Module 3: What causes dementia

Learning aims

On completion of this module you will be able to:

• describe the causes of dementia
• list some of the more common diseases and disorders that cause dementia
• describe some of the similarities and differences between different types of dementia
• describe the key functions of, and results of damage to, the three most affected lobes of the brain
• identify some factors that can increase and decrease the risk of dementia.

Estimated time required: 20 to 30 minutes

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Section 1: Introduction

Hello, and welcome to module 3, entitled ‘What causes dementia?’

There are over 100 types of dementia, each caused by a different disease or disorder affecting the brain. In this module, we will look at some of the more common types of dementia and examine their prevalence, how they affect the brain, and what symptoms are likely to occur as a result.

While there is no single cause of dementia, there are a number of factors that can increase or decrease your risk of developing dementia. We will look at some of these risk factors and consider what we could do to reduce our risk of developing dementia.
Section 2: The main types of dementia

In this section you will learn about:
- the prevalence of some different types of dementia
- the age groups affected by each of these types of dementia
- the typical symptoms of each of these types of dementia
- how each type of dementia tends to progress.

Of the 100 or more conditions that can cause dementia, most are very rare.

Eighty-nine per cent of people with dementia have Alzheimer’s disease or vascular dementia, or both of these conditions (Alzheimer’s Society, 2007).

Other dementias include Dementia with Lewy bodies, Parkinson’s dementia and fronto-temporal dementia.

All dementias are progressive, though in some less common dementias the progression can be halted.

Some symptoms are common to all types of dementia, while other symptoms are more likely to occur in one specific disease.

No two people will experience dementia in exactly the same way, and the progression of dementia also varies greatly between individuals.

The list below indicates the percentage of people with dementia who have each condition.

Bear in mind that while there are many similarities experienced by people with different types of dementia, there are many differences too.
- 62 per cent – Alzheimer’s disease
- 17 per cent – vascular dementia
- 10 per cent – mixed
- 4 per cent – Dementia with Lewy bodies
- 2 per cent – fronto-temporal
- 2 per cent – Parkinson’s dementia
- 3 per cent – other

Find out more about the particular types of dementia on the pages that follow.
## Alzheimer’s disease

**Prevalence:** Alzheimer’s disease is the most common cause of dementia, affecting around 417,000 people in the UK.

**Age groups affected:** Approximately 98% of people with Alzheimer’s disease are over the age of 65, and the risk of developing Alzheimer’s disease increases with advancing age. Less commonly, Alzheimer’s disease can also develop in younger people, affecting approximately 5,000 people under the age of 65 in the UK.

**Typical symptoms:** Alzheimer’s disease involves a general decline in a range of cognitive abilities. Typical symptoms include poor memory for recent events, impaired concentration, decision-making difficulties, disorientation and difficulty in carrying out everyday tasks.

**Progression:** Alzheimer’s disease is progressive, but the rate of progression differs widely between individuals.

**Additional resources:** Alzheimer’s Society factsheet available at [www.alzheimers.org.uk/factsheet/401](http://www.alzheimers.org.uk/factsheet/401)

## Vascular dementia

**Prevalence:** Vascular dementia is the second most common type of dementia, affecting approximately 112,000 people in the UK.

**Age groups affected:** The risk of vascular dementia increases with age, but it is one of the most common types of dementia among the 15,000 younger people with dementia in the UK.

**Typical symptoms:** These include problems with concentration and verbal communication, memory problems (though this may not be the first symptom), periods of acute confusion, and epileptic seizures. People with vascular dementia may experience physical symptoms of stroke, such as physical weakness or paralysis. In this type of dementia, people often have good awareness of their difficulties and, partly due to this, depression can be quite common.

**Progression:** Vascular dementia often progresses in a step-like pattern, with periods of stability and then a sudden deterioration.

