



# Diabetic?

## Exercise can help

**D**IABETICS who exercise can trim waist size and body fat, and also control blood glucose even if they do not see cardiorespiratory benefits or improvement in ability to take in oxygen, new research has found.

Researchers found that waist circumference, percentage of body fat and hemoglobin A1c levels, a test of long-term blood sugar, all improved in diabetic participants who exercised compared to those who did not.

And the beneficial effects of exercise were seen whether they participated in aerobics, resistance training, or a combination of the two compared to a control group that did not exercise.

"What we observed is that exercise improves diabetes control regardless of improvement in exercise capacity," said co-senior author of the study Jarett Berry, associate professor at the University of Texas Southwestern Medical Centre in the US.

Following an exercise training program generally

improves fitness. Researchers typically measure fitness by the ability of the respiratory system to exchange carbon dioxide and oxygen. The more you train, the better your ability to take in oxygen.

But a sub-group of exercisers, considered non-responders, are unable to improve their cardiorespiratory fitness levels despite diligent exercise, study first author Ambarish Pandey, cardiology fellow at UT Southwestern, said.

Using data from the Health Benefits of Aerobic and Resistance Training in Individuals With Type 2 Diabetes (HART-D) trial, the study looked at whether non-responders who exercised saw improvements in their diabetes control.

The results appeared in the journal *Diabetes Care*.

"This finding suggests that our definition of 'non-responder' is too narrow. We need to broaden our understanding of what it means to respond to exercise training." (IANS) ●



# OSA affecting menopausal women



By Dr Vivek Nangia

**A** GOOD night's sleep is a key part of our lifestyle. Adequate sleep helps to repair the body cells, boosts the mood, improves memory and maintains a healthy body weight. However, over the years, people may develop sleep disorders like sleep apnea, insomnia, etc which affect the sleep patterns and health of the individual.

Obstructive Sleep Apnea (OSA) is a critical health issue which affects thousands of people every year, but it often goes unnoticed because of the lack of awareness about it. Due to the inherent characteristics of sleep apnea, it is often ignored by people as a casual occurrence of no harm.

Sleep apnea begins with partial blockage of the upper airway, which leads to pauses in breathing while asleep. As the condition aggravates, it takes the form of OSA, in which the pauses in breathing become quite frequent, even amounting to 100 times in a single night. During this time, oxygen flow to vital organs reduces and the heart experiences irregular rhythms.

OSA is a condition which can affect people of all ages – from young children to ageing adults. However, it has a disturbing effect on menopausal women. Menopause marks the end of the reproductive period of a woman and brings about a lot of hormonal, physical and psychological changes in them. The levels of

estrogen and progesterone (hormones which protect the airways from collapsing) released in the body decline during menopause, as a result of which, women become more prone to contracting obstructive sleep apnea in this phase.

Sleep disturbances cause women to wake up more often at night and sleep during the day. As many as 61% post-menopausal women reported symptoms of insomnia. They are usually awake at night and tend to fall sleepy and become lethargic during the day. Apart from the risk of developing congestive heart failure and high blood pressure, such a condition also poses a huge threat to life as there could be accidents when women drive in a sleepy condition. It also reduces the focus and attention span at work and may yield them unproductive.

Not only this, women also experience hot flushes, increased body temperatures and night sweats because of reduced levels of estrogen. Hot flushes may occur for an average of 3 years and may even last up to 5 years. Such prolonged periods of uncomfortable, disturbed sleep affect the health of women and cause tiredness, irritability and mood swings. Other symptoms of OSA in menopausal women include loud snoring, choking in sleep, dry mouth at night, frequent urination at night and grinding of teeth.

Most of the times, women do not know for themselves that they are suffering from OSA. They get

to know about it through the people they live with – spouse, parents, friends, etc. It is, therefore, important to educate everyone about the symptoms of OSA as it can go unnoticed and cause major medical complications later. Additionally, regular checkups with the doctor can help in the diagnosis of the same.

OSA is often regarded as a man's disease but women's risk of having OSA increases after menopause. An international study revealed that 0.6% of women in their pre-menopausal stages suffered from OSA, while the incidence of the same in post-menopausal women (who did not undergo the hormone replacement surgery) was as high as 5.5%.

Various forms of treatment are available for OSA in menopausal women. At a very basic level, losing weight, avoiding alcohol 4-6 hours before going to bed and sleeping on one's sides rather than stomach or back can help in improving the situation. The most common medical treatment includes the use of nasal Continuous Positive Airway Pressure (CPAP), which is a device to prevent the airways from collapsing at night. Hormone Replacement Therapy (HRT) can also be done, wherein estrogen and progesterone are artificially introduced into the body to help reduce OSA.

(The author is Director and Head of Department, Pulmonology Fortis Hospital Vasant Kunj, New Delhi) ●

Dr Pradeep Moonot

**A** NRI lady from the Middle East visited Mumbai for her swelling and pain in the ankle joint. She was investigated for TB, Rheumatoid arthritis, gout etc but was not getting better. She was finally diagnosed with a flat foot because of a torn tendon in her lower leg. She had surgery to reconstruct this tendon. The swelling and pain disappeared and her foot shape came back to normal. If the correct diagnosis would have been earlier surgery could have been avoided.

