

医学文化英语教程 General English

for Medical Students

主 编: 刘泽华 雷 蕾 副主编: 黄 婷 王 莉 编 者: 荣邦春 叶 琳 汪 文 赵庆红

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前言

《医学文化英语教程》以医学文化为切入点,通过介绍医学文化内容来提高学生尤其是医学生的英语阅读水平。不同于普通医学英语教材,此书是基于内容的,旨在培养医学生独立阅读医学英语书刊的能力,拓宽其眼界,而不仅仅拘泥于医学词汇和英语语言技能。

本书涉及内容广泛,以医学为中心,展现其与法律、伦理、宗教以及艺术和科幻等 领域的领域交汇与碰撞。文章的选择具有较强的专业性,所涵盖的内容生动有趣,同时 又能考察和提高学生的医学英语阅读能力。

本书共分为10个单元,每个单元有明确主题,分别为:重大疾病,医学突破, 医学与法律,医学与伦理,医学领军人物,医学与宗教,艺术和科幻,克隆和移植, 流行性疾病,中西医对比,以及医学与食品安全。

每单元选4篇文章,依次为A精读、B快速阅读、C泛读和D课后阅读。A、B、C课文中的难点词汇有脚注,在每篇精读A文章后还附有详细的中英文词汇解释以供学生进一步深入学习。每篇文章后附有相应的习题,习题设计主要基于学生对于文章内容的理解而不是考察语法语言技能。每个单元的最后还会列举一些与单元主题相关的话题,鼓励学生搜查更多相关资料,丰富自己的知识,进一步拓宽自己的眼界。

本书所选文章来自多家网络和报刊杂志,因篇幅所限无法一一列出,在此向各位作者表示由衷感谢!

本书由华中科技大学的刘泽华与雷蕾副教授担任主编,王莉、黄婷、荣邦春、叶琳、汪文和赵庆红老师担任编写工作。这些老师都在华中科技大学同济医学院担任了多年的英语教学工作,在大学英语教学尤其是医学英语教学方面有着更加深刻的体验和经验,对医学生的能力和需求有更多的了解,因此在编写过程中更能结合实际,抓住重点。

在编写此书的过程中,编者所在单位的领导以及许多同事都给予了大力的支持、指导和帮助,不胜感激。由于编者水平有限,书中难免会有错误和不妥之处,欢迎批评指正!

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Text A Intensive Reading

Piercing the Fog Around Cellphones and Cancer



The debate about cellphone safety was **reignited** yet again last week when a **panel** of the World Health Organization¹ declared that it was "possible" the phones could cause cancer.

This is the first time a major health organization has suggested such a link, and it was promptly disputed by many scientists, who have been saying for years that there is **scant** evidence cellphones cause cancer and that it is biologically **implausible** to think they could.

So what do we really know about cellphones and health? Here are some answers to

¹ World Health Organization 世界卫生组织

common questions about the issue.

What is the source of the latest claim?

The panel, the International Agency for Research on Cancer, acts as an adviser to the World Health Organization, focusing on environmental and lifestyle factors that may contribute to cancer.

Since 1971, the agency's "monographs" program has evaluated more than 900 such factors, assigning each of them to one of five classification groups. It has found that 107 are carcinogenic to humans, including asbestos, estrogen and tobacco, and 59 are "probably carcinogenic", including the human papillomavirus¹ and night-shift work.

In addition, 266 agents—including certain industrial chemicals, coffee and now cellphones—are "possibly" carcinogenic. The panel has been unable to reach a conclusion on 508 agents, calling them "not classifiable"; these include chlorinated drinking water, fluorescent lighting² and tea.

Only one of more than 900 factors studied—a nylon-manufacturing chemical found in drinking-water supplies—has been declared "probably not carcinogenic". On what did the panel base its cellphone findings?

