

Part
one

1. All of them. Mrs Tifele did come to see Dr Ndebe, and, sadly, he was able to rule out the alternatives to dementia – sadly because some of them are of course reversible and even curable. Understanding that dementia is neither, Dr Ndebe had to initiate Mrs Tifele's medical care. His first thought was to update his knowledge of the ageing brain and the effects of dementia on it. He discovered that many of the 'facts' that he had been taught do not stand up to modern analysis.

Part
two

2. None of the above. In parts of Finland and Italy, Alzheimer's disease has been reported as more common in women than in men. In others, such as the UK, Sweden, Japan, and other areas of Finland, it attacks the sexes equally. Alzheimer's accounts for more than half of all dementia. Dementia in a parent or sibling does mean that you have slightly more chance of developing it yourself than has a person with no such history, but the difference is very small. There are fewer than 20 families in the whole of Europe in whom a gene carrying a susceptibility to dementia leaves members with a one in two chance of dying from it. Genes linked to the production of double apo lipoprotein E4, or ApoE4, have been linked to a 17-fold increase in a person's risk of Alzheimer's disease, but having the double ApoE4 gene is not nearly as decisive as environmental and lifestyle factors, and many people with the gene never develop the disease.

Part
three

3. All of them. A Hachinski score of 0 to 4 suggests Alzheimer's: a score of 5 to 10 vascular dementia or both. The elements of the score are detailed in Table 1 below. Mrs Tifele's score was 2, strongly suggesting Alzheimer's.

Part
four

4. (a) and (b). These answers are from a 7-year study by Dr Karen Ritchie and her colleagues of the University of Montpellier and of St Mary's Hospital, London involving 1433 people chosen randomly from electoral rolls, all of them living at home. Of a host of factors, the two that offered the greatest protection against dementia were a higher ability to read and high fruit and vegetable consumption. The factors most likely to increase the chance of developing dementia were depression and diabetes. They were all more important than possessing the ApoE4 gene. Lowering blood pressure in the very elderly may even be harmful, promoting dementia by slowing the flow of blood to the brain.

Part
five

5. (c) and (e). Our brain cells are constantly changing, renewing and making more connections with their neighbours, even well into old age. We can lay down new nerve pathways into our 70s and beyond. We use far more of our brains even when completing simple tasks than we thought a generation ago. Professional musicians who learn from an early age how to co-ordinate their five senses are protected to a great extent against dementia because they have laid down a multitude of extra pathways in their brains. It also helps that they work closely with others in orchestras, so that they must be gregarious to be successful. That also protects them. Solitary computerised brain training systems simply don't work, but regular exercise does seem to protect us against, or postpone, the onset of dementia.

Further reading

Smith T. *Reducing Your Risk of Dementia*. London: Sheldon Press, 2011.

Table 1 The Hachinski score

Symptom	Score
Sudden onset	2
Stepwise deterioration	2
Physical complaints	1
Emotional swings	1
Past high blood pressure	1
Past stroke	1
Neurological symptoms (pins and needles, dizziness)	2
Neurological signs (numbness, weakness, paralysis)	2

