普通高等教育创新规划教材
高等医学院校教材

READING AND WRITING
ENGLISH FOR MEDICAL PURPOSE

医学人文英语

读写教程 II

李 响 张 聪◎主编

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II

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内容提要

本书为“普通高等教育创新规划教材”“高等医学院校教材”，主要选择医学人文方面人们关注较多的热点话题，构建独具特色的医学英语学习的框架，从宏观上介绍医学人文方面的热点话题。全书共包括五章，分别为：心理健康、器官捐赠、整形、健康保险和医疗事故。每一单元有四个部分，通过文章阅读、巩固词汇、英汉互译、补充阅读等多种形式学习、研究和讨论每个专题，旨在提高用英语进行医学相关专业阅读和书面表达的能力，提升医学生整体医学人文素质。

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前　言

医学跟人类的健康与幸福密切相关，医学的发展时至今日可谓是日新月异，而医学人文英语的阅读与写作能力是医学生及医务工作者与国际医学人文发展相沟通的桥梁。《医学人文英语读写教程Ⅰ & Ⅱ》将阅读与写作完美地结合在一起，打破了现有的教材编写体例，用以提高阅读理解能力和英语输出能力的课程设计和题型安排，使学生在学习中能够兼顾掌握英语语言知识和技能、了解医学专业发展动态的同时提升医学人文素质。内容丰富、脉络清晰、信息面广、英语资料原汁原味，构成了本系列教材的独有特点。

《医学人文英语读写教程Ⅰ & Ⅱ》以医学人文内容为主要线索，构建了独具特色的医学英语学习框架，从宏观上介绍了医学人文方面的热点话题。其中《医学人文英语读写教程Ⅰ》包括5章，主要内容有：过敏症、身体疼痛、传染性疾病、癌症以及补充医学；《医学人文英语读写教程Ⅱ》包括5章，主要内容有：心理健康、器官捐赠、整形、健康保险和医疗事故。每一章分为Section A，Section B和Section C三个部分以及补充阅读，通过文章阅读、词汇操练、翻译、模仿写作等多种形式学习和研究每个专题，能有效提高学习者用英语进行医学相关专业知识阅读和书面表达的能力，同时也提升了学习者的整体医学人文素质。

《医学人文英语读写Ⅰ & Ⅱ》主要适用于医学专业学生基础医学阶段医学英语的教学，也可以满足广大医务工作者和医学学者的需要，许多医学类爱好者也是本书的潜在爱好者。另外，在提倡通识教育的今天，《医学人文英语读写Ⅰ & Ⅱ》同时也可以为其他专业的在校大学生提供一个窥探神秘的医学人文英语的窗口。

本书也是在完成三个相关课题过程中的成果之一，这三个课题分

别为：

辽宁省教育科学“十二五”规划立项课题：英语课程对培养医学生人文素质的影响研究，课题批准号：JG14DB118。

2014 年度大连医科大学本科教学改革研究立项课题：英语课程对培养医学生人文素质的影响研究，课题批准号：DYLX14A05。

辽宁省教育评价协会第一届教学改革与教育质量评价研究立项课题：MOOCs 时代大学英语教师的角色转变，课题批准号：PJHYYB15169。

本教材附录为本书中各个单元的生词汇总，以方便读者查阅参考。

本书的出版是对全体编委会成员所做工作的肯定和鼓励，在此，我们感谢家人对我们的理解和支持，感谢为本书出版助力的每一个人。由于水平有限，书中难免会有不足或疏漏之处，欢迎大家批评指正，帮助我们成为更好的自己。

2015 年 2 月

Contents

Chapter 1 Mental Health

Preview

In this chapter, a new cause of mental disease—astrocytes will be introduced. The astrocytes density can cause mental disorder. Another study about anxiety disorder focuses on the cause, symptoms, diagnosis, treatment and medication of this disease. Even though learning disabilities are less severe than mental disorder, it is still painful for children and their parents to struggle with the problem. It is critical for such children to get early detection and intervention.

