CANCER TREATMENT BREAKTHROUGH



Scan to review worksheet

Expemo code:
1D2E-X6HF-T9SI

1 Warm up

Discuss the questions in pairs or small groups.

1. Should we, as a species, spend more money on attempting to cure cancer and other serious illnesses?
2. Should medicine and medical care always be provided by the government for free? Why/why not?

2 Pre-listening task: vocabulary focus

Match words with the correct definitions.

cholesterol (n)	disorder (n)	hereditary (adj.)	leukemia (n)
remission (n)	donor (n)	palliative care (n)	sickle-cell anemia (n)

1. _____ a type of cancer in which too many white blood cells are produced, causing weakness and sometimes death
2. _____ a condition or illness that causes problems with the way part of the body or brain works
3. _____ a period during which a serious illness improves for a time and the patient seems to get better
4. _____ medical treatment that reduces pain without curing its cause
5. _____ a person who gives blood or a part of his or her body to be used by doctors in medical treatment
6. _____ a serious blood disease that is found mostly in people of African family origins, and which is passed down from parents to children
7. _____ given to a child by its parents before it is born
8. _____ a fatty substance found in most tissues of the body, which is linked to higher risk of heart disease if found in large amounts in the blood

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3 Listening for specific information

Listen to the report. Match the items mentioned with the things they relate to.

10 13 4 6 Great Ormond Street Leicester

a. _____ The age of the girl who has been successfully treated.

b. _____ Where the girl is from.

c. _____ The name of the hospital at which the girl was treated.

d. _____ The number of months that Alyssa has been in remission for.

e. _____ The number of 'bases' that are the building blocks of our genetic code.

f. _____ The number of leukemia patients that the team hope to treat with the new therapy.



4 Listening for comprehension

Listen to the report again. Decide if the statements are true (T), false (F) or not given (NG).

1. Before receiving the new therapy, previous attempts to treat Alyssa's leukemia had failed. _____
2. If the therapy hadn't worked, doctors were considering alternative therapies. _____
3. Alyssa's therapy took place in a hospital in Leicester. _____
4. The treatment Alyssa received had been used several times before, on other patients. _____
5. Existing therapies are less precise than the new therapy, and have more side effects. _____
6. Alyssa received donated T-cells as part of the therapy. _____
7. The new therapy is already being used in trials to treat sickle-cell anemia. _____

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5 Reading: general vocabulary

Match the words in bold with the correct definitions.

1. Some vaccines target specific **proteins** within our cells. (n)
2. In marketing, television commercials are often intended to **trigger** an emotional response in viewers. (v)
3. When you have an allergy, your body's **immune response** to a substance can be too severe, causing various problems. (n)
4. The surgery is quite **invasive**, so they'll put me to sleep for the whole thing. (adj.)
5. Biff is receiving **cognitive** therapy to help with his anger problems. (adj.)
6. **Coupled with** the cold weather, the energy crisis could become a serious problem this winter. (phr. v)
7. The electricity company said that the **spike** in my bill was probably caused by a faulty heater. (n)
8. Farmers often use animal **waste** to help crops to grow. (n)

a. connected with mental processes of understanding
b. the reaction of the body to the presence of something that can cause disease, etc.
c. consider one thing along with or in addition to something else
d. solid or liquid material that the body gets rid of
e. (of medical treatment) involving cutting into the body
f. make something happen suddenly
g. a substance, found within all living things, that forms the structure of muscles, organs, etc.
h. (usually singular) a sudden large increase in something

Discuss these questions in pairs.

1. Do you think that invasive procedures should be avoided if possible?
2. Why do you think that we often experience cognitive decline as we age?
3. Should ads that are designed to trigger emotional responses, be banned?

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6 Pre-reading task: reading for general understanding

You are going to read a text about five new medical breakthroughs. Scan the text quickly and match the statement with the correct medical breakthrough. One statement cannot be matched to any of the five examples and should be marked 'Not given'.

1.	**A more precise treatment**	a.	The Covid vaccine
2.	**Younger patients**	b.	Not given
3.	**Helping patients with heart problems**	c.	Alzheimer's breakthroughs
4.	**Tackling two health problems in one go**	d.	Repairing damaged livers with lab-grown cells
5.	**Battling an infectious disease**	e.	Type 2 diabetesinjection
6.	**An easier testing method**	f.	Prostate cancer hope



Now, look at the following sentences. In pairs, discuss the meaning of the underlined phrase in each sentence. In which context do you think each sentence may be used?

1. Regarded as one of the **holy grails** of medical research, a cure for the common cold would be a major breakthrough.
2. Our football team went **under the radar** for most of the season, so everyone was shocked when we won the league.

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Medical Breakthroughs

2022 has been a difficult year for many of us, but it isn't all doom and gloom. We look at five medical advances from recent times that may well save lives and improve our way of living forever.