**Additional resources:** Alzheimer’s Society factsheet available at [www.alzheimers.org.uk/factsheet/402](http://www.alzheimers.org.uk/factsheet/402)

## Mixed

A diagnosis of mixed dementia means that the progressive damage to the brain is being caused by both Alzheimer’s disease and vascular dementia.
Dementia with Lewy bodies

Prevalence: Dementia with Lewy bodies (DLB) affects approximately 25,000 people in the UK.

Age groups affected: As with all forms of dementia, it is more prevalent in people over the age of 65, but in rare cases people under 65 may develop DLB.

Typical symptoms: These include, in common with most other dementias, memory loss, shortened attention span, disorientation and verbal communication difficulties. Additionally, people with DLB will often experience Parkinsonian symptoms (for example, tremor and muscle stiffness), visual hallucinations, and fluctuations in symptoms from day to day or within same day. People may also be prone to fainting or ‘funny turns’.

Progression: DLB is a progressive disease. This means that over time the symptoms will become worse. In general, DLB progresses at about the same rate as Alzheimer’s disease, typically over several years.

Additional resources: Alzheimer’s Society factsheet available at www.alzheimers.org.uk/factsheet/403

Fronto-temporal dementia

Prevalence: Fronto-temporal dementia (including Pick’s disease) is a relatively rare type of dementia, affecting approximately 11,000 people in the UK.

Age groups affected: Fronto-temporal dementia is more likely to affect people under the age of 65.

Typical symptoms: Earlier on in the condition, it is typical for memory to remain intact, but personality and behaviour tends to change. People may lack insight, lose the capacity to empathise with others, behave in an inappropriate and disinhibited way and become withdrawn or occasionally aggressive. Additionally, people will often experience verbal communication difficulties, spatial disorientation, a shortened attention span, and may develop compulsive behaviour, such as over-eating.

Progression: The rate of progression of fronto-temporal dementia varies enormously, ranging from less than two years to more than ten years. As the condition progresses, the damage to the brain becomes more generalised and symptoms become similar to those of Alzheimer’s disease.

Additional resources: Alzheimer’s Society factsheet available at www.alzheimers.org.uk/factsheet/404
Parkinson's dementia

Prevalence: Parkinson’s dementia affects approximately 12,000 people in the UK. While most people with Parkinson’s disease do not develop dementia, 15-30% of people with Parkinson’s disease will develop a type of dementia closely resembling Dementia with Lewy bodies (Parkinson’s Disease Society, 2008).

Age groups affected: Although Parkinson’s disease is more common in older people, 1 out of every 20 people diagnosed in the UK are under 40. Studies indicate that the longer a person has lived with Parkinson’s disease, the more likely it is that they will experience some form of cognitive impairment.

Typical symptoms: These include short-term memory loss, verbal and non-verbal communication problems, and problems with problem-solving and planning. The person may become obsessive, and might experience sudden intense feelings of anger or distress. In common with Dementia with Lewy bodies, visual hallucinations and fluctuations in symptoms may be a feature.

Progression: As Parkinson’s dementia progresses, it is likely that communication will become severely impaired, and that the person will also develop problems with swallowing. It is important to note that the side-effects of certain drugs often used to treat Parkinson’s disease may exacerbate symptoms of dementia.


Other dementias

Approximately 23,000 people in the UK have a rarer form of dementia. Two of these are conditions caused by alcohol: Korsakoff’s syndrome and alcohol-related dementia. These are serious brain disorders but will only be progressive if the person continues to drink alcohol. There are some other rarer types of dementia that can be stopped from progressing, including those caused by deficiencies of thyroid hormone, vitamin B12 and folic acid. Most types of dementia are, however, progressive. Some of the more widely known of the rarer dementias include Creutzfeldt-Jakob Disease (CJD) and Huntington’s disease.

Having an accurate diagnosis of the disease or disorder causing the dementia can help in understanding the person’s symptoms and planning for the future.

Over to you!

