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## Early Warning: Belly Fat Linked to Alzheimer's Risk

### Description

A study found that having more belly fat in your 40s or 50s can be linked to memory problems later on. Researchers from Washington University in St. Louis did the study and shared their results at a conference.

The study looked at different types of body fat and how they affect the brain. They found that having belly fat around your organs, called visceral fat, can be connected to early signs of memory issues like Alzheimer's.

Another type of fat, called subcutaneous fat, was not linked to memory problems. This means that not all body fat is the same when it comes to brain health.

The study used special machines like MRI to measure the different fat levels in the body. The researchers hope that by understanding more about how certain fats affect the brain, we can find ways to prevent memory problems in the future.

Until we know more, staying active and eating well are still the best ways to keep our brains healthy.

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### Vocabulary List:

1. **Visceral** /'vɪs.ər.əl/ (adjective): Relating to the internal organs.
2. **Subcutaneous** /,sʌb.kju:'teɪ.ni.əs/ (adjective): Existing or occurring under the skin.
3. **Linked** /lɪŋkt/ (verb): Connected or related to something.
4. **Memory** /'mɛm.ə.ri/ (noun): The faculty by which the mind stores and remembers information.
5. **Researchers** /'riːsɜːr.tʃərz/ (noun): Individuals who conduct systematic investigations into a subject.
6. **Active** /'æk.tɪv/ (adjective): Engaging or participating in activities; not inactive.

## Comprehension Questions

### Multiple Choice

1. What type of fat was found to be linked to memory problems in the study?

Option: Subcutaneous fat

Option: Visceral fat

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- Option: Brown fat
- Option: Saturated fat

2. Which university did the researchers conducting the study come from?

- Option: Harvard University
- Option: Stanford University
- Option: Washington University in St. Louis
- Option: Yale University

3. What type of imaging machines were used to measure fat levels in the body?

- Option: X-ray machines
- Option: Ultrasound machines
- Option: CT scanners
- Option: MRI machines

4. What age range was mentioned in relation to the impact of belly fat on memory problems?

- Option: 20s
- Option: 30s
- Option: 40s or 50s
- Option: 60s or older

5. Which health issue was specifically mentioned as a potential consequence of having visceral fat?

- Option: High cholesterol
- Option: Diabetes
- Option: Heart disease
- Option: Alzheimer's

6. What did the researchers hope to achieve by understanding the connection between fat types and brain health?

- Option: Prevent cancer
- Option: Prevent memory problems
- Option: Lose weight
- Option: Improve muscle tone

### True-False

7. Subcutaneous fat was found to be associated with memory problems in the study.



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8. MRI machines were not used in the study to measure fat levels in the body.
  9. The study results were not shared at a conference.
  10. The researchers concluded that all body fat types affect the brain similarly.
  11. Staying active and eating well were mentioned as ways to keep our brains healthy.
  12. The study focused solely on the impact of belly fat on memory problems.

### Gap-Fill

13. The study found a connection between visceral fat and early signs of memory issues like Alzheimer's later in life, while \_\_\_\_\_ fat was not linked to memory problems.
14. The researchers used \_\_\_\_\_ to measure the different fat levels in the body.
15. Understanding how certain fats affect the brain could help in finding ways to prevent memory problems \_\_\_\_\_.
16. The study highlighted the importance of staying active and \_\_\_\_\_ to maintain brain health.
17. The study conducted by researchers from Washington University in St. Louis emphasized the impact of belly fat on memory problems in \_\_\_\_\_ or 50s.
18. The researchers hope that by understanding more about the effects of certain fats on the brain, strategies can be developed to prevent \_\_\_\_\_ in the future.