Cellphones give off a weak form of energy called nonionizing radiation³, and the panel said it performed an exhaustive review of numerous studies of this type of radiation in animals and humans.

The human studies all are observational, showing only an association between cellphone use and cancer, not a causal relationship. Some of the research suggests links to three types of tumors: cancer of the **parotid**, a salivary gland⁴ near the ear; acoustic neuroma⁵, a tumor that essentially occurs where the ear meets the brain; and glioma⁶, the aggressive brain **tumor** whose victims have included Senator Edward M. Kennedy.

All these tumors are rare, so even if cellphone use does increase risk, the risk to any individual is still very low.

The largest and longest study of cellphone use is called **Interphone**, a vast research effort in 13 countries, including Canada, Israel and several in Western Europe. The results, published in *The International Journal of Epidemiology*⁷ last year, found no overall link between cellphone use and brain tumors. But the investigators reported that study

¹ papillomavirus 乳头瘤病毒

² fluorescent lighting 荧光照明

³ nonionizing radiation 非电离辐射

⁴ salivary gland 唾液腺

⁵ acoustic neuroma 听神经瘤

⁶ glioma 神经胶质瘤

⁷ The International Journal of Epidemiology《国际流行病学杂志》

participants with the highest level of cellphone use had a 40 percent higher risk for glioma.

Another study, in *The American Journal of Epidemiology*, published data from Israel finding a 58 percent higher risk of parotid gland tumors among heavy cellphone users. A Swedish analysis of 16 studies in the journal *Occupational and Environmental Medicine*¹ showed a doubling of risk for acoustic neuroma and glioma after ten years of heavy cellphone use.

So it sounds as if the research has, in fact, found "possible" links between cellphones and cancer. Why do scientists dispute that?

The research is plagued by **methodological** problems. Over all, the Interphone study suggested that cellphone users are less likely to get cancer. Nobody believes that cellphones protect you from cancer, so the finding is considered an **anomaly**, attributable to biases and errors in the data. Critics say you can't pick and choose. If one finding must be dismissed because of faulty data, then so must the others.

Moreover, if cellphones caused brain tumors, we should have seen a worldwide increase in brain tumors **pandemic** as the phones became ubiquitous. That hasn't happened.

"If you look at brain cancer around the world over 25 years that cellphones have been in use, there's no suggestion at all of any increase in rates," said Dr. Meir J. Stampfer, professor at the Harvard School of Public Health and consultant to the cellphone industry. "In science, unlike math, we can't have absolute certainty, but in the scheme of things, this is not a health risk I would be concerned about at all." But cellphones do emit radiation. Doesn't radiation cause cancer?

The nonionizing radiation given off by cellphones is too weak to break chemical bonds or damage DNA. Scientists have said repeatedly that there is no known biological mechanism to explain how it might lead to cancer or other health problems. That does not entirely close the argument. This year *The Journal of the American Medical Association*² reported on research from the National Institutes of Health finding that less than an hour of cellphone use can speed up brain activity in the area closest to the **antenna**. The study offered a **hypothetical** mechanism for harm from low levels of nonionizing radiation: Perhaps it sets off free radicals or an inflammatory response in the brain.

What's the story behind that Internet video showing cellphones popping popcorn?

In the video, four cellphones are pointed at a pile of kernels that soon begin popping. It has been widely forwarded and accepted as the real thing, but in fact it's just a viral marketing³ campaign by the maker of Bluetooth **headsets**.

¹ Occupational and Environmental Medicine《职业与环境医学杂志》

² The Journal of the American Medical Association《美国医学会杂志》

³ viral marketing 病毒式营销

Speaking of headsets, are Bluetooth earpieces safer than putting a cellphone to the ear?

Bluetooth is a technique that allows electronic devices to communicate wirelessly. To do so, the device emits very low levels of radiation. Nobody has conducted research looking at the health effects of Bluetooth earpieces.