1. Do you know whether or not the people you support have actually been given a diagnosis of a particular type of dementia? If so, what type of dementia do they have? In what ways can it be helpful to know what type of dementia someone has?

In the next section you will learn how the brain is affected in dementia.

Please note: any word in blue can be found in the accompanying glossary.
Section 3: What happens in the brain?

In this section you will learn about:
- the functions of different areas of the human brain
- difficulties that will result from damage to each of these different areas
- the nature and experience of some of these difficulties
- what happens to the brain in Alzheimer’s disease.

The brain controls every aspect of our behaviour, from the smallest movement to the most sophisticated thought.

The adult human brain weighs approximately three pounds and is made up of approximately 100 billion nerve cells. The largest part of the brain is called the ‘cerebral cortex’, which is divided into different regions – known as lobes – that control different functions.

The table below explains the functions of each lobe of the brain.

<table>
<thead>
<tr>
<th>Part of the brain</th>
<th>Functions</th>
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<tbody>
<tr>
<td>Parietal lobe</td>
<td>Remembering sequences of actions, body sense (for example, sensing where one limb is in relation to the rest of the body), sentence construction, calculation, interpreting visual information received from the occipital lobe, locating objects.</td>
</tr>
<tr>
<td>Frontal lobe</td>
<td>Planning and organising actions, learning tasks, initiating and stopping, regulating behaviour, abstract thought, logic, language, personality.</td>
</tr>
<tr>
<td>Occipital lobe</td>
<td>Processing information about colour, shape and movement received from the eyes.</td>
</tr>
<tr>
<td>Temporal lobe</td>
<td>Learning new information, recording and storage of verbal memory (such as names), and visual memory (such as faces), attention.</td>
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</table>

Please note: any word in blue can be found in the accompanying glossary.
The brain and behaviour

Every type of dementia involves progressive physical damage to the brain. The main areas affected in most dementias are the temporal, parietal and frontal lobes. Damage to each lobe will lead directly to problems with the functions listed on the previous page.

Now, read the problems below and try matching the specific problems with the area of the brain where damage has probably occurred. The answers and our commentary follows on page 10.

1. ‘My wife can’t remember what she did five minutes ago.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

2. ‘Sometimes he doesn’t recognise me, and once he told me to “get out of my house”.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

3. ‘He speaks quite openly about what he thinks of people. He was such a shy man before.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

4. ‘She does things in the wrong order or doesn’t finish them. But I know she can do them, like getting dressed, or making a cup of tea.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

5. ‘I’m talking to her and I can see that her attention has just drifted off.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

Please note: any word in blue can be found in the accompanying glossary.
6. ‘I ask him to come with me and even though he seems to understand, and he doesn’t have any problems with his legs, he just stays sitting in his chair.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

7. ‘I ask her to pass the salt and she hands me the butter!’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

8. ‘I say something straightforward and she doesn’t understand me – like yesterday she didn’t know what “deckchair” meant.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

9. ‘I can’t seem to have any kind of reasoned discussion or argument with her anymore.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

10. ‘She doesn’t remember that her husband is dead, but she remembers her wedding in great detail.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

11. ‘When I ask what he’d like to eat, he says he doesn’t know, but if I give him something he doesn’t like, he’ll push his plate away as soon as I put it in front of him.’

Is this probably a result of damage to the:

| temporal lobe? | or | parietal lobe? | or | frontal lobe? |

Please note: any word in blue can be found in the accompanying glossary.
12. ‘He has become very clumsy and keeps tripping and knocking things over.’

Is this probably a result of damage to the:

- temporal lobe?
- parietal lobe?
- frontal lobe?

Our commentary

1. ‘My wife can’t remember what she did five minutes ago.’

Problems remembering recent events is a common symptom of damage to the temporal lobe.

2. ‘Sometimes he doesn’t recognise me, and once he told me to “get out of my house”.’

Damage to the parietal lobe can often lead to problems in processing visual information which can cause difficulty in recognising faces.

