participants were seated for 164 minutes/day longer than lean participants, and lean participants were upright for 152 minutes/day more than obese participants. Sleep times were very similar between the groups. Total NEAT (of which 89% was ambulation) was negatively correlated with fat mass.

'Notably, if the obese subjects had the same posture allocation as lean subjects, they would have expended an additional 352 ± 65...calories (kcal) per day.' To put that in perspective, about a 4 km walk instead of driving would expend an extra 150 kcal per day. Alternatively, if the obese participants adopted their fellow lean participants posture habits, they could lose about 15 kg a year.

The researchers also studied if the differences in posture allocation might be cause or effect of obesity. They underfied 7 of the original obese participants (average weight loss over 8 weeks was 8 kg), and overfied 9 of the lean participants (average weight gain 4 kg over 8 weeks). However both groups maintained their original posture allocation, suggesting that 'interindividual differences in posture allocation are biologically determined.'

It was suggested that perhaps humoral mediators might drive the sedentary behaviour of the overweight, with the 'intriguing possibility that body fat releases a factor that slows physical activity in the obese.' The study's results do not necessarily mean however that biologically disposed people are destined to become fat. The researchers speculated that 'obese and lean individuals respond differently to environmental clues that promote sedentary behaviour.'

The researchers emphasised that this was a pilot study, and required confirmation in a larger study. Nevertheless they concluded that 'approaches that succeed in getting people out of their chairs and moving could have substantial impact on the obesity epidemic.'

In his commentary on the Levin et al study, Eric Ravussin notes that it is still not clear what has caused the current rise in obesity, is it increased food or reduced activity? British data indicates that notwithstanding modern diets, average energy intake actually declined during the 1980s, suggesting that a modern inactive lifestyle is at least equally important in weight gain.

The 'energy gap' required to account for the current increase in obesity is only 100 to 200 kcal/day. 'Therefore the differences in NEAT observed between obese and lean individuals is significant and implies that obesity might be prevented through simply limiting sedentary activities, or increasing behaviours such as standing, walking and fidgeting.'

Ravussin cautions however that if genes do determine the 'true couch potato', then more than simple encouragement that a person swap sitting for standing may be required to help control body weight. Perhaps progressive environmental changes to discourage sitting behaviour are required. What is clear however is that 'small but sustained changes in activities of daily living can profoundly affect energy balance. '

Clinical Application
This was a very small pilot study, and no firm conclusions should be based on this study alone.

Nevertheless both the Levin et al study and the Ravussin commentary give sound support for the oft repeated advice that people increase their daily physical activity. It is backing for the now near clichés of 'throw out the remote control', 'get off the bus/train a stop earlier/later', 'use the stairs', 'walk the dog daily', 'play with your children' etc.

As indicated above, the gains from such simple measures, when sustained, may prove to be very significant. And yet, the health and lifestyle costs for our weight gaining patients who do not take such simple, and enjoyable, measures can be immense.

The study also hints that to achieve positive results, simple encouragement of our patients may not be enough. We will likely need to work with our individual patient, to identify and implement changes in their personal environment to assist them to become less sedentary. But that, of course, is what a holistic health practice is all about.

High Soya Food Intake May Reduce Endometrial Cancer in Overweight Women

The purpose of this population based case control study set in urban Shanghai, China was to evaluate the association of soya food consumption with the risk of endometrial cancer. In particular, the study was designed to test the hypothesis that soya food intake reduces endometrial cancer risk depending on endogenous hormone levels.

The Shanghai Cancer Registry was used to select 832 women aged between 30 and 69 years with a diagnosis of endometrial cancer. These women were matched by age, with randomly selected controls sourced from permanent residents on the Shanghai Resident Registry.

Nurses personally interviewed the participants. The interview covered demographic factors, menstrual and reproductive history, hormone use, usual diet, disease history, tobacco and alcohol use, weight history and family history of cancer. This information was collected for the period up to the date of diagnosis for the cases, and up to the interview date for the controls. Each participant was also measured for her current weight, waist/hip circumference and sitting/standing heights.

The interviewers collected information on the participants usual diet by using a questionnaire. Participants were first asked how often they ate a specific soya food or soya food group, followed by a question on how many 50 g servings of the food they ate. Total soya food intake was measured according to soya protein and soya isoflavones intake.
No major differences existed between cases and controls with respect to marital status, family income, total energy intake, fruit/vegetable intake, or hormone replacement therapy use. Cases had attained higher education, had earlier menarche, later menopause, longer menstruation duration, higher body mass index and waist:hip ratio, consumed more meat and fish, had less pregnancies, and more likely to have a family history of cancer. Cases were less likely to exercise regularly, drink alcohol or use oral contraceptives.

The median intake of soya food was 106.5 g/day for cases, and 116.3 g/day for controls. Although women with endometrial cancer had, compared to the controls, a lower intake of total soya foods, soya protein, and soya isolavones, most differences did not reach statistical significance. A high soya food intake association with a lower endometrial cancer risk was more pronounced in women with higher body mass indexes or waist:hip ratios.

A dose-response relationship was observed for total soya protein intake, soya fibre, and soya isolavones. As the intake of these three food groups was highly correlated, it was difficult to separate their independent effects.

The researchers concluded that regular soya food consumption is associated with a 'significantly reduced risk of endometrial cancer, particularly among women with a higher body mass index or waist:hip ratio'. These results relating to heavier women were consistent with the researchers hypothesis that soya food exerts an anti-oestrogenic effect in oestrogen rich environments.

However, more studies, using measured oestrogen concentrations, are required to better understand the combined effect of soya and endogenous oestrogen on endometrial cancer risk.

Clinical Application

The consumption of soya foods has become somewhat controversial. Thus the applicability of this study will vary according to each practitioner's views and research on the benefits of soya foods.

The researchers also noted that the average intake of soya food isolavones in their study population was about 25 times that reported in a Western population. So some substantial long term diet modifications might be required by patients wishing to replicate the benefits shown in this study. Nevertheless, the researchers further noted that the incidence rate of endometrial cancer in their study population is one-fifth to one-third to that in the West.