



III OGÓLNOPOLSKA OLIMPIADA „JĘZYK ANGIELSKI W NAUKACH MEDYCZNYCH”

pod honorowym patronatem

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PAPER 2 – READING	
PARTICIPANT IDENTIFICATION CODE:	
TOTAL SCORE:	_____ / 40

PAPER 2 - READING COMPREHENSION

READING ONE

Read the following text and do the activities that follow.

Why are my blinking eyes so sore and watery? What causes dry eye syndrome and how to tackle it?

Adapted from The Daily Mail, October 2013

Sore, watery, uncomfortable eyes can be hugely debilitating. One of the most common causes is dry eye syndrome – which affects nearly five million Britons over the age of 45 and, despite its name, actually leads to more tears. The condition can be triggered by everything from the weather to hormonal changes, and also can be a symptom of an underlying health problem. Here the experts reveal what could be causing your eye trouble – and explain the ways to tackle it...

TEARS MATTER

When the eyes aren't producing enough tears, or the tears evaporate too quickly, we are said to be suffering dry eye syndrome. Symptoms include sore, irritated eyes, blurred vision, gritty eyes. Moreover, the eyes become very watery and even sometimes reddened.

About 20 per cent of people in the UK suffer from dry eye syndrome, rising to 50 per cent in those over 65. Rosie Gavzey, an optometrist and trustee of The Eyecare Trust, explains: 'As we get older the constitution of tears is just not quite as strong so the eyes become dry.'

Hormonal changes associated with ageing can also take their toll on the quality of our tears, she says.

'Some women find that when they hit the menopause they can no longer tolerate contact lenses. The same thing can happen when they take the pill or become pregnant.'

Surprisingly, sufferers of dry eye syndrome often find their eyes look watery, says Warwickshire-based optometrist Francesca Marchetti. 'The eye is dry and so it overproduces tears, but it doesn't help because the tears don't contain the right lubricants.'

Eye drops can help, and in the case of menopausal women, supplements such as evening primrose oil too.

ARE YOU A BAD BLINKER?

Regular blinking is crucial for healthy eyes, says Gavzey. 'Every time you blink, you're keeping your eyes refreshed and clearing the cornea.'

The problem is that when we're concentrating on something, particularly a screen, we tend to forget to blink – meaning the eyes become dry. Studies have shown that on average, we blink about 22 times a minute, but when we concentrate on a computer screen or smartphone, or even while driving, the rate goes down to between five and seven blinks per minute.

Many people also get into bad blinking habits, says Gavzey. 'It's a reflex action – but a good way to make sure your eyes stay fully lubricated is to blink slowly and deliberately every so often.'

'One way to check you're doing it correctly is to hold the tips of your index fingers on the outer corners of the eyelids. You'll notice that when you blink normally, your fingers will be pulled in. If you do it slowly and carefully – as if you are going to sleep – your fingers won't move as much. It might feel quite unnatural at first.'

A study published in the journal *Optometry And Vision Science* found that reading from a smartphone can cause eye strain because the eyes have to point in the right direction as well as focus on the small text, meaning they have to work harder.

When using a computer, smartphone or tablet for long periods, remember the 20-20-20 rule: every 20 minutes, look up for 20 seconds at something at least 20ft away. Or here's a tip from Ali Mearza, consultant ophthalmologist at Imperial NHS Trust: 'Think of the Enter or Return key as a "blink" key. Every time you hit it, remember to blink.'

WINTER IS THE WORST SEASON FOR DRY EYES

Cold weather won't worsen dry eyes – it's turning on the central heating that causes the problem, says Marchetti. 'Central heating can make the atmosphere very dry so your eyes might feel worse.' And if you've ever wondered why your eyes water during a winter walk, it's because the wind has dried them out, she says. 'It's that reflex action again. The eyes are overproducing tears because they're so dry.'

A NIGHT ON THE TILES WREAKS HAVOC

As if a hangover wasn't bad enough, excessive drinking can cause sore eyes because of its dehydrating effect on the body, says Shamina Asif, from the College of Optometrists. And for women, if you do have a late night, don't forget to take off your eye make-up.

'If you leave it on, it can cause and aggravate blepharitis, a common condition where the rims of the eyelid become red, swollen and itchy and the eyelashes crusty. Everyone should also make sure they give the area around the eyes a good wash when washing their face to prevent the condition.'

Blepharitis can be caused by a bacterial infection, or it can be a complication of a skin condition such as seborrhoeic dermatitis. 'If the symptoms persist, you should see an optometrist,' says Asif.

DON'T WASTE TIME ON EYE-BRIGHTENING DROPS

There are myriad eye drops for dry eyes, but always choose a preservative-free product, says Marchetti. The preservatives can, over time, cause you to develop an allergy and make dry eye syndrome worse. If a product is preservative-free, it should be stated on the pack.