3. ‘He speaks quite openly about what he thinks of people. He was such a shy man before.’

A lack of inhibition is usually the result of damage to the frontal lobe.

4. ‘She does things in the wrong order or doesn’t finish them. But I know she can do them, like getting dressed, or making a cup of tea.’

Difficulty carrying out a learnt sequence of actions is usually a result of damage to the parietal lobe.

5. ‘I’m talking to her and I can see that her attention has just drifted off.’

A short attention span often results from damage to the temporal lobe.

6. ‘I ask him to come with me and even though he seems to understand, and he doesn’t have any problems with his legs, he just stays sitting in his chair.’

Difficulty initiating actions can result from damage to the frontal lobe.

Please note: any word in blue can be found in the accompanying glossary.
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<table>
<thead>
<tr>
<th>Number</th>
<th>Example</th>
<th>Explanation</th>
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<tbody>
<tr>
<td>7.</td>
<td>‘I ask her to pass the salt and she hands me the butter!’</td>
<td>The problems in processing visual information caused by damage to the parietal lobe can make it difficult for people to recognise objects even when they can see the object perfectly well.</td>
</tr>
<tr>
<td>8.</td>
<td>‘I say something straightforward and she doesn’t understand me – like yesterday she didn’t know what “deckchair” meant.’</td>
<td>Damage within the frontal and temporal lobes can cause problems in understanding and producing speech.</td>
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<td>9.</td>
<td>‘I can’t seem to have any kind of reasoned discussion or argument with her anymore.’</td>
<td>Damage to the frontal lobe will often cause problems with reasoning.</td>
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<tr>
<td>10.</td>
<td>‘She doesn’t remember that her husband is dead, but she remembers her wedding in great detail.’</td>
<td>Temporal lobe damage causes problems with more recent memories, but memories for the past can remain intact.</td>
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<td>‘When I ask what he’d like to eat, he says he doesn’t know, but if I give him something he doesn’t like, he’ll push his plate away as soon as I put it in front of him.’</td>
<td>Frontal lobe damage can cause problems with planning, decision-making and abstract thought, making it very difficult for a person to make a choice about something that isn’t physically present.</td>
</tr>
<tr>
<td>12.</td>
<td>‘He has become very clumsy and keeps tripping and knocking things over.’</td>
<td>Damage to the parietal lobe can affect people’s body sense (knowing which part of your body is where), and also people’s ability to know where objects are relative to their own body.</td>
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Please note: any word in blue can be found in the accompanying glossary.
Summary

**Parietal lobe**
- Damage to the parietal lobe can often lead to problems in processing visual information, which can cause difficulty in recognising faces.
- Difficulty carrying out a learnt sequence of actions is usually a result of damage to the parietal lobe.
- The problems in processing visual information caused by damage to the parietal lobe can make it difficult for people to recognise objects even when they can see the object perfectly well.
- Damage to the parietal lobe can affect people’s body sense (knowing which part of your body is where), and also people’s ability to know where objects are relative to their own body.

**Frontal lobe**
- A lack of inhibition is usually the result of damage to the frontal lobe.
- Difficulty initiating actions can result from damage to the frontal lobe.
- Frontal lobe damage can cause problems with planning, decision-making and abstract thought, making it very difficult for a person to make a choice about something that isn’t physically present.
- Damage to the frontal lobe will often cause problems with reasoning.

**Temporal lobe**
- Damage within the temporal (and frontal) lobe can cause problems in understanding and producing speech.
- Problems remembering recent events is a common symptom of damage to the temporal lobe.
- Temporal lobe damage causes problems with more recent memories, but memories for the past can remain intact.
- A short attention span often results from damage to the temporal lobe.
What happens to the brain: a doctor’s view

Seeing and hearing about the damage to the brain that occurs in Alzheimer’s disease, it’s not really surprising that people experience the difficulties they do. What’s more surprising is how well most individuals function despite this damage.

