



New Toothpaste Prevents Gum Disease While Protecting Healthy Bacteria

Description

Researchers have found a new way to treat periodontitis, a serious gum disease, without harming good bacteria in the mouth. This discovery could change how gum disease is managed, allowing for better health outcomes.

The mouth has over 700 types of bacteria. However, only a few cause periodontitis. These harmful bacteria form plaque along the gums and cause gingivitis, which is swelling and redness. If untreated, gingivitis can lead to periodontitis, which can cause tooth loss and may relate to other health issues, such as diabetes and heart disease.

Current dental products often kill both good and bad bacteria. When good bacteria take longer to grow back, harmful ones can return more quickly. This can make the disease come back.

At the Fraunhofer Institute in Halle, Germany, scientists discovered a compound that only targets harmful bacteria, like *Porphyromonas gingivalis*, while protecting good bacteria. This new substance helps maintain a healthy balance in the mouth.

In 2018, a company called Periotrap Pharmaceuticals was created to develop this research into viable oral care products. They have now made a toothpaste designed to prevent periodontitis while also using familiar ingredients to protect teeth. Testing continues to ensure safety and effectiveness, with plans for more oral care products in the future.

Vocabulary List:

1. **Researchers** /'riːsɜːr.tʃərz/ (noun): People who study a subject carefully.
2. **Periodontitis** /,pɪə.ri.əθ.dən'taɪ.tɪs/ (noun): A serious gum disease affecting teeth.
3. **Bacteria** /bæk'tɪr.i.ə/ (noun): Tiny living things that can cause illness.
4. **Plaque** /plæk/ (noun): Sticky substance formed by harmful bacteria.
5. **Gingivitis** /,dʒɪŋ.dʒə'vaɪ.tɪs/ (noun): Inflammation and swelling of the gums.
6. **Swelling** /'swelɪŋ/ (noun): An area that has become larger than normal.

Comprehension Questions



Multiple Choice

1. What is the primary focus of the new research?
 - Option: To increase the number of good bacteria
 - Option: To treat periodontitis without harming good bacteria
 - Option: To develop new types of toothpaste
 - Option: To eliminate all bacteria in the mouth

2. Which harmful bacteria is specifically targeted by the new compound?
 - Option: Lactobacillus
 - Option: Streptococcus
 - Option: Porphyromonas gingivalis
 - Option: Bacteroides

3. Where is the Fraunhofer Institute located?
 - Option: Berlin, Germany
 - Option: Halle, Germany
 - Option: Munich, Germany
 - Option: Frankfurt, Germany

4. What is the name of the company that was created to develop oral care products?
 - Option: Dental Health Innovations
 - Option: Periotrap Pharmaceuticals
 - Option: Gum Care Solutions
 - Option: Oral Hygiene Technologies

5. What disease can untreated gingivitis lead to?
 - Option: Cavities
 - Option: Periodontitis
 - Option: Halitosis
 - Option: Oral Cancer

6. What is one major health issue related to periodontitis?
 - Option: Obesity
 - Option: Diabetes
 - Option: Asthma
 - Option: Arthritis



True-False

7. There are over 700 types of bacteria in the mouth.
8. The new compound harms both good and bad bacteria.
9. Gingivitis is not a serious condition.
10. Periostat Pharmaceuticals was created in 2018.
11. Current dental products help maintain the balance of good bacteria.
12. The new toothpaste is designed to prevent periodontitis.

Gap-Fill

13. Periodontitis is a serious gum disease that can cause _____ tooth loss.
14. Only a few types of bacteria in the mouth cause _____ .
15. Scientists at the Fraunhofer Institute discovered a compound that only targets _____
bacteria.
16. Untreated gingivitis can lead to _____ and other health issues.
17. The discovery allows for better health _____ regarding gum disease.
18. The new toothpaste uses familiar ingredients to protect _____ .

