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## **Pig organ transplants within 5 years**

URL: <http://www.breakingnewsenglish.com/0509/050911-xenotransplant.html>

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**11 September, 2005**

## **THE ARTICLE**

### **Pig organ transplants within 5 years**

**BNE:** Scientists have confirmed that the transplantation of organs from animals to humans could become a reality within five years. The process, xenotransplantation, is cited by many as being the remedy for an acute shortage of organs and organ donors. It is estimated there are five times more people in need of organs than there are available kidneys, hearts and lungs. Dr. Anthony Warrens, from London's Imperial College said in a press release\*: "Although the idea of xenotransplantation is far from new, it is only in recent years that many of the potential immunological problems, such as transplant rejection, have been solved, meaning the process of transplanting organs from one species into another, could soon be a reality."

Pigs will be the most likely provider of organs. Their size and physiology are very similar to humans, which increases the likelihood of organ compatibility. However, many immunological hurdles have yet to be overcome. There are still unknown dangers of animal viruses crossing over and infecting humans. Dr. Warrens is positive, saying: "Although we can't say there is absolutely no danger of cross infection, I believe that in the future we will be able to deal with many of the problems, reducing any potential risk." Dr. Warren also suggested this was ethically sound, as there is "widespread acceptance that it is regarded as ethically proper to rear and then kill large numbers of pigs for food."

\* <http://www.imperial.ac.uk/P6812.htm>

## **WARM-UPS**

**1. DONATIONS:** Do you want your organs to be reused after you die? Talk with your partner(s) about whether you would consider any of the following:

- Organ donation for transplants
- Whole body donation for medical research
- Whole body donation to medical schools for medical students
- Whole body donation to artists to be transformed into works of art

**2. ANIMAL PARTS:** In pairs / groups, decide which of the following are ethically acceptable. Which should humans never do? Which are OK for humans to do if they choose to?

- Eat meat from animals
- Use medicine produced from animals
- Have a transplanted pig heart
- Have a blood transfusion from modified animal blood
- Sheep eye transplants
- Skin grafts from animals

**3. CHAT:** In pairs / groups, decide which of these topics or words are most interesting and which are most boring.

*Scientists / transplants / pig organs / organ donors / kidneys / hearts / lungs / dangers / viruses / ethics of animal organ transplants / pigs for food*

Have a chat about the topics you liked. For more conversation, change topics and partners frequently.

**4. PIGS:** Spend one minute writing down all of the different words you associate with pigs. Share your words with your partner(s) and talk about them. Together, put the words into different categories.

**5. OPINIONS:** How far do you agree with these opinions on pig organ transplants? Talk about them with your partner(s).

- a. If pig organs save lives, it's a good thing.
- b. The idea of pig organ transplants is worse than the idea of cloning.
- c. We cannot change who we are. We will become half-human, half-pig.
- d. It's too dangerous. No one knows what kind of viruses will spread.
- e. God created man in his own image, not a pig's.
- f. This is a wonderfully exciting development in medical research.
- g. I feel sorry for pigs. More will die now.
- h. It is unethical to use animals in this way.

## BEFORE READING / LISTENING

**1. TRUE / FALSE:** Look at the article's headline and guess whether these sentences are true (T) or false (F):

- |  |       |
|--|-------|
| a. Pig organs could be transplanted into humans within five years.         | T / F |
| b. Organ transplantation from animals is called xenotransplantation.       | T / F |
| c. There is not yet a shortage of human organs.                            | T / F |
| d. The idea of xenotransplantation is very new and cutting edge.           | T / F |
| e. Pigs will be used because their blood is very similar to human blood.   | T / F |
| f. There is a zero chance of pig viruses crossing over to humans.          | T / F |
| g. A scientist is confident all immunological problems will be ironed out. | T / F |
| h. The scientist said having a pig organ is the same as eating pigs.       | T / F |