Pre-reading Activities

1. Do you know anything about astrocytes? You can scan Section A and try to give a brief introduction.

2. Have you suffered from anxiety? What can you suggest relieving it?

3. Try to understand the people who suffer from learning disabilities. What can we do to help them?

Section A A New Cause of Mental Disease

Astrocytes[1], the cells that make the background of the brain and support **neurons**[2], might be behind mental disorders such as depression and

schizophrenia[3], according to new research by a Portuguese team from the **ICVS*** at the University of Minho. The study, in *Molecular Psychiatry*, shows how a simple reduction of astrocytes in the **prefrontal**[4] **cortex**[5] (which is linked to **cognition**[6]) can kill its neurons and lead to the **cognitive**[7] **deficits**[8] that characterize several mental diseases. Although **malfunctioning**[9] astrocytes have been found in **psychiatric**[10] patients before, it was not clear if they were a cause or a consequence of the disease.

"This is the first time that cognitive deficits of a psychiatric illness can be **mimicked**[11] by solely affecting astrocytes" —says the team leader, Filipe Oliveira— "opening a whole new range of possibilities, both on the causes and potential treatments for these disorders." The research by Ana Raquel Lima, Filipe Oliveira and colleagues is particularly significant when we look at the heavy burden in human suffering and financial cost of mental diseases. In the US and Europe about 1 in 4 adults are affected in every given year (this is about 26% of the populations), while depression alone uses almost 5% of the total world health budget. And a new player behind a disease offers also potential new and maybe more effective treatments.

So what are astrocytes? These star-shaped cells are part of the so-called "**glial**[12] population" —non-neuron cells that form the brain background and that for a long time were considered mere "housekeepers" of the real players— the neurons. In fact, traditionally, brain function is the result of electrical **impulses**[13] passing between neurons, transmitting the information necessary for all those extraordinary abilities of brains, from memory storage and **motor**[14] control to personality **quirks**[15].

But astrocytes, even if believed to be "the help", have always been the subject of much curiosity since it was claimed by some (and denied by others) that one of the few uniqueness of Einstein's brain was larger and more complex astrocytes within its **cerebral**[16] cortex than "normal" individuals. Equally curious, was the fact that these are the most numerous cells in the **mammalian**[17] brain, because keeping cells alive costs energy, which is always in short supply,

and astrocytes were not even part of the main action/brain activity. Or so it was thought.

In fact, the last decade has seen our ideas on astrocytes (and glial cells in general) change radically; we've now known they perform highly complex jobs, including several previously associated with neurons. They are, for example, important for **synapses**[18] (the specialised structures that do the contact between different neurons and through which the electrical signal is transmitted), where astrocytes detect and **modulate**[19] activity, so effectively controlling the transmission of information in the brain.

Supporting their importance in the brain several studies have shown that patients with mental diseases—such as depression, **bipolar**[20] disorder and schizophrenia—have lower than normal astrocyte density in the brain, especially in the prefrontal cortex. This can be improved, though, with **anti-psychotic**[21] drugs.

This not only supports the importance of astrocytes in normal brain function, but also suggests they could play a role in mental disorders. And in fact, in one study killing astrocytes in the prefrontal cortex of rats seemed to cause a depression-like behavior. But even if faulty astrocytes and mental diseases were often seen together, it was not possible to be sure, at least in psychiatric patients, that these cells were behind the disorder.

It is in this state of affairs that Lima and colleagues, in the work now published, decided to design a simple but very effective experiment to understand what was happening.

They start by injecting rats in the prefrontal cortex with **atoxin**[22] that specifically kills astrocytes in a very localized way, and then tested the animals' cognitive abilities correlating these with the animals' brain structure. The prefrontal cortex was chosen because it controls cognitive abilities such as planning, reasoning and problem solving, which are affected not only in the most common mental diseases, but also on age-related **neurodegenerative**[23] illnesses like **Alzheimer's**[24].

As expected, toxin-injected animals developed the cognitive deficits typical of mental disorders where the prefrontal cortex is affected. But what was really

interesting, were the brain changes found—not only the prefrontal cortex's astrocytes had died with the toxin (as expected) but, as time passed, also did its neurons. Control animals injected with a solution free of toxin had no changes, either in behavior or brain structure.

So even if faulty astrocytes have been found before in mental patients, the Portuguese researchers' results give **robust**[25] support to the idea that astrocyte breakdown can be a **primordial**[26] cause for these disorders (and not a result of them), and also suggests how it occurs. "Until now, we have blamed the poorer performance of the prefrontal cortex in these diseases on the surrounding astrocyte **pathology**[27]" —says Oliveira— "but this study now supports the view that astrocytes, targeted in a **pathological**[28] process, may actually lead to neurodegeneration in a specific brain region. Psychiatric disease can be mimicked by simply affecting astrocytes!"

