donors can use each Vital Signs Profile to identify priority areas for improvement, track and trend progress over time, and ultimately improve primary health care. Advocates and citizens can use the Vital Signs Profile to hold leaders accountable and call for specific financing or policy reforms.

Half the world's population still lacks access to essential health services, the majority of which can be delivered through strong primary health care. Primary care is a person's first and main point of contact with the health system and connects people with trusted health care providers who can meet most of their health needs throughout their lives.

By partnering with PHCPI to develop and launch Vital Signs Profiles, countries are making a public commitment to collect more and better data on primary health care and use it to improve the health of their citizens.



Physical Therapy

An alternative to surgery for some meniscal tears

Physical therapy (PT) seems to be a reasonable alternative to early surgery for adults with non-obstructive meniscal tears, according to a non-inferiority trial in JAMA.

The meniscus is a piece of cartilage that provides a cushion between your femur (thighbone) and tibia (shinbone). There are two menisci in each knee joint. They can be damaged or torn during activities that put pressure on or rotate the knee joint.

Over 300 adults aged 45-70 with knee pain and MRI-confirmed, non-obstructive meniscal tears (including both degenerative and traumatic) were randomised to receive arthroscopic partial meniscectomy or physical therapy. The latter included 16 thirty-minute sessions over 8 weeks.

PT was non-inferior to surgery over 24 months' follow-up, with both groups showing improvements in self-reported knee function. When examined at various time points, however, PT was non-inferior at the 3- and 6-month mark, but not at the 12- and 24-month mark.



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October is National Bullying Prevention Month

Every October, schools and organizations across the country join STOMP Out Bullying™ in observing National Bullying Prevention Month. The goal: encourage communities to work together to stop bullying and cyber bullying by increasing awareness of the prevalence and impact of bullying on all children of all ages.

A MONTH OF ANTI-BULLYING ACTIVITIES!

A MONTH OF ACTION!

Victims of cyber-crimes (including cyber bullying) can lodge a complaint to the Bangladesh Telecommunication Regulatory Commission (BTRC) by calling at +880-29611111 or by emailing at btirc@btrc.gov.bd. BTRC is supposed to take necessary actions within 24 hours and the perpetrators will be brought to justice within 3 days after the complaint is filed. The government has also launched a cyber-crime helpline. Victims can call at +8801766678888 to submit their complaints.



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