

## Older men maintain muscle more easily than women

A new US study has found that older women have more difficulty than their male counterparts in maintaining muscle mass.

The research by US and British teams suggests that this is the case because it is harder for women to replace muscle that naturally decreases with age. The difference is not evident in younger men and women.

Twenty-nine healthy men and women aged between 65 and 80 took part in the study, which showed that the female participants had a lesser ability to build muscle mass through the use of protein. The researchers from the Washington University School of Medicine in St Louis and The University of Nottingham speculated that this difference in the way that the male and female bodies react to food may be due to women's menopause-related hormone changes, in particular, oestrogen, which is needed to maintain bone mass.

Professor of clinical physiology at the University of Nottingham, Michael Rennie, said, 'Nobody has ever discovered any mechanistic differences between men and women in muscle loss before. This is a significant finding for the maintenance of better health in old age, and reducing demand on health-care systems'.

The researchers said that because of the muscle building challenge experienced by older women, they should consciously eat more protein-rich foods and undertake strength training; 'Rather than eating more, older people should focus on eating a higher proportion of protein in their everyday diet. In conjunction with resistance exercise, this should help to reduce the loss of muscle mass over time. There is also a case for the beneficial hormonal effect of limited HRT (hormone replacement therapy), although this has to be balanced against the other risks associated with such treatment' said Rennie.

After the age of 50, people lose up to 0.4 per cent of their muscle mass annually. The researchers noted that this decline in muscle contributes to the risk of falls, a major cause of early death in older adults, making the need for active strength training and muscle building even more important.

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Source: *Public Library of Science One*

## Human contact maintains fat loss

Recent research from the US has found that individuals who maintain contact with a weight loss professional are more likely to keep more weight off.

The weight loss industry is a huge one, but one which is often unable to provide evidence of longer term success.

Contact with interactive dieting websites was also found to be beneficial, but only for a limited time. After two years of online contact the benefits were found to wane.

Study lead author Dr Laura Svetkey, a professor of medicine at Duke University Medical Center, said, 'Two and a half years after weight loss, the personal contact group had gained less weight. The difference was only 3.3 pounds [between the personal contact group and the interactive technology group], but even small amounts of weight loss can improve health'.

Nearly 1,700 obese or overweight participants took part in the study, all of them also suffering from either high cholesterol, high blood pressure or both. More than a third of participants were male and nearly 40 per cent were black, factors which Svetkey highlighted because blacks and men tend to be underrepresented in weight-loss studies.

In the six-month weight loss program which formed the first phase of the study, dieters met weekly for group-based behavioural intervention treatment. Their goals were a reduced intake of calories, sensible approach to diet and three

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hours of exercise each week with the aim of losing one to two pounds per week. At the end of this phase the average weight loss was nearly 19 pounds (8.6kg).

Phase two of the study saw participants being assigned randomly to one of three 'maintenance' groups – the personal contact group, the interactive technology group, and the self-directed group. Those in the personal contact group were contacted monthly by a counsellor (three times in person and nine times by phone). Those in the interactive technology group were given unlimited access to a custom-made weight-loss Web site and the self-directed group was urged to maintain their weight loss but received no further intervention.

Thirty months later, the group with personal contact had regained some weight, but an average of 8.8 pounds (4kg) less than the self-directed group. The interactive technology group also displayed weight regain, an average 3.3 pounds (1.5kg) more than that regained by the personal contact group.

Evaluating the findings, Svetkey said, 'I think that the tools we used in the weight loss phase and then tried to reinforce in the maintenance phase may have been easier to reinforce in an in-person setting. There's something about human contact that seems to make a big difference'.

Medical director of St John Weight Loss Institute in Michigan, Dr Kelly Machesky commented, 'I believe the crux of [the personal contact group's success] has to do with someone else taking an interest in seeing the outcome. Change is possible. Truly, you can make a difference with simply reducing caloric intake and increasing energy expenditure'.

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Source: *Journal of the American Medical Association*

## **Cholesterol program unveiled to save thousands of lives**

A new national initiative, the National Cholesterol Education Program of Australia (NCEPA), was unveiled in March to educate the Australian population about cholesterol and its effective management through diet and lifestyle, with the aim of reducing thousands of deaths from heart attack and stroke each year.

The NCEPA unites leading health care organisations, the Royal Australian College of General Practitioners, CSIRO Human Nutrition, Australian Atherosclerosis Society and The Dietitians Association of Australia, together with food and personal care company Unilever Australasia in the fight against cholesterol.