This is a totally new **perspective**[29] on how these diseases can develop, and consequently on how to treat them. For now, while we do not test other brain areas, Oliveira's results are specially relevant for mood disorders diseases—depression, schizophrenia and **bipolarity**[30]—which we know to have both loss of cognitive functions, and **abnormalities**[31] in the astrocytes of the prefrontal cortex.

But Oliveira and his team's findings are also important challenging the still too present view of the brain as a simple network of neurons, clearly showing that we need to see it instead as an interdependent circuit of **neural**[32] and glial cells (in particular astrocytes) both in health and disease.

969 words

http: //www. medicalnewstoday. com/releases/280046. php

New Words and Phrases

[1] astrocyte ['æstrəsaɪt] *n.* (脑和骨髓的) 星细胞, 星形胶质细胞

[2] neuron ['njʊərɒn] *n.* 神经元; 神经细胞

[3] schizophrenia [ˌskɪtsəˈfriːnɪə] *n.* 精神分裂症；矛盾

[4] prefrontal [priːˈfrʌntəl] *adj.* 额叶前部的，前额的

[5] cortex [ˈkɔːteks] *n.* 皮质

[6] cognition [kɒgˈnɪʃən] *n.* 认识，认知

[7] cognitive [ˈkɒgnətɪv] *adj.* 认知的；认识的

[8] deficit [ˈdefɪsɪt] *n.* 不足额；亏空

[9] malfunction [ˌmælˈfʌŋkʃən] *vi.* 失灵；发生故障

[10] psychiatric [ˌsaɪkɪˈætrɪk] *adj.* 精神病学的；精神病治疗的

[11] mimick [ˈmɪmɪk] *vt.* 模仿，摹拟

[12] glial [ˈglaɪəl] *adj.* 神经胶质的

[13] impulse [ˈɪmpʌls] *n.* 冲动，搏动

[14] motor [ˈməʊtə] *n.* 运动肌，运动神经

[15] quirk [kwɜːk] *n.* 怪癖

[16] cerebral [ˈserəbrəl] *adj.* 大脑的；脑的

[17] mammalian [mæˈmeɪlɪən] *adj.* 哺乳动物的

[18] synapse [saɪˈnæps] *n.* （神经元的）突触

[19] modulate [ˈmɒdjʊleɪt] *v.* 调整；调节

[20] bipolar [ˌbaɪˈpəʊlə] *adj.* 有两极的，双极的

[21] anti-psychotic [ˈæntɪsaɪˈkɒtɪk] *n.* 精神抑制药

[22] toxin [ˈtɒksɪn] *n.* 毒素；毒质

[23] neurodegenerative [ˌnjuːrəʊdɪˈdʒenərətɪv] *adj.* 神经组织退化的

[24] Alzheimer [ˈælzˈemə] *n.* 阿尔茨海默病

[25] robust [rəʊˈbʌst] *adj.* 精力充沛的

[26] primordial [praɪˈmɔːdɪəl] *adj.* 初生的，原始的

[27] pathology [pəˈθɒlədʒi] *n.* 病理（学）

[28] pathological [ˌpæθəˈlɒdʒɪkəl] *adj.* 病理学的

[29] perspective [pəˈspektɪv] *n.* 观点，看法

[30] bipolarity [baɪpəʊˈlærɪti] *n.* 两极性

[31] abnormality [ˌæbnɔːˈmæləti] *n.* 反常；变态

[32] neural [ˈnjʊərəl] *adj.* 神经的

Notes

1. ICVS: The Life and Health Sciences Research Institute (ICVS) is a fully incorporated research structure within the School of Health Sciences of the University of Minho. It was formally integrated in the national system of science and technology by FCT on January 2003, and ranked as Excellent by the FCT's international panel of experts' evaluation. 生命与健康科学研究所

2. The University of Minho: The University of Minho (Universidade do Minho) is a public university in Portugal. The University of Minho, founded in 1973, is one of the then named "New Universities" that, at that time, deeply changed the landscape of higher education in Portugal. 葡萄牙米尼奥大学

Exercises

Part I Vocabulary

Directions: *Fill in the blanks with the words given below. Please change the forms when necessary.*

perspective	**toxin**	**deficit**	**primordial**	**impulse**
robust	**psychiatric**	**modulate**	**cognition**	**abnormality**

1. These drugs effectively _____ the disease process.
2. It's the collision of disparate ideas that alters one's _____.
3. Twenty million years ago, Idaho was populated by dense _____ forest.
4. Her childhood was overshadowed by her mother's incarceration in a _____ hospital.
5. To set a thief to catch a thief, that is what we call "to counteract one _____ with another".
6. Caitlin was born with a life-threatening heart _____.
7. Many people act on _____ without counting the cost.
8. Such attitudes are valueless unless they reflect inner _____ and certainty.
9. He promised to get to work on the state's massive _____.