Now read Dr Sebastian Crutch’s description of what happens in the brain in Alzheimer’s disease (the most common type of dementia):

‘Here we have two pictures of two different individuals’ brains both taken from the front as though you’re looking face to face at the person.

‘On the left-hand side you see the brain of a healthy individual; you can see that all the brain tissue is very closely packed together. There are these various different folds, that there is very little space between these folds, very little room for the cerebral spinal fluid which baths all of our brains.

‘Whereas over here on the right-hand side in the individual with Alzheimer’s disease, you can see that all of these folds have opened up, there’s a lot more space for this fluid in between and that’s because the brain tissue has shrunk back owing to the death and dysfunction of the different brain cells.’

What happens to the brain: real experience

Now read how different people with dementia talk about their experience of some of their symptoms.

Can you identify where you think damage may have occurred in each person’s brain to cause the symptoms described?

A daughter’s view

Sandra: ‘When I was pregnant with my first child, I remember going up home and my mother saying, “Sandra, I’m losing my words”, and then over the immediate years that followed it begun to intensify. She was waking up in the night and she was convinced that there was a man trying to get into her bedroom climbing a ladder and we all would say to her, “Oh no pet, there’s no one on a ladder…” and she would say, “But, Sandra I can see him…”’

Please note: any word in blue can be found in the accompanying glossary.
A couple’s views

Jerry: ‘You were totally shaken by it and didn’t know if you were coming or going and I don’t think you realised how much until you went to choir and somebody said, an ex-doctor in fact, said, “and how’s Jerry getting on?” and you almost said, “Who’s that?”’

John: ‘That’s when I suddenly my mind went totally blank, just for words… pictures I knew what’s happening, but the words… I couldn’t find. I said, “I’m sorry I can’t tell you”.’

Over to you!

1. What did you learn about how our brain controls our behaviour?
2. How do you imagine people might feel about the difficulties they experience because of their brain damage?
3. Did you discover any possible causes of the difficulties experienced by people with dementia you know?
4. What difference does it make to know that a particular problem might be a direct result of physical damage to the brain?

When the brain becomes damaged through dementia, a person will inevitably experience problems with their day-to-day functioning. Understanding a little about how the brain works can help to provide explanations for some of the problems that the person with dementia is facing.

Coping with the symptoms caused by this brain damage is often emotionally difficult, and we need to respect and respond to people’s feelings. No one chooses to develop dementia and people are not to blame for the difficulties they have or the things they may say or do as a result of their symptoms – rather, they are doing their best to cope with the effects of a physical condition that is eroding areas of their brain.

It is also important to remember that the damage to the brain is not solely responsible for all the problems people with dementia face. It is always helpful to consider whether particular problems may, for example, be more the result of an unhelpful care approach or a confusing environment, rather than being direct symptoms of the brain damage.

Although the brain damage in dementia is progressive, many other factors that cause problems can be addressed and, as a result, there is often potential for an improvement in functioning.
When you are ready, please move on to the next section, where we will look at factors that influence the risk of dementia.
Section 4: Risk factors

In this section you will learn:
- what is meant by the term ‘risk factor’
- what the known risk factors for dementia are
- about the factors that are known to lessen the risk of dementia.

Dementia can affect anyone, from bricklayers to barristers, from politicians to pop singers. There is nothing we can do that will provide total protection against dementia, but there are some things we can do that might decrease our risk of developing it.

There are also certain things that could increase our chances of developing dementia. These are known as risk factors. Research in this area is ongoing.

Life and lifestyle: what are the risks?

How much do you already know about the risk factors related to dementia? Take a look at the list of various aspects of life and lifestyle below. For each item, circle whether you believe it to be a risk factor for dementia or whether you think it may help lessen the risk of dementia. Our commentary follows on page 17.