Cardiovascular disease is currently the leading cause of death among Australians, causing more than 50,000 or one third of all deaths, each year. Raised blood cholesterol is one of the major contributing factors to cardiovascular disease. One in two Australian adults currently has a cholesterol reading above the recommended level, and many people with high cholesterol remain undetected.

At the launch, new research revealed that a ten per cent lowering of 'bad' LDL-cholesterol could save nearly 3,000 Australian lives each year. The research, conducted by The George Institute for International Health, indicated that even small reductions in cholesterol can substantially reduce heart attacks and strokes. This occurs across a broad range of individuals, irrespective of age, sex or initial cholesterol level.

As cholesterol levels are significantly influenced by diet, consuming the right types of fat, more foods with plant sterols, soy proteins and soluble fibre would deliver significant health benefits to the Australian population. Leading nutritionist and consultant to Unilever Australasia, Bill Shrapnel said, 'Almost all Australian adults would benefit from dietary changes to lower blood cholesterol. It is now relatively easy to lower cholesterol through diet and the study clearly shows what a positive impact this would make, saving nearly 3,000 Australian lives a year'.

Unilever also announced its plan to raise awareness of cholesterol levels across the nation by providing free cholesterol tests at over 300 sites around the country in April and the NCEPA announced the launch of a new cholesterol information website [www.ncepa.com.au](http://www.ncepa.com.au) and a program to raise awareness of cholesterol and its management through diet and

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lifestyle among Health Care Professionals. Associate Professor David Sullivan, president of the Australian Atherosclerosis Society said, 'The rates of heart attack and stroke in Australia have fallen impressively during the past three to four decades. This reflects improvements in both lifestyle and treatment. Unfortunately, this improvement will not continue unless we do more to correct the underlying problems. Diet, including its effect on cholesterol, remains an area in which Australians can make life-saving changes that would prevent thousands of heart attacks and strokes'.

Associate professor Manny Noakes, research dietitian with CSIRO said, 'The impact of making a change to healthy diet and active lifestyle is often underestimated. Making better food choices not only may prevent thousands of deaths in the future but may also improve our health and wellbeing now'.

Executive director of the Dietitians Association of Australia (DAA), Claire Hewat added that 'the Association and its accredited practising dietitian members were committed to raising awareness of the important role diet plays in reducing the risk of disease, including cholesterol management'.

'The DAA is pleased to be involved in NCEPA and we hope that by working with other like-minded organisations we can have a real impact in reducing the cholesterol levels of many Australians' she concluded.

For more information on cholesterol, its impact on health and effective management through diet and lifestyle, visit [www.ncepa.com.au](http://www.ncepa.com.au).

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Source: Pulse Communications

## Meditate your way to wellness

A new US study has shown that the qualities of compassion and kindness may be able to be taught via meditation classes.

Imaging technology has shown that individuals who participate in meditation focusing on kindness and compassion experience changes to areas of the brain that make them more empathetic to others feelings.

Study co-author Antoine Lutz, an associate scientist at the University of Wisconsin-Madison, said 'Potentially one can train oneself to behave in a way which is more benevolent and altruistic'.

However, Dr Louis Teichholz, medical director of complementary medicine and chief of cardiology at Hackensack University Medical Center in New Jersey, accepted the findings with caution, saying, 'I think there's no question that people can benefit from these practices. I think the question is how easy is it to get trained enough so that it will make a clinical difference, and I don't think this study answers that'.

Explaining the nature of the study, Lutz said, 'The main research question was to see whether some positive qualities such as loving-kindness and compassion or, in general, pro-social altruistic behaviour, can be understood as skills and can be trained'.

For the study, 16 Tibetan monks and lay practitioners with at least 10,000 hours of meditation experience each were compared with 16 'novice' control subjects who had only a basic introduction to compassion meditation.

Study participants in the control group were instructed to wish loved ones well-being and freedom from pain and then to wish these benefits to the whole of humankind.

'We looked at whether there were any differences between experts and novices in generating compassion with the idea that a central practice in this tradition [of meditation] is to cultivate these positive emotions. We wanted to see if there were any differences in the way the brain was reacting' said Lutz.

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All of the participants were linked to an MRI (magnetic resonance imaging) during their periods of meditation and non-meditation. In each state, the subjects were played sounds aimed at producing a range of responses, including the sound of a woman in distress (negative), the sound of a baby's laughter (positive), and the sound of restaurant background noise (neutral).

Lutz commented, 'We showed altered activation in brain circuitry that was previously linked to empathy and perspective-taking or the capacity to understand other's intentions and mental states and, more precisely, the insula was more activated, particularly in response to negative emotional sounds'.