10. The Neanderthals were very _____ and quite different from us.

Part Ⅱ Matching

Directions: Match the words in Column A with their Chinese meanings in Column B.

Column A	Column B
1. congnitive deficit	A. 精神病
2. prefrontal cortex	B. 抗精神病药
3. psychiatric patient	C. 情绪障碍疾病
4. mental disease	D. 认知缺陷
5. cerebral cortex	E. 精神病患者
6. effective treatment	F. 大脑结构
7. antipsychotic drugs	G. 大脑皮层
8. bipolar disorder	H. 前额皮质
9. brain structure	I. 有效的治疗
10. mood disorders diseases	J. 双向障碍

Part Ⅲ Text Understanding

Directions: Answer the following questions according to the text.

1. What is the study of the Portuguese team about?
2. Why is it said that mental disease is a heavy burden?
3. What is People's understanding about astrocytes?
4. Could you please name at least three types of mental diseases?
5. Why was the frontal cortex of rats chosen to be injected a toxin?

Part Ⅳ Translation

Directions: Translate the following Sentences into Chinese.

1. Although malfunctioning astrocytes have been found in psychiatric patients before, it was not clear if they were a cause or a consequence of the disease.
2. In fact, brain function is the result of electrical impulses passing between neu-

rons.

3. The last decade has seen our ideas on astrocytes change radically; we've now known they perform highly complex jobs.
4. Several studies have shown that patients with mental diseases have lower than normal astrocyte density in the brain, especially in the prefrontal cortex.
5. They decided to design a simple but very effective experiment to understand what was happening.

Part V Structured Writing

Directions: The following paragraph is taken from the text. Read it carefully and see how the author develops the topic idea, and then write a paragraph of your own in the same manner. Pay attention to the words and phrases in bold font on the left side. You can choose one of the following topics or you can use your own topic to develop some paragraphs.

This not only supports the importance of astrocytes in normal brain function, but also suggests they could play a role in mental disorders. And in fact, in one study killing astrocytes in the prefrontal cortex of rats seemed to cause a depression-like behavior. But even if faulty astrocytes and mental diseases were often seen together, it was not possible to be sure, at least in psychiatric patients, that these cells were behind the disorder.	**The paragraph introduces the importance of astrocytes in both normal brain function and mental disorders. The writer uses general statement and supporting details to develop this paragraph.** **General statement**: This not only supports the importance of astrocytes in normal brain function, but also suggests they could play a role in mental disorders. **Supporting Details**: And in fact, in one study killing astrocytes in the prefrontal cortex of rats seemed to cause a depression-like behavior. But even if faulty astrocytes and mental diseases were often seen together, it was not possible to be sure, at least in psychiatric patients, that these cells were behind the disorder.

Topics:

Dealing with Depression

Learning Disabilities

Section B Anxiety Disorder

What is Anxiety Disorder?

Anxiety is a normal reaction to stress and can actually **be beneficial**[1] in some situations. For some people, however, anxiety can become **excessive**[2]. While the person suffering may realize their anxiety is too much, they may also have difficulty controlling it and it may negatively affect their day-to-day living. There are a wide variety of anxiety disorders, including **post-traumatic**[3] stress disorder, **obsessive-compulsive**[4] disorder, and **panic**[5] disorder to name a few. Collectively, they are among the most common mental disorders experienced by Americans.

Causes

NIMH* supports research into the causes, diagnosis, prevention, and treatment of anxiety disorders and other mental illnesses. Scientists are looking at what role genes play in the development of these disorders and are also investigating the effects of environmental factors such as pollution, physical and psychological stress, and diet. In addition, studies are being conducted on the "natural history" (what course the illness takes without treatment) of a variety of individual anxiety disorders, combinations of anxiety disorders, and anxiety disorders that are accompanied by other mental illnesses such as depression.

Scientists currently think that, like heart disease and type 1 **diabetes**[6], mental illnesses are complex and probably result from a combination of genetic,