1. Growing old
   **Protective factor or risk factor?**

2. Drinking moderate amounts of red wine
   **Protective factor or risk factor?**

3. Taking regular exercise
   **Protective factor or risk factor?**

4. Having a close relative with dementia
   **Protective factor or risk factor?**

5. Doing crosswords
   **Protective factor or risk factor?**

Please note: any word in blue can be found in the accompanying glossary.
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<tr>
<td>6.</td>
<td>High blood pressure</td>
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<tr>
<td></td>
<td><strong>Protective factor or risk factor?</strong></td>
</tr>
<tr>
<td>7.</td>
<td>Down’s syndrome</td>
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<td></td>
<td><strong>Protective factor or risk factor?</strong></td>
</tr>
<tr>
<td>8.</td>
<td>High blood cholesterol levels</td>
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<td></td>
<td><strong>Protective factor or risk factor?</strong></td>
</tr>
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<td>9.</td>
<td>Suffering severe or repeated head injuries</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>10.</td>
<td>Drinking large amounts of alcohol regularly</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>11.</td>
<td>Smoking</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>12.</td>
<td>Eating large amounts of saturated fat</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>13.</td>
<td>Eating polyunsaturated fatty acids (for example, oily fish)</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>14.</td>
<td>Obesity</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>15.</td>
<td>Eating fresh fruit and vegetables</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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<td>16.</td>
<td>Drinking coffee</td>
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<td><strong>Protective factor or risk factor?</strong></td>
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Please note: any word in blue can be found in the accompanying glossary.
**Our commentary**

1. **Growing old**  
   Old age is a key risk factor for dementia. One in 14 people over the age of 65 has dementia, and over the age of 80 this figure increases to 1 in 6.

2. **Drinking moderate amounts of red wine**  
   A number of research studies have found that drinking moderate amounts of wine – particularly red wine – helps to lower the risk of developing dementia.

3. **Taking regular exercise**  
   Regular physical exercise, particularly from middle age onwards, has been found to lower the risk of developing dementia.

4. **Having a close relative with dementia**  
   Having a parent or other close relative with dementia makes your own chance of developing it slightly higher than someone who does not have a relative with dementia. This risk is minor. In some extremely rare cases, dementia is actually caused by an inherited genetic defect. This includes some early-onset types of Alzheimer’s disease (accounting for fewer than 1 in a 1000 cases of Alzheimer’s disease).

5. **Doing crosswords**  
   Some studies have found that keeping the mind active as we age can help to lower the risk, or delay the onset, of dementia, though research evidence is still inconclusive.

6. **High blood pressure**  
   High blood pressure increases the risk of developing both vascular dementia and Alzheimer’s disease.

7. **Down’s syndrome**  
   People who have Down’s syndrome are at particular risk of developing Alzheimer’s disease as they grow older. This risk increases with age. Approximately one third of people with Down’s syndrome in their 50s have Alzheimer’s disease, and over half of people with Down’s syndrome in their 60s.

8. **High blood cholesterol levels**  
   High blood cholesterol levels increase the risk of developing both vascular dementia and Alzheimer’s disease.

Please note: any word in blue can be found in the accompanying glossary.
9. Suffering severe or repeated head injuries
People who have had severe or repeated head injuries, particularly those that have caused loss of consciousness, have an increased risk of developing dementia as they age.

10. Drinking large amounts of alcohol regularly
Alcohol-related dementia and Korsakoff’s syndrome can result directly from excessive consumption of alcohol (more than three to five units per day) over a long period of time. Furthermore, heavy drinking can increase the risk of vascular dementia.

11. Smoking
Smoking significantly increases the risk of both Alzheimer’s disease and vascular dementia.

12. Eating large amounts of saturated fat
Saturated fat can cause narrowing of the arteries and increase the risk of vascular dementia.

13. Eating polyunsaturated fatty acids (for example, oily fish)
A number of research studies have shown that the polyunsaturated fatty acids found in oily fish might also help to protect the heart and blood vessels and lower the risk of developing dementia.