The activation of this area of the brain was particularly heightened in the monks when they were subjected to the sounds of the woman in distress.

'The next step is to see if this works. If it works, then it can be applied to selective populations - for instance, depressed people or, more broadly, in education' said Lutz.

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Source: *Public Library of Science One*

### Iyengar yoga may help prevent falls

A new study has shown that specific yoga programs may be able to assist older people in improving their balance and stability.

The area of poor balance and falls risk is a very important one, and one which is gaining prominence in the fitness industry as a whole. The US Centers for Disease Control and Prevention reports that nearly a third of older adults suffer a fall of some type each year.

Twenty-four elderly females who took part in a nine-week Iyengar yoga program designed specifically for senior citizens, were found to have a faster stride, increased flexibility in the legs, improved single-leg stance and more confidence in walking and balance.

The researchers, from Temple University's Gait Study Center, suggested that the risk of falling could be reduced by improving balance and stability with the aid of specific yoga training.

Principal study researcher and director of the Gait Study Center, Dr Jinsup Song, said 'We were very impressed at the progress our participants made by the end of the program. Subjects demonstrated improved muscle strength in lower extremities, which helps with stability. There was also a pronounced difference in how pressure was distributed on the bottom of the foot, which helps to maintain balance'.

Iyengar yoga was selected as the technique to use in the study as it uses helpful props including belts and blocks which can help those with minimal yoga experience to develop their technique with confidence. 'In the past, similar studies have been done that look at gait and balance improvement in elderly females using a more aggressive form of yoga. For this study, we worked to create a very basic regimen that taught participants proper ways to breathe, stand and pose' said Song.

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Source: *HealthDay News*

### Spend your way to happiness

A new Canadian study has shown that spending your money can buy you a feeling of happiness – and not only when you've just bought yourself that new pair of shoes.

In fact, the greater degree of happiness was recorded among those who spent their money on other people.

Elizabeth Dunn, lead study author and assistant professor of psychology at the University of British Columbia in Vancouver, said, 'It's tied to 'pro-social' spending. Most research has looked at the relationship of how much people make and how happy they are. We examined what they did with it. It's an obvious question but it hasn't been tackled'.

In the study, 632 American subjects were asked to rate their happiness, and to report their income and spending habits, including gifts and charitable donations. Those who reported the highest degree of giving also recorded the higher levels of satisfaction.

The second part of the study involved 16 employees rating their happiness both before and after receiving a profit share windfall from their company. Of these employees, those who 'pro-socially' gave away more of their bonuses were also found to be happier.

The third stage of the study involved 46 participants being given set amounts of money (between \$5 and \$20) and randomly assigned to spend it on either something for themselves or something for someone else (including charitable donations). Again, those who spent their money on others recorded higher happiness levels.

Explaining the findings, Dr. Alan Manevitz, a clinical psychiatrist at New York-Presbyterian Hospital/Weill Cornell Medical Center in New York City said, 'Reaching out and doing things for other people allows you to kind of create a community. Social networks, we know, make people happier. It's all about creating social networks and community ties and having a sense of self that you feel is worthwhile so money therefore can be used in service of that'.

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Source: Science

## Green tea

New research carried out at Alexandria University in Egypt has found that green tea can help antibiotics be up to three times more effective at fighting drug-resistant bacteria, including superbugs.

In a country like Egypt where green tea is commonly consumed by a large portion of the population, including those taking antibiotics, the researchers wanted to find out whether green tea would have any effect on the antibiotics and whether this effect would be positive or negative.

Mervat Kaseem, of Alexandria University's pharmacy faculty, said, 'We tested green tea in combination with antibiotics against 28 disease-causing microorganisms belonging to two different classes. In every single case, green tea enhanced the bacteria-killing activity of the antibiotics. For example, the killing effect of chloramphenicol was 99.99 percent better when taken with green tea than when taken on its own in some circumstances'.

It was also discovered that green tea made 20 per cent of drug-resistant bacteria susceptible to cephalosporin antibiotics, to which new drug-resistant strains of bacteria have evolved resistance. In most cases, and for all types of antibiotics tested, it was found that consuming green tea in tandem with taking antibiotics appeared to increase the action of the antibiotics and reduce drug resistance in bacteria. In some instances even low concentrations of green tea were effective.

Kaseem concluded, 'Our results show that we should consider more seriously the natural products we consume in our everyday life. In the future, we will be looking at other natural herb products such as majoram and thyme to see whether they also contain active compounds which can help in the battle against drug resistant bacteria'.

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Source: Society for General Microbiology