Answer

Multiple Choice: 1. To treat periodontitis without harming good bacteria 2. Porphyromonas gingivalis
3. Halle, Germany 4. Periostat Pharmaceuticals 5. Periodontitis 6. Diabetes

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

Gap-Fill: 13. tooth 14. periodontitis 15. harmful 17. outcomes 18. teeth



Vocabulary quizzes

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

1. What type of cancer is characterized as a carcinoma?

- Option: Lung cancer
- Option: Skin cancer
- Option: Breast cancer
- Option: All of the above

2. What is the primary purpose of chemotherapy?

- Option: To relieve pain
- Option: To remove tissue
- Option: To kill cancer cells
- Option: To diagnose disease

3. What does a biopsy involve?

- Option: Taking a tissue sample
- Option: Imaging tests
- Option: Monitoring symptoms
- Option: Blood tests

4. What can genetic mutations lead to?

- Option: Development of hair
- Option: Increased energy
- Option: Cancer
- Option: Weight loss

5. What is a common symptom of periodontitis?

- Option: Tooth decay
- Option: Swelling of the gums
- Option: Cavities
- Option: Broken teeth

6. What role do bacteria play in the mouth?

- Option: Only harmful
- Option: Only beneficial
- Option: Both harmful and beneficial
- Option: No role at all

7. What is gingivitis?



- Option: A severe form of tooth decay
- Option: Swelling of the gums
- Option: Breaking of teeth
- Option: Nerve pain

8. What is the purpose of therapy in a medical context?

- Option: To treat disease
- Option: To educate patients
- Option: To conduct research
- Option: To administer medication

9. What does non-invasive mean?

- Option: Involving surgery
- Option: Not causing harm or damage
- Option: Using sharp instruments
- Option: Involves significant risk

10. What does 'endurance' refer to in physical activity?

- Option: Strength
- Option: Speed
- Option: Stamina
- Option: Flexibility

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

- 11. A mastectomy is a surgical procedure to remove one or both _____ of the breasts.
- 12. Regular exercise can improve your overall _____ and flexibility.
- 13. Gingivitis often results in _____ of the gums and may lead to more serious dental issues.
- 14. The _____ fluid surrounds the brain and spinal cord, providing protection.
- 15. Practicing mindfulness can help you _____ and reduce stress levels.
- 16. Nerve _____ can promote healing in injured tissues.
- 17. Lifting weights can help build your _____ and improve muscle tone.



18. The therapy session was a _____ experience for all the participants.
19. _____ exercises involve contracting muscles without changing their length.
20. Staying in a mountain _____ can be a great way to disconnect and rejuvenate.

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

21. To relax effectively, it's important to create a peaceful environment.
22. Swelling can often indicate infection or injury in the body.
23. A mastectomy is commonly performed to treat breast cancer.
24. Movement is essential for maintaining physical health and mobility.
25. Chemotherapy is a widely used treatment option for various types of cancer.
26. Bacteria can be both harmful and beneficial to human health.
27. Periodontitis typically results in gum inflammation and can affect overall oral health.
28. Isometric exercises are effective for building muscular strength without joint movement.
29. Cerebrospinal fluid plays a crucial role in protecting the brain and spinal cord.
30. Endurance training builds stamina and increases physical performance over time.

Answer

Multiple Choice: 1. All of the above 2. To kill cancer cells 3. Taking a tissue sample 4. Cancer 5. Swelling of the gums 6. Both harmful and beneficial 7. Swelling of the gums 8. To treat disease 9. Not causing harm or damage 10. Stamina

Gap-Fill: 11. breasts 12. movement 13. swelling 14. cerebrospinal 15. relax 16. stimulation 17. strength 18. pleasant 19. Isometric 20. cabin

Matching sentence: 1. relax 2. swelling 3. mastectomy 4. movement 5. chemotherapy 6. bacteria 7. periodontitis 8. isometric 9. cerebrospinal 10. endurance

CATEGORY

1. Health - LEVEL2



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