Some people can find it difficult to put in eye drops. However, there are products that can be sprayed on to a closed eye, allowing the drops to be absorbed through the margins of the eye. 'Experts are divided as to whether or not they work, but a lot of my patients – especially those with shaky hands – find they are better than nothing,' says Marchetti.

If you do use eye drops, make sure you use them at least four to six times a day, she adds. 'Eye drops usually give instant relief but usually folk don't use them often enough, so they don't think they work. And they should be seen as a long-term treatment.'

Speak to your pharmacist in the first instance, but if eye problem persists for more than two weeks, it might be worth visiting your GP.

And don't bother with drops that promise to brighten the eyes, Marchetti says. 'These contain ingredients that work by constricting the blood vessels, making them look less red. But they won't give any relief against dry eyes.'

TASK 1. Decide if the statements below are true (T), false (F), not given (NG) according to what the above text says.

1. Only people in their forties and with some other underlying diseases tend to develop dry eye syndrome.
2. Dry eye syndrome makes the eye not moist enough, which may be a symptom of some developing diseases.
3. Symptoms of dry eye syndrome include the feeling of having sand in your eyes.
4. Substances that act as viscosity modifiers are fundamental components of tears and are necessary to keep the eye wet.
5. Regular blinking is vital in order to maintain the clarity of the white part of the eye.
6. According to the article eyelid fluttering is involuntary.
7. Binge alcohol intake causes the eye to be dehydrated and painful.
8. A condition where the edges of the eyelids become inflamed is brought on by infestation with a bug.
9. Stabilisers and additives are to be listed on the pack as well as the package leaflet.
10. If patients complied with the medication regimen, they wouldn't think they weren't effective.

SCORE: _____ /10

TASK 2. Circle the correct answer. Only one answer is correct.

1. The fact that dry eye syndrome is debilitating means
 - a. it is truly incapacitating and hampering
 - b. it stupefies and perplexes the affected person
 - c. it delays and hinders mental functioning of the affected person
 - d. it makes the affected person physically retarded
2. According to the article dry eye syndrome
 - a. is a disease itself
 - b. results from a viral infection
 - c. is an indication of a causative disease
 - d. a, b and c are correct
3. The phrase 'take (their) toll' means
 - a. impede damage and wear
 - b. cause damage and wear
 - c. bring about suffering
 - d. answers b and c are correct
4. The paper claims that reading from a smartphone may produce
 - a. eye fatigue
 - b. eye slowness
 - c. eye resting
 - d. eye reposing
5. Tear secretion is
 - a. voluntary
 - b. deliberate
 - c. unconscious
 - d. controlled

SCORE: _____ /5

READING TWO

TASK 3. Read the following text about the importance of oral hygiene and choose the appropriate word to fill in the gaps. Only one answer is correct in each case.

Beyond tooth decay: why good dental hygiene is important

Adapted from Medical News Today, October 2014

Most of us are aware that poor dental hygiene can lead to tooth decay, gum disease and bad breath - but not brushing your teeth could also have consequences for more serious illnesses. In this spotlight feature, to coincide with National Dental Hygiene Month, we peer beneath the dental (1) _____ to investigate what other - perhaps unexpected - health conditions are affected by poor dental health.

In 2010, researchers from New York University (NYU) concluded that there is a link between gum inflammation and Alzheimer's disease, after (2) _____ 20 years of data on the association. The researchers analyzed data from 152 subjects enrolled in a study looking at psychological, medical and oral health in Danish men and women. The study (3) _____ a 20-year period and ended in 1984, when the subjects were all over the age of 70. Comparing cognitive function at ages 50 and 70, the NYU team found that gum disease in people aged 70 was strongly associated with low scores for cognitive function. Study (4) _____ were nine times more likely to have a score in the lower range of the cognitive test - the "digit symbol test" (DST) - if they had inflammation of the gums.

In 2013, UK-based researchers from the University of Central Lancashire (UCLan) built on the findings of this study, by comparing brain samples from 10 living patients with Alzheimer's with 10 brain samples from people who did not have the disease. Analysis showed that a (5) _____ - *Porphyromonas gingivalis* - was present in the Alzheimer's brain samples but not in the samples from the brains of people who did not have it. (6) _____ was interesting was that *P. gingivalis* is usually associated with chronic gum disease.

The team followed up this research in 2014 with a new mouse study. *Medical News Today* spoke to co-author Dr. Sim K. Singhrao regarding the findings. Dr. Singhrao says that there is (7) _____ scientific evidence to show that two of the three gum disease-causing bacteria are capable of motion and have been consistently found in brain tissue.

