

Brake pads could harm our immune system

14th January, 2020



There is a newly-found menace on the roads that could be harming our health - brake pads from road vehicles. Scientists have discovered that toxic dust and metal particles from worn-out brake pads could have the same harmful impact on

our bodies as diesel emissions. King's College London found that fine dust released when a vehicle brakes could cause a number of health problems. These include an inflammation of the lungs, reduced immunity, an increased risk of respiratory problems, and serious infections like bronchitis or pneumonia. It is estimated that 93 per cent of particulate pollution from traffic comes from sources such as tyres, clutches and brake wear, and road dust.

The scientists say brake dust could be the cause of a condition they have dubbed "London throat". Sufferers are the city dwellers who continually experience runny noses and irritating coughs and colds. These could be caused by people inhaling the brake dust. Metal particles coat the lungs and prevent cells in our immune system from clearing harmful bacteria. Researcher Dr Ian Mudway said dust from the various sources of friction within vehicles casts doubt on motor industry claims of zero-emission cars. He said: "There is no such thing as a zero-emission vehicle. As regulations to reduce exhaust emissions kick in, the contribution from [sources such as brake dust] are likely to become more significant."

Sources: bbc.com / rsc.org / telegraph.co.uk

Writing

The centre of all cities should be vehicle-free to protect our health. Discuss.

Chat

Talk about these words from the article.

menace / health / brake pads / vehicles / toxic / metal / health problems / traffic / scientists / throat / runny noses / lungs / immune system / friction / motor industry

True / False

- The article said new brake pads cause the most harm. T / F
- A scientist said brake pad dust can cause things like pneumonia. T / F
- Around 93% of traffic emissions comes from car exhausts. T / F
- The clutches in cars also cause pollution. T / F
- Scientists said brake pads could cause something called London throat. T / F
- Metal particles in brake pad dust stop our immune system doing its job. T / F
- A researcher said there is no such thing as zero-emission vehicles. T / F
- A scientist said the brake pad dust problem is now reducing. T / F

Synonym Match

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

- | | |
|------------------------|---------------------|
| 1. menace | a. reckoned |
| 2. toxic | b. swelling |
| 3. impact | c. come into effect |
| 4. inflammation | d. poisonous |
| 5. estimated | e. annoying |
| 6. dubbed | f. abrasion |
| 7. irritating | g. danger |
| 8. inhaling | h. named |
| 9. friction | i. effect |
| 10. kick in | j. breathing in |

Discussion – Student A

- What menaces are there on the road?
- How unhealthy are roads?
- Will you now worry when you walk near traffic?
- What do you think of breathing in metal brake pad particles?
- What does our immune system do?
- How much of our 21st-century lifestyle is harming our health?
- Do you think we should all wear face masks on the streets?
- How can we reduce the need for vehicles to brake?

Phrase Match

- | | |
|-------------------------------------|-----------------------------|
| 1. toxic dust and metal | a. more significant |
| 2. diesel | b. pollution |
| 3. an increased risk of respiratory | c. noses |
| 4. 93 per cent of particulate | d. of a condition |
| 5. sources such as tyres, clutches | e. problems |
| 6. brake dust could be the cause | f. emissions |
| 7. runny | g. on motor industry claims |
| 8. people inhaling | h. and brake wear |
| 9. casts doubt | i. the brake dust |
| 10. likely to become | j. particles |

Discussion – Student B

- What do you think about what you read?
- What throat problems have you had?
- What do you think of the name "London throat"?
- How do you feel about inhaling pollutants?
- How much damage do zero-emission cars do to the environment?
- Is there any friction between you and other people?
- Should all city centres be vehicle-free?
- What questions would you like to ask the researchers?

Spelling

- a newly-found amcnee on the roads
- xocit dust
- metal iastpcelr
- diesel sioisesmn
- risk of reproriyat problems
- It is steidatme that 93 per cent...
- a condition they have dbbeud "London throat
- city lireeldws
- runny noses and iirnagrirtt coughs
- ininahgl the brake dust
- sources of trioifnc
- As regulations to reduce taushex...

Answers – Synonym Match

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

Role Play

Role A – Fewer Accidents

You think fewer accidents is the best thing about having no cars. Tell the others three reasons why. Tell them what is wrong with their advantages. Also, tell the others which is the least beneficial of these (and why): less pollution, relaxing shopping or health benefits.

Role B – Less Pollution

You think less pollution is the best thing about having no cars. Tell the others three reasons why. Tell them what is wrong with their advantages. Also, tell the others which is the least beneficial of these (and why): fewer accidents, relaxing shopping or health benefits.

Role C – Relaxing Shopping

You think relaxing shopping is the best thing about having no cars. Tell the others three reasons why. Tell them what is wrong with their advantages. Also, tell the others which is the least beneficial of these (and why): less pollution, fewer accidents or health benefits.

Role D – Health Benefits

You think health benefits is the best thing about having no cars. Tell the others three reasons why. Tell them what is wrong with their advantages. Also, tell the others which is the least beneficial of these (and why): less pollution, relaxing shopping or fewer accidents.

Speaking – Car-Free

Rank these with your partner. Put the best car-free benefits at the top. Change partners often and share your rankings.

- | | |
|---------------------------|---------------------|
| • Better public transport | • Fewer accidents |
| • Less expensive | • Less pollution |
| • Health benefits | • Cleaner towns |
| • Space for more homes | • Relaxing shopping |

Answers – True False

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