



Hidden Self-Healing Powers Revealed in Damaged Hearts

Description

A new study shows that the right therapy can help the human heart heal after heart failure. This therapy may make the heart work even better than a healthy heart.

Researchers want to create treatments that help damaged hearts recover faster. They do not yet know why this faster healing happens.

Olaf Bergmann, a scientist from Sweden, said, "There may be a hidden key to start the heart's repair system."

In the study, 52 patients with heart failure were observed. Some patients received a left ventricular assist device (LVAD). This device helps the heart pump blood.

Usually, patients keep the LVAD for life or until they get a heart transplant. Some patients improve so much that they can remove the LVAD.

The researchers studied how heart cells called cardiomyocytes grow back. They found that with the LVAD, these cells grow back much faster than in a healthy heart.

This finding gives hope that we can help hearts recover better after problems.

The research was published in the journal *Circulation*.

Vocabulary List:

1. **Therapy** /'θerəpi/ (noun): Treatment intended to relieve or heal a disorder.
2. **Recover** /rɪ'kʌvər/ (verb): To return to a normal state of health mind or strength.
3. **Healing** /'hi:lɪŋ/ (noun): The process of making or becoming sound or healthy again.
4. **Transplant** /'træn splænt/ (noun): An operation in which an organ taken from one body is placed in another.
5. **Device** /dɪ'vaɪs/ (noun): A piece of equipment or a mechanism designed to serve a special purpose.
6. **Cardiomyocytes** /,kɑrdioʊ'maɪə,səɪts/ (noun): Heart muscle cells that are responsible for the contraction of the heart.

Comprehension Questions



Multiple Choice

1. Who suggested that there may be a hidden key to start the heart's repair system?

- Option: Olaf Bergmann
- Option: Medical team
- Option: Heart transplant patients
- Option: Healthy heart researchers

2. What device did some heart failure patients receive in the study mentioned?

- Option: Pacemaker
- Option: Defibrillator
- Option: Left ventricular assist device (LVAD)
- Option: Stent

3. How many patients with heart failure were observed in the study?

- Option: 42
- Option: 52
- Option: 62
- Option: 72

4. What type of cells were studied by the researchers for their regrowth in the heart?

- Option: Neurons
- Option: Cardiomyocytes
- Option: Red blood cells
- Option: Skin cells

5. Where was the research study published?

- Option: Science
- Option: Nature
- Option: The Lancet
- Option: Circulation

6. What did the researchers hope to achieve with their findings?

- Option: Cure for heart failure
- Option: Improve heart transplant procedures
- Option: Help hearts recover better
- Option: Prevent heart diseases



True-False

7. The therapy mentioned in the study cannot help the human heart heal after heart failure.
8. All patients who receive a left ventricular assist device (LVAD) will need it for life.
9. According to the study, heart cells grow back faster with a left ventricular assist device (LVAD) than in a healthy heart.
10. The researchers have complete understanding of why the faster healing happens with the therapy.
11. The study mentioned in the text was conducted by a team from Sweden.
12. The findings of the study suggest that we may be able to improve heart recovery after problems.

Answer

Multiple Choice: 1. Olaf Bergmann 2. Left ventricular assist device (LVAD) 3. 52 4. Cardiomyocytes
5. Circulation 6. Help hearts recover better

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

Vocabulary quizzes

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

1. What type of facility is used to observe celestial events?
Option: Hospital
Option: Library
Option: Observatory
Option: School
2. Which branch of physics deals with subatomic particles?
Option: Classical
Option: Quantum
Option: Thermodynamics
Option: Astrophysics
3. What is the treatment method that aims at healing or recovering from an injury?



- Option: Surgery
- Option: Therapy
- Option: Medication
- Option: Exercise

4. Which method is used to test a hypothesis?

- Option: Guessing
- Option: Reflection
- Option: Experiment
- Option: Assumption

5. Who conducts scientific investigations and studies?

- Option: Teachers
- Option: Students
- Option: Researchers
- Option: Politicians

6. What is the mental action or process of acquiring knowledge and understanding through thought experience and the senses?

- Option: Navigation
- Option: Cognition
- Option: Respiration
- Option: Digestion

7. What describes linking two or more things together?

- Option: Isolation
- Option: Distraction
- Option: Connection
- Option: Separation

8. What term refers to the options or potential outcomes of a situation?

- Option: Limitations
- Option: Impossibilities
- Option: Possibilities
- Option: Certainties

9. What is the final time or date before which something must be completed?

- Option: Beginning
- Option: Middle
- Option: Deadline
- Option: End

10. How does one typically feel when under a lot of pressure or worry?



- Option: Relaxed
- Option: Content
- Option: Stressed
- Option: Happy

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

11. After the surgery the patient needed time to _____.
12. A heart _____ can save a person's life.
13. Clear _____ is essential for problem-solving.
14. The new smartphone features a revolutionary AI-powered _____.
15. _____ are heart muscle cells responsible for contraction.
16. Buying in bulk is usually _____ than buying individually.
17. Earthquakes are measured on the Richter scale in terms of _____.
18. The radio _____ picked up signals from far away stations.
19. Fiber is essential for a healthy digestive system and regular _____.
20. Exploring new paths opens up endless _____ for growth.

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

21. Studying stars and galaxies falls under the field of astronomy.
22. Architects design buildings bridges and other structures.
23. The process of recovery from an illness or injury is crucial for healing.
24. Chemical reactions occur due to molecular interactions.
25. Competing in swimming cycling and running is part of a triathlon event.
26. The Stroop test assesses the ability to focus attention and cognitive flexibility.



27. Excessive concern or anxiety about a situation may lead to worry.
28. The state of things as they exist is considered reality.
29. The study of forces and motion is a part of mechanics in physics.
30. A smartphone is an example of a handheld electronic device.

Answer

Multiple Choice: 1. Observatory 2. Quantum 3. Therapy 4. Experiment 5. Researchers 6. Cognition
7. Connection 8. Possibilities 9. Deadline 10. Stressed

Gap-Fill: 11. recover 12. transplant 13. thinking 14. device 15. Cardiomyocytes 16. cheaper 17. magnitudes
18. receiver 19. bowels 20. possibilities

Matching sentence: 1. Astronomical 2. Structures 3. Healing 4. Interactions 5. Triathlon 6. Stroop test 7. Worry
8. Reality 9. Mechanics 10. Device

CATEGORY

1. Health - LEVEL1

Date Created

2025/01/05

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