**2. SYNONYM MATCH:** Match the following synonyms from the article:

- |                  |            |
|------------------|------------|
| a. confirmed     | severe     |
| b. cited         | morally    |
| c. remedy        | breed      |
| d. acute         | solution   |
| e. solved        | valid      |
| f. compatibility | vouched    |
| g. hurdles       | obstacles  |
| h. ethically     | ironed out |
| i. sound         | quoted     |
| j. rear          | fit        |

**3. PHRASE MATCH:** Match the following phrases from the article (sometimes more than one combination is possible):

- |                                    |                            |
|------------------------------------|----------------------------|
| a. could become a reality          | of organs and organ donors |
| b. cited by many                   | of cross infection         |
| c. an acute shortage               | are very similar to humans |
| d. the idea of xenotransplantation | as being the remedy        |
| e. potential                       | over and infecting humans  |
| f. Their size and physiology       | immunological problems     |
| g. increases the likelihood        | sound                      |
| h. animal viruses crossing         | within five years          |
| i. there is absolutely no danger   | is far from new            |
| j. suggested this was ethically    | of organ compatibility     |

## **WHILE READING / LISTENING**

**GAP FILL:** Put the words in the column on the right into the gaps in the text.

### **Pig organ transplants within 5 years**

**BNE:** Scientists have \_\_\_\_\_ that the transplantation of organs from animals to humans could become a \_\_\_\_\_ within five years. The process, xenotransplantation, is \_\_\_\_\_ by many as being the remedy for an \_\_\_\_\_ shortage of organs and organ donors. It is estimated there are five times more people in need of organs than there are \_\_\_\_\_ kidneys, hearts and lungs. Dr. Anthony Warrens, from London's Imperial College said in a press release: "Although the idea of xenotransplantation is \_\_\_\_\_ from new, it is only in recent years that many of the potential immunological problems, such as transplant rejection, have been \_\_\_\_\_, meaning the process of transplanting organs from one \_\_\_\_\_ into another, could soon be a reality."

*available*

*solved*

*reality*

*far*

*acute*

*confirmed*

*species*

*cited*

Pigs will be the most likely \_\_\_\_\_ of organs. Their size and \_\_\_\_\_ are very similar to humans, which increases the likelihood of organ compatibility. However, many immunological \_\_\_\_\_ have yet to be overcome. There are still unknown dangers of animal viruses crossing over and \_\_\_\_\_ humans. Dr. Warrens is positive, saying: "Although we can't say there is absolutely no danger of \_\_\_\_\_ infection, I believe that in the future we will be able to deal with many of the problems, reducing any potential \_\_\_\_\_." Dr. Warren also suggested this was ethically \_\_\_\_\_, as there is "widespread acceptance that it is regarded as ethically proper to \_\_\_\_\_ and then kill large numbers of pigs for food."

*sound*

*cross*

*physiology*

*risk*

*provider*

*infecting*

*rear*

*hurdles*

## **AFTER READING / LISTENING**

**1. WORD SEARCH:** Look in your dictionaries / computer to find collocates, other meanings, information, synonyms ... for the words **'pig'** and **'organ'**.

- Share your findings with your partners.
- Make questions using the words you found.
- Ask your partner / group your questions.

**2. ARTICLE QUESTIONS:** Look back at the article and write down some questions you would like to ask the class about the text.

- Share your questions with other classmates / groups.
- Ask your partner / group your questions.

**3. GAP FILL:** In pairs / groups, compare your answers to this exercise. Check your answers. Talk about the words from the gap fill. Were they new, interesting, worth learning...?

**4. VOCABULARY:** Circle any words you do not understand. In groups, pool unknown words and use dictionaries to find their meanings.

**5. STUDENT "XENOTRANSPLANTATION" SURVEY:** In pairs / groups, write down questions about pig organs and transplants into humans.

- Ask other classmates your questions and note down their answers.
- Go back to your original partner / group and compare your findings.
- Make mini-presentations to other groups on your findings.