One concern is that even though the device emits less radiation than a cellphone, it goes directly inside the ear, closer to the brain. Short of not using a cellphone, the lowest exposure would come from using the speaker phone or a wired headset or ear buds.

That said, any risk from the **electromagnetic** fields emitted by a Bluetooth device is negligible, according to William G. Scanlon, professor of Wireless Communications at Queen's University Belfast in Northern Ireland. Bluetooth "is so low-power", he wrote in an e-mail, that devices using it "would be well down the list of things to avoid (including anything with WiFi)".

If everyone says the risk is low, what's all the fuss about?

Despite the reassuring data, it's important to remember that all of the humans studied so far began using cellphones as adults. With an entire generation having now been exposed to cellphones since childhood, nobody knows the health effect of a lifetime of exposure.

"We've hit the point where today's children are going to use a cellphone or something like a cellphone for most of their lives," said Dr. Jonathan Samet, professor of Preventive Medicine at the University of Southern California and chairman of the panel that suggested the cellphone-cancer link. "We do need to understand if there is a risk of cancer or anything else."

| reignite | ν. | ignite or cause to ignite again 再次点燃 |
|----------------|------|--|
| panel | n. | a small group of people brought together to discuss |
| | | investigate, or decide on a particular matter, especially in |
| | | the context of business or government 专门小组 |
| scant | adj. | barely sufficient or adequate 不足的, 缺乏的 |
| implausible | adj. | (of an argument or statement) not seeming reasonable or |
| | | probable; failing to convince 难以置信的 |
| monograph | n. | a detailed written study of a single specialized subject or an aspect of it 专题论文 |
| carcinogenic | adj. | having the potential to cause cancer 致癌的 |
| asbestos | n. | a heat-resistant fibrous silicate mineral that can be woven |
| | | into fabrics, and is used in fire-resistant and insulating |
| | | materials such as brake linings 石棉 |
| estrogen | n. | any of a group of steroid hormones that promote the |
| | | development and maintenance of female characteristics |
| | | of the body. Such hormones are also produced artificially |
| | | for use in oral contraceptives or to treat menopausal and |
| | | menstrual disorders 雌激素 |
| agent | n. | a substance that exerts some force or effect 药剂 |
| chlorinate | ν. | impregnate or treat with chlorine 使氯化 |
| parotid | n. | the parotid gland is the largest of the salivary glands. It |
| | | is found wrapped around the mandibular ramus, and it |
| | | secretes saliva through Stensen's duct into the oral cavity |
| | | to facilitate mastication and swallowing 腮腺 |
| tumor | n. | a swelling of part of the body, generally without |
| | | inflammation, caused by an abnormal growth of tissue |
| | | whether benign or malignant 肿瘤 |
| interphone | n. | a telephone system for linking different rooms within a |
| | | building, ship, etc 对讲机 |
| methodological | adj. | of, pertaining to, or using methodology 方法的 |
| anomaly | n. | deviation from the normal or common order or form or rule 异常 |
| pandemic | adj. | (of a disease) prevalent over a whole country or the world |
| | | 普遍流行的 |
| antenna | n. | one of a pair of mobile appendages on the head of e.g |
| | | insects and crustaceans 触角, 触须 |

| hypothetical | adj. | of, based on, or serving as a hypothesis 假设的 |
|-----------------|------|---|
| headset | n. | a set of headphones, typically with a microphone attached, |
| | | used especially in telephone and radio communication 耳机 |
| electromagnetic | adj. | of or relating to the interrelation of electric currents or |
| | | fields and magnetic fields 电磁的 |
| | | |

After you read

I. Comprehension of the text

1. Try to match the factors with their classified groups according to the text.

| Factors | Classifications |
|-----------------------------------|------------------------------|
| 1) a nylon-manufacturing chemical | |
| found in drinking-water supplies | A) carcinogenic |
| 2) asbestos | |
| 3) night-shift work | B) probably carcinogenic |
| 4) cellphones | |
| 5) chlorinated drinking water | |
| 6) fluorescent lighting | C) possibly carcinogenic |
| 7) coffee | |
| 8) tobacco | |
| 9) human papillomavirus | D) not classifiable |
| 10) industrial chemicals | |
| 11) tea | |
| 12) estrogen | E) probably not carcinogenic |