In many people flat foot have been present since teenage years and it may simply be the way their foot is shaped. This is entirely normal. In these cases both feet are often the same. There are many doctors who may tell you that your arches have "fallen". It is important that any such advice is given to you by a suitably qualified foot and ankle specialist/professional who can tell what is normal from abnormal. Having a longstanding flat foot can be ok.

What causes abnormally Flat Feet?

Tibialis posterior Tendon dysfunction. This is a large ankle tendon that can degenerate causing it to stretch and cease working correctly. The tendon tear may be because of over-use, inflammation or obesity.

Excessive laxity in the joints and this can be related to weight gain.

Tarsal coalition, a childhood condition that is an abnormal fusing of some foot bones

which makes the foot stiffer and quite flat

Foot arthritis, arthritis in the back or middle of the foot is usually painful. It can be caused by an injury or develop with no real

due to pain. They can also get swelling in the inside of the ankle. Sometimes tingling or numbness can develop on the inside or sole of the foot because the nerve along the

Examining the foot for pain and swelling can differentiate a normal and abnormal flat foot. X-Rays can display the overall shape of the flat foot. They can also diagnose arthritis as a feature of the flat foot. An MRI scan is useful to determine whether the tendon is working normally and also if there are any abnormal bony fusions.

Can the problem get worse?

Unfortunately yes it can. If the cause is a simple tendon abnormality causing the foot to flatten then it can be helped with insoles and physiotherapy as the arch can be restored fairly easily. If the foot is left untreated then the foot can become arthritic and the flat foot can be quite stiff and impossible to correct with insoles. It is vital to get assessed as soon as possible as solutions to your problem can change a lot and become more difficult over time.

Treatment

The key is to get assessed by a Foot and Ankle Specialist (Podiatrist). If the foot is flat but flexible then you may be able to have treatment with simple insoles and physiotherapy.

The idea is to support your foot to stop it getting worse but unfortunately the arch would be permanently flat without the insoles. For a more active person this treatment may not be satisfactory. In this case surgery to re-create the arch can be performed, a flat foot correction.

Surgery is sometimes required if the condition is more severe. The procedures that may be considered are The calcaneal osteotomy. Sometimes known as the 'heel shift', a tendon transfer in this a tendon is taken from one of the lesser toes, which is then transferred to run behind the medial malleolus. This does not affect the function of the toes and patients make a full recovery and Fusion. It is recommended in late stages of adult flat foot, the fusion of joints needs to be considered in order to effectively eliminate pain.

Deciding whether surgery is necessary.

If you have an abnormal flat foot it will never be made "a normal shape in a normal shoe" without surgery. You can manage it with special insoles and physiotherapy but it can still get worse. Specially made shoes can be an attractive option, if your lifestyle is less active than others. Surgery is successful in over 80% of patients and worth discussing with your surgeon.

(The author is Orthopedic Surgeon specialising in knee, foot and ankle surgery, Breach Candy Hospital, Mumbai.) ●



## Flat foot, early diagnosis can avoid surgery

explanation.

What are the symptoms?

People may find walking painful especially along the inside border of the foot and ankle. Running can be very difficult

inside of the ankle may be slightly stretched or compressed.

How is the condition diagnosed?

The diagnosis is based on an accurate history or story of symptoms from the patient.

**D**RINKING green tea may help prevent prostate cancer in men with high risk of developing the disease, suggests a research led by an Indian-origin scientist.

The researchers, led by Nagi Kumar from Moffitt Cancer Center in the US, assessed the safety and effectiveness of the active components in green tea to prevent prostate cancer development in men who have premalignant lesions.

The researchers administered decaffeinated green tea capsules called Polyphenon E that contained a mixture of green tea substance called "catechins" twice a day.

Laboratory studies have shown that catechins inhibit cancer cell growth, motility and invasion, and stimulate cancer cell death.

The researchers com-

pared the effects of Polyphenon E in 49 men to placebo tablets in 48 men over a one year treatment period.

The researchers found that people who had taken the green tea capsule had a significant decrease in prostate-specific antigen (PSA) levels.

PSA is a biomarker that in combination with other risk factors is used to screen patients for prostate cancer, and high levels signify a higher risk of prostate cancer.

Green tea catechins also prevent and reduce tumour growth in animal models, the study noted.

Twenty percent of green tea is consumed in Asian countries where prostate cancer death rates are among the lowest in the world, the researchers said.

The study was published in the journal *Cancer Prevention Research*. (IANS) ●

## Green tea may prevent cancer



**L**ONG-term exposure to air pollution may lead to loss of white matter in the brain, a research has found. White matter in the brain is made of axon cells, which enable the nerves to communicate.

In a new study, older women who lived in places with higher air pollution had significantly reduced white matter in the brain.

"Investigating the impact of air pollution on the human brain is a new area of environmental neurosciences," said lead author of the study Jiu-Chuan Chen from Keck School of Medicine, University of Southern California in the US.

"Our study provides the convincing evidence that several parts of the ageing brain, especially the white matter, are an important target of neurotoxic effects induced by long-term exposure to fine particles in the ambient air."

For the study, the researchers took brain scans of 1403 women who were 71 to 89 years old and used residential histories and air monitoring data to estimate their exposure to air pollution in the previous six to seven years.

The results suggest that ambient particulate air pollutants may have a deleterious effect on brain ageing.

The study was published in the journal *Annals of Neurology*. (IANS) ●

## Air pollution may damage brain