**6. TEST EACH OTHER:** Look at the words below. With your partner, try to recall exactly how these were used in the text:

- confirmed
- remedy
- in need
- far from new
- potential
- species
- physiology
- hurdles
- viruses
- absolutely
- deal
- rear

## **DISCUSSION**

### STUDENT A's QUESTIONS (Do not show these to student B)

- a. What were your initial thoughts on this headline?
- b. Did the headline make you want to read the article?
- c. What do you think about xenotransplantation?
- d. Would you accept a pig heart if it was the only way to keep you alive?
- e. What problems can you see with xenotransplantation?
- f. What other ways are there to deal with organ shortages?
- g. Would you feel you were not fully human if you had a pig heart?
- h. Would you feel strange talking to someone who had a pig heart?
- i. Do you think new diseases might spread to humans from pigs?
- j. What other animals might be used for xenotransplantation?

### STUDENT B's QUESTIONS (Do not show these to student A)

- a. Did you like reading this article?
- b. What do you think about what you read?
- c. Which is more unacceptable for you, pig organ transplants or cloning?
- d. Do you think human genes will change if people have animal organs?
- e. Do you think the ethics of eating pigs and transplanting their organs are the same?
- f. Should medical decisions like this be voted on in a referendum?
- g. What would happen to pig heart recipients if they suddenly developed previously unknown and contagious diseases?
- h. What do you think about sheep eye transplants?
- i. Are there religious concerns regarding xenotransplantation?
- j. Did you like this discussion?

**AFTER DISCUSSION:** Join another partner / group and tell them what you talked about.

- a. What question would you like to ask about this topic?
- b. What was the most interesting thing you heard?
- c. Was there a question you didn't like?
- d. Was there something you totally disagreed with?
- e. What did you like talking about?
- f. Do you want to know how anyone else answered the questions?
- g. Which was the most difficult question?

## **SPEAKING**

**ROLE PLAY:** This role play is to discuss whether or not xenotransplantation should become an accepted part of medical practice. Team up with classmates who have been assigned the same role as you. Develop your roles and discuss ideas and “strategies” before the role play begins.

Introduce yourself to the other role players.

### **Role A – Scientist A**

You are horrified at the thought of xenotransplantation. You think all kinds of new and dangerous diseases will develop. Humans will be changed forever. The human species will eventually become weaker and be more prone to unknown diseases. It is far too risky to transplant pig organs.

THINK OF MORE REASONS AGAINST XENOTRANSPLANTATION.

### **Role B – Scientist B**

You think xenotransplantation is the greatest medical development in a century. It will help save millions of lives, help blind people see and overcome many medical problems. Science can prevent diseases from crossing species. Humans will always be human.

THINK OF MORE REASONS FOR XENOTRANSPLANTATION.

### **Role C – Patient**

You have a serious heart problem. If you do not have a heart transplant in the next six months, you will die. You are prepared to test a pig heart. It may mean you have a longer life and possibly help millions of others who are on organ donation waiting lists.

THINK OF MORE REASONS WHY YOU SHOULD TRY A PIG HEART.

### **Role D – Concerned citizen**

You are very worried about organs from animals being transplanted into humans. You think the human species will change, perhaps become weaker and then become extinct. You think it is ridiculous to take such a risk. You believe God did not intend us to be half human.

THINK OF MORE REASONS AGAINST XENOTRANSPLANTATION.

Change roles and repeat the role play. Comment in groups about the differences between the two role plays.

In pairs / groups, discuss whether you really believe in what you said while you were in your roles.



## **LISTENING**

Listen and fill in the spaces.

### **Pig organ transplants within 5 years**

**BNE:** Scientists have \_\_\_\_\_ that the transplantation of organs from animals to humans could become a \_\_\_\_\_ within five years. The process, xenotransplantation, is cited by many as being the \_\_\_\_\_ for an acute shortage of organs and organ donors. It is estimated there are five times more people in need of organs than there are \_\_\_\_\_ kidneys, hearts and lungs. Dr. Anthony Warrens, from London's Imperial College said in a press release: "Although the idea of xenotransplantation is \_\_\_\_\_, it is only in recent years that many of the potential immunological problems, such as transplant \_\_\_\_\_, have been solved, meaning the process of transplanting organs from one \_\_\_\_\_ into another, could soon be a reality."