2. Choose the best answer to complete each of the following statements.

| 1) |) The human studies showed an association between cellphone use and cancers | | | | | |
|--|---|--|--|--|--|--|
| | EXCEPT | | | | | |
| | A) acoustic neuroma | B) skin cancer | | | | |
| | C) glioma | D) parotid cancer | | | | |
| 2) A Swedish analysis of 16 studies of cellphone use indicates | | | | | | |
| | A) no link between cellphone use and brain tumors | | | | | |
| | B) a 40 percent higher risk of parotid gland tumors in the highest level user | | | | | |
| | C) a doubling of risk for acoustic new | uroma and glioma after 10 years of heavy | | | | |

C) a doubling of risk for acoustic neuroma and glioma after 10 years of heavy cellphone use

| | D) a 58 percent higher risk of glioma among hea | vy cellphone users | | | |
|--|--|--------------------------------------|--|--|--|
| 3) | 3) The finding "cellphone users are less likely to a | get cancer" is considered an anomaly | | | |
| | because | | | | |
| | A) nobody believes that cellphones protect them | from cancer | | | |
| | B) we have seen a worldwide increase in brain to | imors pandemic | | | |
| | C) cellphones do emit radiation | | | | |
| | D) there are biases and errors in the data | | | | |
| 4) The Internet video showing cellphones popping popcorn is actually | | | | | |
| A) a recent research finding | | | | | |
| | B) a hypothesis | | | | |
| | C) an evidence | | | | |
| | D) a viral marketing campaign | | | | |
| 5) Compared with putting a cellphone to the ear, Bluetooth earpieces are | | | | | |
| | A) more dangerous B) saf | er | | | |
| | C) more convenient D) car | cinogenic | | | |

II. Vocabulary

Fill in the blanks with the words given below. Change the form if necessary.

| in | off | than | on | or | level | up | set | to | close | |
|--|----------|------------|----------|------------|----------|---------|----------|--------|-----------|-------|
| The non | ionizing | radiatio | n given | 1) | | by cell | phones | is too | weak to b | reak |
| chemical bonds 2) damage DNA. Scientists have said repeatedly that there is no | | | | | | | | | | |
| known biological mechanism to explain how it might lead 3) cancer or other | | | | | | | | | | |
| health problems. That does not entirely 4) the argument. This year The Journal | | | | | | | | | | |
| of the American Medical Association reported 5) research from the National | | | | | | | | | | |
| Institutes of Health finding that less 6) an hour of cellphone use can speed | | | | | | peed | | | | |
| 7) | brai | n activity | y in the | e area cl | osest to | the an | tenna. | The st | udy offer | ed a |
| hypothetica | l mecha | nism for | harm f | rom low | 7 8) | | of no | nioniz | ing radia | tion: |
| Perhaps it 9) | | off f | ree radi | cals or ar | n inflam | matory | response | 10) _ | | _ the |
| brain. | | | | | | | | | | |

III. Writing

How do you understand the association between cellphone use and cancer? Write an essay of about 120 words to analyze it according to the information from the text.

Text B Fast Reading

Washington Post Opinion: HIV Treatment Can Be HIV Prevention

June 24, 2011—The U.S. AIDS epidemic² is at a turning point. It's been there before, first during the Reagan Administration³, which hoped to ignore AIDS but was shaken up by celebrity⁴ deaths and such courageous public servants as Dr. C. Everett Koop. Then, in the mid-1990's, drugs were developed that made HIV a manageable disease, but the Food and Drug Administration approval lagged⁵ science until patients took to the streets⁶.