14. Obesity
Obesity increases a person’s risk of developing dementia later in life. Obesity also increases the risk of diabetes, which itself is associated with increased risk of dementia.

15. Eating fresh fruit and vegetables
Eating fresh fruit and vegetables, and other foods high in antioxidants, help to lower the risk of dementia.

16. Drinking coffee
Some studies have indicated that caffeine (found, for example, in coffee and tea) might help to lower the risk of dementia, though research evidence is still inconclusive.

Please note: any word in blue can be found in the accompanying glossary.
Over to you!

1. Was anything different from, or similar to, your initial expectations?
2. What did you learn about how you could reduce your own risk of developing dementia?
3. How do you imagine people might feel to realise that they, or someone close to them, have a high risk of developing dementia?

Predicting risk

Read about the three people below and indicate whether you think each has a low, medium or high risk of developing dementia within the next year. On the next page read our commentary on each of these individual’s risks.

Bert says: ‘I’m 80 years of age, but sometimes I feel a hundred. Doctor says I have high blood pressure and I do take the tablets, but probably I should go for another check-up. Only, why bother, when you know it will be bad news? She’ll tell me off about my smoking again, but, to be honest, it’s one of my only pleasures in life and, anyway, you could get knocked down by a bus tomorrow. I live on my own and don’t bother too much with cooking, although I do make a nice fry-up from time to time. The rest of the time I just make myself light meals like cheese on toast or boiled eggs.’

Low risk?    Medium risk?    High risk?

Liz says: ‘According to my birth certificate I’m 80, but you’re as young as you feel, that’s what I always say. I like to keep myself busy and my husband and I go down the club most days - that’s when my daughter doesn’t need me to help out with the kids. I love to cook. We eat a lot of fish and vegetables but we do indulge ourselves with a nice glass of red wine when we sit down to eat of an evening.’

Low risk?    Medium risk?    High risk?

Adrian says: ‘I’m 50 years old. I drive for a living and I seem to spend most of my free time in the car as well, going to see my mum and taking her to appointments. She has dementia and can’t cope without me. Exercise? When do I have time for that? I know I’m overweight and I should cut down on the chocolate, but I never really have time for a proper lunch. When I’m back from my mum’s I go to the pub to unwind – I feel better after a pasty and chips and a good few pints.’

Low risk?    Medium risk?    High risk?

Please note: any word in blue can be found in the accompanying glossary.
Our commentary

Bert: Bert’s age already puts him in a higher risk group for dementia (1 out of every 6 people over the age of 80 has dementia). He is raising his risk further through his poor diet and smoking. His high blood pressure increases his chance of both vascular dementia and Alzheimer’s disease, and should be taken as a warning sign to Bert that he needs to look after his general health better. He is putting himself at risk of heart disease and a stroke as well as dementia.

Liz: At 80 years old, Liz’s risk of developing dementia is higher than that of a 50 year old. However, her lifestyle gives her the best possible chance, for her age group, of avoiding dementia. Her diet is helping to keep her cardio-vascular system healthy, and her moderate wine drinking is also lowering her risk of developing dementia. Keeping mentally and socially active may also be helping to reduce her chances of developing dementia, and will certainly be contributing to her quality of life.

Adrian: At 50 years old, Adrian’s risk of developing dementia within the next year is very low. However, Adrian’s current lifestyle is significantly increasing his risk of developing dementia in the future. Having dementia in his family already puts him at a slightly higher risk than the general population. Additionally, his weight, poor diet, high alcohol consumption and lack of exercise are laying the grounds for poor health, including an increased risk of dementia, as he ages.

The evidence base

Research into risk factors for dementia is ongoing, but there is clear evidence that certain aspects of life and lifestyle can influence our risk of developing dementia. Some risk factors can be controlled, while others cannot be avoided.