Pigs will be the most likely \_\_\_\_\_ of organs. Their size and physiology are very similar to humans, which increases the \_\_\_\_\_ of organ compatibility. However, many immunological hurdles have yet to be \_\_\_\_\_. There are still unknown dangers of animal \_\_\_\_\_ crossing over and infecting humans. Dr. Warrens is positive, saying: "Although we can't say there is absolutely no danger of cross infection, I believe that in the future we will be able \_\_\_\_\_ many of the problems, reducing any potential risk." Dr. Warren also suggested this was ethically \_\_\_\_\_, as there is "widespread acceptance that it is regarded as ethically proper to \_\_\_\_\_ and then kill large numbers of pigs for food."

## **HOMEWORK**

**1. VOCABULARY EXTENSION:** Choose several of the words from the text. Use a dictionary or Google's search field (or another search engine) to build up more associations / collocations of each word.

**2. INTERNET:** Search the Internet and find more information on xenotransplantation. Share your findings with your class in the next lesson.

**3. PROS AND CONS:** Make a poster showing the pros and cons of transplanting animal organs into humans. Show your posters to your classmates in your next lesson. Did you all include similar things? Talk about the pros and cons.

**4. ARTICLE:** Write a newspaper report about a major health alert occurring with a xenotransplantation patient. Read your article to your classmates in the next lesson. Did you all have similar stories?

## ANSWERS

### TRUE / FALSE:

- a. T      b. T      c. F      d. F      e. F      f. F      g. T      h. T

### SYNONYM MATCH:

- |                  |            |
|------------------|------------|
| a. confirmed     | vouched    |
| b. cited         | quoted     |
| c. remedy        | solution   |
| d. acute         | severe     |
| e. solved        | ironed out |
| f. compatibility | fit        |
| g. hurdles       | obstacles  |
| h. ethically     | morally    |
| i. sound         | valid      |
| j. rear          | breed      |

### PHRASE MATCH:

- |                                    |                            |
|------------------------------------|----------------------------|
| a. could become a reality          | within five years          |
| b. cited by many                   | as being the remedy        |
| c. an acute shortage               | of organs and organ donors |
| d. the idea of xenotransplantation | is far from new            |
| e. potential                       | immunological problems     |
| f. Their size and physiology       | are very similar to humans |
| g. increases the likelihood        | of organ compatibility     |
| h. animal viruses crossing         | over and infecting humans  |
| i. there is absolutely no danger   | of cross infection         |
| j. suggested this was ethically    | sound                      |

### GAP FILL:

#### Pig organ transplants within 5 years

**BNE:** Scientists have **confirmed** that the transplantation of organs from animals to humans could become a **reality** within five years. The process, xenotransplantation, is **cited** by many as being the remedy for an **acute** shortage of organs and organ donors. It is estimated there are five times more people in need of organs than there are **available** kidneys, hearts and lungs. Dr. Anthony Warrens, from London's Imperial College said in a press release: "Although the idea of xenotransplantation is **far** from new, it is only in recent years that many of the potential immunological problems, such as transplant rejection, have been **solved**, meaning the process of transplanting organs from one **species** into another, could soon be a reality."

Pigs will be the most likely **provider** of organs. Their size and **physiology** are very similar to humans, which increases the likelihood of organ compatibility. However, many immunological **hurdles** have yet to be overcome. There are still unknown dangers of animal viruses crossing over and **infecting** humans. Dr. Warrens is positive, saying: "Although we can't say there is absolutely no danger of **cross** infection, I believe that in the future we will be able to deal with many of the problems, reducing any potential **risk**." Dr. Warren also suggested this was ethically **sound**, as there is "widespread acceptance that it is regarded as ethically proper to **rear** and then kill large numbers of pigs for food."