

## Scientists say they can reverse ageing process

25th November, 2020



Scientists in Israel say they have conducted tests to successfully stop and reverse the biological ageing process. The tests were part of a joint project by Tel Aviv University and the Shamir Medical Center.

The researchers said the science behind their experiments was very simple - they used only oxygen to slow down and turn around what happens to cells as they age. They used high-pressure oxygen on cells that were in a pressure chamber. The scientists said two processes related to ageing and illnesses slowed down. The scientists did tests on 35 adults over the age of 64 for 90 minutes a day, five times a week for three months. Their study was published in the magazine "Ageing" on November the 18th.

A lead scientist explained how important his team's research was. Professor Shai Efrati says the study shows that the ageing process can be reversed at the cellular level. He says we may be able to stop telomeres from shortening. Telomeres are inside cells. The shorter they become, the more we age. If we can stop them getting shorter, cells will not age. Professor Efrati said: "Today telomere shortening is considered the 'Holy Grail' of the biology of ageing. Researchers around the world are trying to develop [drugs] that enable telomere lengthening." He added: "The study gives hope, and opens the door for a lot of young scientists to target ageing as a reversible disease."

Sources: [aljazeera.com](http://aljazeera.com) / [timesofisrael.com](http://timesofisrael.com) / [metro.co.uk](http://metro.co.uk)

## Writing

It is better to let people age naturally than to slow ageing down. Discuss.

## Chat

Talk about these words from the article.

scientists / tests / biological / ageing process / experiments / oxygen / pressure / important / research / level / age / world / develop / hope / scientists / disease

## True / False

- a) Scientists will start new tests to speed up the ageing process. T / F
- b) The scientists used high-pressure oxygen in their experiments. T / F
- c) Three processes related to ageing were slowed down in the tests. T / F
- d) The tests were on 64 adults over the age of 35. T / F
- e) A professor says ageing can be turned around at the cellular level. T / F
- f) There are things in cells called telomeres, which lengthen as we age. T / F
- g) A professor says telomere shortening is important in chemistry. T / F
- h) The professor says young scientists can target ageing as a disease. T / F

## Synonym Match

(The words in **bold** are from the news article.)

- |                       |                |
|-----------------------|----------------|
| 1. <b>conducted</b>   | a. described   |
| 2. <b>reverse</b>     | b. tests       |
| 3. <b>experiments</b> | c. issued      |
| 4. <b>age</b>         | d. aim at      |
| 5. <b>published</b>   | e. carried out |
| 6. <b>explained</b>   | f. advance     |
| 7. <b>stop</b>        | g. get older   |
| 8. <b>considered</b>  | h. halt        |
| 9. <b>develop</b>     | i. turn around |
| 10. <b>target</b>     | j. thought     |

## Discussion – Student A

- a) How do you feel about ageing?
- b) What are the good things about ageing?
- c) Would you like to age at a slower rate?
- d) Do you like getting older?
- e) What is the best age to be?
- f) Would you like to take drugs to make you younger?
- g) What three adjectives best describe this story?
- h) What advice do you have for old people?

## Phrase Match

- |   |                            |
|---|----------------------------|
| 1. Scientists in Israel say they have conducted | a. project                 |
| 2. reverse the biological                       | b. his team's research was |
| 3. The tests were part of a joint               | c. was very simple         |
| 4. the science behind their experiments         | d. a reversible disease    |
| 5. two processes related                        | e. tests                   |
| 6. A lead scientist explained how important     | f. cells will not age      |
| 7. the ageing process can be reversed           | g. telomere lengthening    |
| 8. If we can stop them getting shorter,         | h. ageing process          |
| 9. trying to develop drugs that enable          | i. at the cellular level   |
| 10. target ageing as                            | j. to ageing and illnesses |

## Discussion – Student B

- What do you think about what you read?
- What are the bad things about ageing?
- Would you like to live to be 200 years old?
- What is the worst age to be?
- How important is the scientists' research?
- Do you think ageing is a disease?
- What would happen to the world if everyone lived to be 200?
- What questions would you like to ask the researchers?

## Spelling

- they have dotndeccu tests
- the oalgibocli ageing process
- part of a joint jectopr
- they used only gxyneo
- in a resurspe chamber
- edhclubpis in the magazine "Ageing"
- at the uallecr level
- stop telomeres from neosnrghit
- ddseciorne the 'Holy Grail'
- trying to poevdle drugs
- young scientists to aretgt ageing
- a eiblrvrsee disease

### Answers – Synonym Match

1. e	2. i	3. b	4. g	5. c
6. a	7. h	8. j	9. f	10. d

## Role Play

### Role A – Wrinkles

You think wrinkles are the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): memory loss, muscle loss or loss of bladder control.

### Role B – Memory Loss

You think memory loss is the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): wrinkles, muscle loss or loss of bladder control.

### Role C – Muscle Loss

You think muscle loss is the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): memory loss, wrinkles or loss of bladder control.

### Role D – Loss of Bladder Control

You think loss of bladder control is the worst thing about old age. Tell the others three reasons why. Tell them why their things aren't as bad. Also, tell the others which is the least worrying of these (and why): memory loss, muscle loss or wrinkles.

## Speaking – Getting Old

Rank these with your partner. Put the worst things about getting old at the top. Change partners often and share your rankings.

- |               |                           |
|---------------|---------------------------|
| • Wrinkles    | • Heart problems          |
| • Grey hair   | • Poor eyesight           |
| • Memory loss | • Oral health             |
| • Muscle loss | • Loss of bladder control |

### Answers – True False

a	F	b	T	c	F	d	F	e	T	f	F	g	F	h	T
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Answers to Phrase Match and Spelling are in the text.