

Learning the risks for stroke -- and taking action

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The theme of this year's World Stroke Day on 29th October is "What can I do?". As the World Stroke Organization says, everyone can do something: learn to recognise symptoms and take action, learn to recognise the risk factors and take action.

With this theme in mind, the European Society of Cardiology (ESC) emphasises that most of the risks for [stroke](#) are also the major risks for [coronary heart disease](#) - and thus the object of the ESC's far-reaching prevention programme. Unhealthy diets, smoking, and physical inactivity are all unequivocally identified as fuel for a growing epidemic of [hypertension](#), high cholesterol, obesity and [diabetes](#), all associated with a raised risk of both heart disease and stroke. Atrial fibrillation, the most common disorder of heart rhythm, has also been clearly associated with an increased risk of stroke.

Professor Lars Rydén, from the Karolinska Institute in Stockholm and speaking on behalf of the ESC, says: "Stroke is not an inevitable consequence of ageing, so by identifying and modifying risk factors there are opportunities to reduce the incidence and mortality rate of this devastating condition. For example, there is much more to be done in lowering blood pressure, particularly in elderly people with high systolic measurements, and in ensuring that those at risk of thromboembolic stroke as a result of atrial fibrillation receive effective prophylactic therapy."

According to the World Stroke Organization, stroke now accounts for

almost 6 million deaths each year and ranks second only to heart disease as the world's leading cause of death.(1) However, if basic preventive measures are not taken, the number of people predicted to die from stroke will rise by another million over the next six years.

Six million deaths could be averted in the next ten years if what is already known is applied, said the World Stroke Organization in its inaugural proclamation in 2006.

For example, studies have shown that

- high blood pressure is the most important risk factor for stroke; in the Framingham Heart Study stroke risk in people with measurements within the normal range was half that of those with hypertension(2)
- smoking roughly doubles the risk of stroke (after adjustment for other risk factors)(3)
- atrial fibrillation increases the risk of stroke by around five times(4)

It is also clear that rigorous and regular physical activity reduces the risk of stroke. A study of walking and sports participation in 73,000 Japanese men and women showed that the risk of fatal stroke was reduced by 20-29% in those active in the highest category.(5) Similarly, in a study of 47,000 men and women in Finland stroke risk was reduced in those enjoying moderate and high levels of leisure-time physical activity.(6)

ESC Guidelines on Cardiovascular Disease (CVD) Prevention, which were updated in 2007, list stroke alongside coronary artery disease, heart failure and peripheral artery disease as cardiovascular diseases within the

scope of prevention initiatives. The Guidelines distinguish between haemorrhagic stroke (around 15% of cases) and ischaemic stroke, but add that the cause of many strokes remains undetermined.

The Guidelines note that "antihypertensive treatment reduces risk of both ischaemic and haemorrhagic stroke", and that "stroke prevention is still the most important effect of antihypertensive treatment". The Guidelines stress that smoking should be discouraged, and exercise encouraged.

With the Guidelines providing a firm evidence base, the ESC is now pursuing a new European prevention initiative as a joint effort from several European health associations in their combined battle against cardiovascular disease, cancer, respiratory illness, diabetes and kidney disease. In June this year experts from ten European chronic disease associations agreed to focus their initial prevention efforts against smoking, excessive alcohol consumption, overweight, obesity and physical inactivity. It was in these areas that the highest level of evidence was thought available to support interventions with the greatest likely benefits in reducing the toll of premature deaths. "In addition to having common mechanisms," says Professor Rydén, "it was obvious to us that these diseases also require common approaches for management and prevention, and that will allow us the greatest overall benefit on European health."

Professor Ian Graham, Chairperson of the Fourth Joint Task Force of the ESC and Other Societies on CVD Prevention in Clinical Practice, added salt to the risks above, saying: "In addition, restriction of salt intake can help to reduce the burden of high blood pressure and consequent stroke."

As defined in the European Heart Health Charter, the declared targets for cardiovascular health throughout the European Union are:

- zero smoking
- three kilometres daily walking
- five portions of fruit and vegetables per day

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