1. **The Covid Vaccine**

When Covid-19 hit in early 2020, it caused widespread chaos, panic and suffering. Fortunately, scientists from around the world came together to create a series of vaccines in record time, taking advantage of recent scientific advances. From the mRNA vaccines, which teach our cells to make a protein that triggers an immune response to more traditional variants, such as the Oxford/AstraZeneca vaccine which could be mass-produced very cheaply, the Covid vaccination program is one of the greatest medical success stories of our times. Some studies estimate that, between 2020 to 2021, Covid vaccines prevented almost 20 million deaths worldwide.

2. **Alzheimer's breakthroughs**

First, there was a blood test that could detect Alzheimer's disease – developed in the US, the test is just as effective as previous, more invasive methods, relying on identifying amyloid plaques that are seen as a common sign of Alzheimer's. Then, in November, a new drug was announced that appears to slow cognitive decline in patients with the disease. Both test and drug are promising, and, although the drug is far from a cure, there are hopes that scientists are finally on the right path after decades of research. Alzheimer's is the leading cause of death in countries such as the UK. A cure for the disease is seen as one of several *holy grails* of medical research.

3. **Prostate cancer hope**

Although no cure has yet been found for cancer as a whole, advances in science are helping doctors to successfully tackle individual variants of the disease. A new approach to treating prostate cancer involves targeting proteins found in cancerous cells directly, sparing surrounding tissue and increasing both life quality and expectancy. The method has even been successful at treating patients with advanced forms of the disease. Coupled with improved early detection techniques, the outlook for those suffering from this type of cancer may be set to drastically improve.

4. **Type 2 diabetes injection**

Diabetes is a huge problem around the world. In the US, one in ten individuals suffers from the disorder. A new therapy involves weekly injections of a combination treatment below the skin, which limits spikes in blood sugar levels following meals. The drug also slows digestion, potentially allowing it to effectively treat both diabetes and obesity in one go. Many diabetics need to inject themselves with medication once per day, so a weekly injection would be a significant improvement. Clinical trials are ongoing, but results are very promising so far.

5. **Repairing damaged livers with lab-grown cells**

Many medical firsts went under the radar during the early days of the pandemic. In 2021, researchers demonstrated a new technique: repairing human livers with cells grown in a lab. The cells in question were mini bile-ducts. Problems with bile ducts, which help the liver to dispose of waste, are the leading cause of liver transplants in children. Scientists converted cells from human gallbladders into bile duct cells in order to replace and repair damaged livers. The approach could also be used with other organs, making it a potentially vital advance in the field of organ transplants.

Sources: theguardian.com, bbc.com, bepartofresearch.uk

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7 Reading comprehension

Read the article again. Complete the sentences with between ONE to THREE words from the article.

1. The worldwide response to Covid-19 was impressive, with scientists coming together to create a _____ in record time.
2. According to some studies, Covid vaccines _____ almost 20 million deaths around the world between 2020 to 2021.
3. The new test works by _____ a common marker of Alzheimer's.
4. After _____, recent successes have led to hopes that scientists are finally on the right path.
5. Doctors have been aided in the battle against specific types of cancer by scientific _____.
6. As well as the new approach to treating prostate cancer, improvements to early _____ have brightened the outlook for patients.
7. Diabetes is common in the US in particular, with ten percent of _____ suffering from the disorder.
8. The new treatment would take the form of a _____.
9. Researchers were able to show, in 2021, that they could repair _____ with lab-grown cells.
10. The new approach could be used with other _____ as well.

8 Reading: medical vocabulary

Using the text above for reference, complete the definitions of the biology vocabulary below by filling in the gaps with the correct words from the list.

attached cleans protein tube

1. **liver**: a large organ in the body that _____ the blood
2. **bile-duct**: the _____ that carries bile from the liver and gallbladder
3. **gall bladder**: an organ _____ to the liver
4. **amyloid plaque**: a collection of _____ that forms in the brains of people with Alzheimer's disease

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9 Talking point

In pairs or small groups, discuss the following questions.

1. Why do you think that some diseases and disorders receive more attention and funding than others?
2. How should we test new medicines? Is it ethical to test them on animals or people?
3. Do you think that there will be significant medical advances in the near future?
4. Are you surprised that we haven't found cures for all types of cancers and common colds yet?
5. Do you think your country spends enough money on healthcare?
6. In the report, Alyssa was treated by a type of gene therapy. Can you think of any ethical concerns regarding gene therapy?
7. In medicine, should doctors prioritize younger patients over older ones?

10 Extended activity/writing homework

Write an opinion essay on the topic below. Your essay should agree with or disagree with the statement and should be between 260 – 320 words.

There are more potential benefits of gene therapy than disadvantages. If we can modify human genes in order to save lives, we should do so.

Alternative extended activity:

Write an essay about the most important medical breakthrough – in your opinion – of the 21st century so far, using your own research. Your essay should be between 260 – 320 words.

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