It is, however, important to note that having some of the risk factors does not mean that a person will definitely go on to develop dementia, nor can anyone guarantee that they will escape dementia if they avoid the risk factors.

You have now finished the third module of this programme, in which we have explored some of the diseases and disorders that cause dementia, the way these conditions damage the brain, and factors that cause risk of dementia.

The nature of symptoms, and how we can help people who have them, will be explored in module 5.

Please note: any word in blue can be found in the accompanying glossary.
Below is a summary of the main points from this module:

- There are over 100 diseases and disorders that can cause dementia: Alzheimer’s disease and vascular dementia are by far the most common.
- Every type of dementia involves a process of progressive damage to the brain.
- There are many similarities in the symptoms that occur in different types of dementia, but also some key differences.
- Each lobe of the brain has many different functions, and specific difficulties will result from damage to each lobe.
- Old age is a key risk factor for dementia, but a number of other factors that increase or decrease the risk of dementia have been identified through research.

Before you move on to the fourth module of the programme, where we will look at the process of diagnosis and the help that is available, why don’t you take our self-assessment quiz which will allow you to test your understanding of some of the key points?
Section 5: Self-assessment

This self-assessment will allow you to test your understanding of some key messages and facts covered in this module. Choose between true and false for each question. You will then see the right answers and some feedback on page 24, and where to look in this module to review.

**Question 1**

Everyone with dementia will have the same experiences.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
</table>

**Question 2**

Alzheimer's disease affects approximately 5,000 people under the age of 65 in the UK.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
</table>

**Question 3**

All types of dementia have the same symptoms.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
</table>

**Question 4**

Dementia is characterised by death of nerve cells in the brain.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
</table>

**Question 5**

It is only brain damage that is responsible for the problems experienced by people with dementia.

<table>
<thead>
<tr>
<th>True</th>
<th>False</th>
</tr>
</thead>
</table>

Please note: any word in blue can be found in the accompanying glossary.
<table>
<thead>
<tr>
<th>Question 6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heavy drinking can increase the risk of developing vascular dementia.</td>
</tr>
<tr>
<td>True</td>
</tr>
<tr>
<td>False</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Question 7</th>
</tr>
</thead>
<tbody>
<tr>
<td>How we live our lives has no influence over whether we develop dementia or not.</td>
</tr>
<tr>
<td>True</td>
</tr>
<tr>
<td>False</td>
</tr>
</tbody>
</table>

Please note: any word in blue can be found in the accompanying glossary.
Answers

1. The answer is ‘false’. No two people will experience dementia in the same way. You can re-visit Section 2 ‘The main types of dementia’ where we cover this point.

2. The answer is ‘true’. Dementia is not just a disease of older people. You can re-visit Section 2 ‘The main types of dementia’ where we cover this point.

3. The answer is ‘false’. Whilst there are many similarities between different types of dementia, there are many differences too, which is why it is important to obtain an accurate diagnosis. You can re-visit Section 2 ‘The main types of dementia’ where we cover this point.

4. The answer is ‘true’. There are up to 100 billion nerve cells in the brain. Re-visit Section 3 ‘What happens in the brain?’.

5. The answer is ‘true’. Often problems result from an unhelpful care approach, or a confusing environment. You can re-visit Section 3 ‘What happens in the brain?’ where we cover this point.

6. The answer is ‘true’. Prolonged excessive alcohol consumption can not only lead to alcohol related dementia, it can also increase the risk of developing vascular dementia as it raises cholesterol levels. You can re-visit Section 4 ‘Risk factors’ where we cover this point.

7. The answer is ‘false’. Whilst some risk factors cannot be avoided, there is clear evidence that certain aspects of life and lifestyle can influence our risk of developing dementia. You can re-visit Section 4 ‘Risk factors’ where we cover this point.

Please note: any word in blue can be found in the accompanying glossary.
Section 6: References


Please note: any word in blue can be found in the accompanying glossary.