### Answer

**Multiple Choice:** 1. Visceral fat 2. Washington University in St. Louis 3. MRI machines 4. 40s or 50s  
5. Alzheimer's 6. Prevent memory problems

**True-False:** 7. False 8. False 9. False 10. False 11. True 12. False

**Gap-Fill:** 13. subcutaneous 14. MRI machines 15. in the future 16. eating well 17. 40s 18. memory problems



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## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. What drives progress in various fields and industries?  
Option: Dormancy  
Option: Advancements  
Option: Technology  
Option: Ancestors
2. Who studies the properties and interactions of matter and energy?  
Option: Memory  
Option: Researchers  
Option: Physicists  
Option: Particles
3. Which disease affects the central nervous system and can cause tremors and difficulty with movement?  
Option: Resist  
Option: Dementia  
Option: Parkinson  
Option: Inflammation
4. What are the elementary particles that combine to form protons and neutrons?  
Option: Gluons  
Option: Quarks  
Option: Neutrons  
Option: Particles
5. What branch of physics deals with the behavior of very small particles like photons and electrons?  
Option: Visceral  
Option: Active  
Option: Quantum  
Option: Subcutaneous
6. Which B vitamin is essential for converting food into energy?



- Option: Toxins
- Option: Biotin
- Option: Riboflavin
- Option: Memory

7. In what way do different species live together without causing harm to each other?

- Option: Resilient
- Option: Survive
- Option: Resist
- Option: Coexist

8. Who conducts systematic investigations to establish facts or reach new conclusions?

- Option: Memory
- Option: Active
- Option: Quantum
- Option: Researchers

9. What term is used to describe finding or learning something previously unknown or unseen?

- Option: Similar
- Option: Discovery
- Option: Planned
- Option: Ancestors

10. What is the ability of an organism to adjust to its environment for survival?

- Option: Adapt
- Option: Particles
- Option: Gluons
- Option: Quarks

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. In biology organisms that share \_\_\_\_\_ characteristics are often classified together.

12. Alzheimer's disease is associated with a decline in cognitive function and \_\_\_\_\_ loss.

13. Genetic traits are passed down from our \_\_\_\_\_ and can influence our physical appearance.

14. Organisms with advantageous traits are more likely to \_\_\_\_\_ and reproduce in a



given environment.

15. Regular physical exercise helps to keep the body \_\_\_\_\_ and healthy.
16. Exposure to environmental pollutants and harmful substances can lead to the accumulation of \_\_\_\_\_ in the body.
17. Chronic \_\_\_\_\_ in the body can contribute to the development of various diseases.
18. Older adults may experience cognitive decline and memory loss as a result of \_\_\_\_\_.
19. The construction of a new city is a complex project that requires careful \_\_\_\_\_ and execution.
20. Antibiotics are used to help the body \_\_\_\_\_ bacterial infections.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**

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| 21. Subatomic particles found in the nucleus of an atom along with protons.                  |
| 22. Fundamental units of matter that make up the universe and interact through forces.       |
| 23. Quantum particles that mediate the strong force which holds quarks together.             |
| 24. The ability to recover from difficulties and maintain stability and adaptability.        |
| 25. Located or placed just beneath the skin such as a subcutaneous injection.                |
| 26. Connect or associate one thing with another due to a relationship or connection.         |
| 27. A B vitamin that plays a key role in metabolism and energy production.                   |
| 28. A state of minimal activity or reduced metabolic rate often to survive harsh conditions. |
| 29. Technological and scientific progress leading to new innovations and discoveries.        |
| 30. Past generations from which individuals or species are descended.                        |



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## Answer

**Multiple Choice:** 1. Advancements 2. Physicists 3. Parkinson 4. Quarks 5. Quantum 6. Riboflavin 7. Coexist  
8. Researchers 9. Discovery 10. Adapt

**Gap-Fill:** 11. Similar 12. Memory 13. Ancestors 14. Survive 15. Active 16. Toxins 17. Inflammation 18.  
Dementia 19. Planned 20. Resist

**Matching sentence:** 1. Neutrons 2. Particles 3. Gluons 4. Resilient 5. Subcutaneous 6. Linked 7. Biotin  
8. Dormancy 9. Advancements 10. Ancestors

## CATEGORY

1. Health - LEVEL2

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### Author

aimeeyoung99

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