"These (8) _____ bacteria can leave the mouth and enter the brain via two main routes," he explains. "They can use their movement capability to directly enter the brain. One of the paths taken is to (9) _____ up the nerves that connect the brain and the roots of teeth. The other path is indirect entry into the brain via the blood circulation system. *P. gingivalis* is particularly interesting as it has found ways to (10) _____ a lift from red blood cells when in the blood stream and instead of getting 'off the red blood cell bus' in the spleen, they choose to get off in the brain at an area where there are no immune checkpoints. From there, they spread to the brain (11) _____ their will. In addition, in older individuals, the blood vessels tend to enlarge and become (12) _____. The published work confirmed *P. gingivalis* placed in the mouths of mice finds its way to the brain once gum disease becomes established first," Dr. Singhrao concludes. "(13) _____, our hypothesis is strengthened by the recent results demonstrating that the chemicals released by the brain's immune system in response to *P. gingivalis* reaching the brain (14) _____ damage functional neurons in the area of the brain related to memory."

A research team from Harvard School of Public Health in Boston, MA, were the first to report strong evidence on a link between gum disease and pancreatic cancer, back in 2007.

The type of gum inflammation associated with pancreatic cancer in the study was (15) _____, which affects the tissue that support the teeth and can cause loss of bone around the base of the teeth.

Examining data on gum disease from the Health Professionals Follow-Up Study, which involved a (16) _____ of more than 51,000 men and began collecting data in 1986, the Harvard researchers found that men with a (17) _____ of gum disease had a 64% increased risk of pancreatic cancer compared with men who had never had gum disease. The greatest risk for pancreatic cancer among this group was (18) _____ men with recent tooth loss. However, the study was unable to find links between other types of oral health problems - such as tooth decay - and pancreatic cancer. The researchers suggest that there may be a link between high levels of (19) _____ compounds found in the mouths of people with gum disease and pancreatic cancer risk. They argue that these compounds - called nitrosamines - may react to the digestive chemicals in the gut in a way that creates an environment (20) _____ to the development of pancreatic cancer. However, a follow-up study from the team in 2012 was (21) _____ to prove whether the periodontitis bacteria are a cause or result of pancreatic cancer - the study could only prove that the two were linked.

Perhaps better established is the association between dental hygiene and heart disease.

In 2008, *MNT* reported on research which found that people with bleeding gums (22) _____ poor dental hygiene could be increasing their risk of heart disease. The researchers discovered that heart disease risk increased because - in people who have bleeding gums - bacteria from the mouth are able to enter the bloodstream and stick to platelets, which can then form blood (23) _____, interrupting the flow of blood to the heart and triggering a heart attack.

The researchers investigated how the bacteria interact with platelets by mimicking the pressure inside the blood vessels and the heart. The team found that the bacteria use the platelets as a defense mechanism. By clumping the platelets together, the bacteria are able to completely surround themselves. This platelet armor (24) _____ the bacteria from attack by immune cells and makes them less detectable to antibiotics.

Although some of the associations we have looked at in this spotlight feature are still under investigation, good dental hygiene remains important for lowering risk of a variety of conditions. The American Dental Hygienists' Association (ADHA) recommend that we should brush for 2 minutes, twice daily. The ADHA guidelines also stress the importance of (25) _____ daily and rinsing with mouthwash.

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|-------------------|--------------|----------------|---------------|
| 1. A plate | B sediment | C plaque | D residue |
| 2. A reflecting | B rethinking | C inspecting | D reviewing |
| 3. A stretched | B extended | C included | D spanned |
| 4. A participants | B members | C perpetrators | D contestants |
| 5. A bacteria | B bacteriums | C bacterium | D bacterias |
| 6. A That | B What | C It | D Which |
| 7. A sufficient | B deficient | C meagre | D suffice |

- | | | | |
|--------------------|-----------------|-----------------|----------------|
| 8. A volatile | B motile | C portable | D movable |
| 9. A creep | B slither | C crawl | D scrabble |
| 10. A call | B offer | C serve | D hitch |
| 11. A with | B as | C at | D in |
| 12. A leaky | B permeable | C incontinent | D draughty |
| 13. A Furthermore | B Nevertheless | C Likewise | D Incidentally |
| 14. A inadequately | B inadvertently | C inalienably | D inadvisably |
| 15. A stomatitis | B parotitis | C periodontitis | D peritonitis |
| 16. A company | B gathering | C cohort | D collection |
| 17. A background | B history | C story | D biography |
| 18. A with | B in | C for | D over |
| 19. A carcinogenic | B teratogenic | C malignant | D neoplastic |
| 20. A inauspicious | B sympathetic | C favourable | D benevolent |
| 21. A fail | B incapable | C disable | D unable |
| 22. A from | B with | C due | D since |
| 23. A lumps | B clumps | C clots | D chunks |
| 24. A shells | B shifts | C shelters | D shields |
| 25. A threading | B flossing | C scaling | D probing |

SCORE: _____/25