The new millennium brought opportunity to rescue desperate Africans and Asians with the treatments that were saving lives in Europe and America. Thanks to leadership from the AIDS activists⁷ and President George W. Bush, we launched ambitious international initiatives that offered hope to millions in despair.

Today we face another historic opportunity. Science has proven what many at the people doing primary care⁸ and others at the forefront⁹ of the epidemic have long suspected: HIV treatment is remarkably effective HIV prevention. A recent study from the National Institutes of Health has shown that treating HIV patients with antiviral¹⁰ drugs makes them 96 percent less likely to pass on¹¹ the virus.

The public health implications are earthshaking: If we aggressively test for HIV and make treatment readily available, we can slash¹² the rate of new infections. The Centers for Disease Control and Prevention¹³ estimates that new US infections were 56,000 per year in 2006. That rate might be cut in half with more aggressive testing programs coupled with¹⁴ improved treatment access. Reducing new infections by half could save this country nearly \$15 billion each year over the long term.

¹ HIV 即human immunodeficiency virus 艾滋病病毒

² epidemic 流行病, 传染病

³ Reagan Administration 里根政府

⁴ celebrity 名人

⁵ lag 滞后

⁶ take to the street 走上街头示威

⁷ AIDS activists 艾滋病宣传员

⁸ primary care 初级护理

⁹ forefront 最前沿,第一线

¹⁰ antiviral 抗病毒的

¹¹ pass on 传递

¹² slash 削减

¹³ the Centers for Disease Control and Prevention疾病预防控制中心

¹⁴ coupled with 加上

Instead of making wise, cost-effective¹ investments in AIDS testing and treatment, the Obama Administration and Congress are being penny-wise and pound-foolish². The AIDS Drug Assistance Program (ADAP) provides drugs for as many as 200,000 patients. The number of people on waiting lists for ADAP ballooned³ from 99 in June, 2009 to 2,939 in September, 2010; 8,506 people were on the waiting list as of June 23. Additional thousands have been kicked out of the program or disqualified from joining because of program restrictions. It has literally become easier to obtain AIDS drugs in some African countries than in many states in this country.

Blame for failure to provide more vigorous and thorough HIV-testing programs lies with the government. The pharmaceutical industry must share blame for restricted access to treatment.

When the idea of treating the worldwide epidemic caught fire in 2000, the drug industry resisted. But, after recognizing the humanitarian crisis⁴ and the opportunity, it responded by lowering Third World HIV drug prices to where the poorest of the poor can be treated.

Today most US AIDS patients are impoverished. To remain well, stay on their jobs and off welfare, many depend on ADAP. However, the prices the drug companies charge ADAP for a year's regimen⁵ have escalated⁶ to \$12,000 per patient while federal and state funding for the program have failed to keep pace. The companies do offer rebates⁷ as well as patient assistance programs for those on waiting lists. The rebates are preferable because they allow treatment to continue through ADAP, which is more user-friendly than the patient assistance programs are.

HIV drug profits are exceptionally high, as indicated by the 37 percent earned on sales in 2010 by Gilead, the leading HIV drugmaker. This is twice the general profit level in the pharmaceutical industry⁸, which is itself substantially higher than in most industries. Despite the skyrocketing⁹ numbers of people on ADAP waiting lists, this year only one company, Abbott, has offered to augment¹⁰ its rebates. Federal and state governments can no longer afford to subsidize the lofty profits that were useful when new HIV drugs needed robust

¹ cost-effective 划算的,成本效益好的

² penny-wise and pound-foolish 省小钱吃大亏的

³ balloon 激增

⁴ humanitarian crisis 人道主义危机

⁵ regimen 治疗方案

⁶ escalate 逐步升高

⁷ rebate 折扣

⁸ pharmaceutical industry 制药业

⁹ skyrocketing 飞涨的

¹⁰ augment 增加