UNIT

1

Doctors' Life

Doctors are thought as noble, respectable, and caring, but it is really common to read or hear about the complaints of doctors' being impatient and careless. What are the causes for such complaints? How can ordinary incidents influence the way doctors practice medicine? This unit explores doctors' life from different perspectives so that you can understand them better.

Text A

Lead-in

Task / Brainstorm a list of words and expressions related to a doctor's life and practice.

overload		

Now read Text A to see whether a doctor's life and practice is like what you have thought.

Neuron Overload and the Juggling Physician[1]

Danielle Ofri[2]

1 Patients often complain that their doctors don't listen. Although there are probably a few doctors who truly are tone-deaf, most are reasonably empathic human beings, and

1 The text is taken from *The Lancet* (2010), Vol. 376.

2 **Danielle Ofri:** a physician at Bellevue Hospital in New York and Associate Professor of Medicine at New York University School of Medicine 达尼埃尔·奥弗里（内科医生，副教授）

I wonder why even these doctors seem prey to this criticism. I often wonder whether it is sheer neuron overload on the doctor side that leads to this problem. Sometimes it feels as though my brain is juggling so many competing details, that one stray request from a patient — even one that is quite relevant — might send the delicately balanced three-ring circus tumbling down.

2 One day, I tried to work out how many details a doctor needs to keep spinning in her head in order to do a satisfactory job, by calculating how many thoughts I have to juggle in a typical office visit. Mrs. Osorio is a 56-year-old woman in my practice. She is somewhat overweight. She has reasonably well-controlled diabetes and hypertension. Her cholesterol is on the high side but she doesn't take any medications for this. She doesn't exercise as much as she should, and her last DEXA scan[3] showed some thinning of her bones. She describes her life as stressful, although she's been good about keeping her appointments and getting her blood tests. She's generally healthy, someone who'd probably be described as an average patient in a medical practice, not excessively complicated.

3 Here are the thoughts that run through my head as I proceed through our 20-min consultation.

Good thing she did her blood tests. Glucose is a little better. Cholesterol isn't great. May need to think about starting a statin. Are her liver enzymes normal?

Her weight is a little up. I need to give her my talk about five fruits and vegetables and 30 min of walking each day.

Diabetes: How do her morning sugars compare to her evening sugars? Has she spoken with the nutritionist lately? Has she been to the eye doctor? The podiatrist?

Her blood pressure is good but not great. Should I add another BP med[4]? Will more pills be confusing? Does the benefit of possible better blood pressure control outweigh the risk of her possibly not taking all of her meds?

Her bones are a little thin on the DEXA. Should I start a bisphosphonate that might prevent osteoporosis? But now I'm piling yet another pill onto her, and one that requires detailed instructions. Maybe leave this until next time?

How are things at home? Is she experiencing just the usual stress of life, or

3 **DEXA scan:** Dual Energy X-ray Absorptiometry scan, a means of measuring bone mineral density 双能量X线吸收扫描，用于测定骨密度等

4 **BP med: a** blood pressure medication 控制血压的药

might there be depression or anxiety disorder lurking? Is there time for the depression questionnaire?

Health maintenance: When was her last mammogram? PAP smear[5]? Has she had a colonoscopy since she turned 50? Has she had a tetanus booster in the past 10 years? Does she qualify for a pneumonia vaccine?

4 Mrs. Osorio interrupts my train of thought to tell me that her back has been aching for the past few months. From her perspective, this is probably the most important item in our visit, but the fact is that she's caught one of my neurons in mid-fire (the one that's thinking about her blood sugar, which is segueing into the neuron that's preparing the diet-and-exercise discussion, which is intersecting with the one that's debating about initiating a statin). My instinct is to put one hand up and keep all interruptions at bay. It's not that I don't want to hear what she has to say, but the sensation that I'm juggling so many thoughts, and need to resolve them all before the clock runs down, that keeps me in moderate state of panic. What if I drop one — what if one of my thoughts evaporates while I address another concern? I'm trying to type as fast as I can, for the very sake of not letting any thoughts escape, but every time I turn to the computer to write, I'm not making eye contact with Mrs. Osorio. I don't want my patient to think that the computer is more important than she is, but I have to keep looking toward the screen to get her lab results, check her mammogram report, document the progress of her illnesses, order the tests, refill her prescriptions.

5 Then she pulls a form out of her bag: Her insurance company needs this form for some reason or another. An innocent — and completely justified — request, but I feel that this could be the straw that breaks the camel's back[6], that the precarious balance of all that I'm keeping in the air will be simply unhinged. I nod, but indicate that we need to do her physical examination first. I barrel through the basics, then quickly check for any red-flag signs that might suggest that her back pain is anything more than routine muscle strain. I return to the computer to input all the information, mentally running through my checklist, anxious that nothing important slips from my brain's holding bay.

6 I want to do everything properly and cover all our bases, but the more effort I place into accurate and thorough documentation, the less time I have to actually interact with my patient. A glance at the clock tells me that we've gone well beyond our allotted time. I stand up and hand Mrs. Osorio her prescriptions. "What about my insurance form," she asks. "It needs to be in by Friday, otherwise I might lose my coverage." I clap my hand against my forehead; I've completely forgotten about the form she'd asked about just a few minutes ago.

5 **PAP smear:** Papanicolaou smear 巴氏涂片（一种表皮脱落细胞学染色法，多用于妇女子宫颈病况的检查和诊断）

6 **the straw that breaks the camel's back:** the last in a series of unpleasant events which finally makes you feel that you cannot continue to accept a bad situation 压垮骆驼的最后一根稻草，比喻一系列打击或不愉快的事件中最终使人无法忍受的因素

7 Studies have debunked the myth of multitasking in human beings. The concept of multitasking was developed in the computer field to explain the idea of a microprocessor doing two jobs at one time. It turns out that microprocessors are in fact linear, and actually perform only one task at a time. Our computers give the illusion of simultaneous action based on the microprocessor "scheduling" competing activities in a complicated integrated algorithm. Like microprocessors, we humans can't actually concentrate on two thoughts at the same exact time. We merely zip back and forth between them, generally losing accuracy in the process. At best, we can juggle only a handful of thoughts in this manner.

8 The more thoughts we juggle, the less we are able to attune fully to any given thought. To me, this is a recipe for disaster. Today I only forgot an insurance company form. But what if I'd forgotten to order her mammogram, or what if I'd refilled only five of her six medicines? What if I'd forgotten to fully explain the side effects of one of her medications? The list goes on, as does the anxiety.

9 At the end of the day, my mind spins as I try to remember if I've forgotten anything. Mrs. Osorio had seven medical issues to consider, each of which required at least five separate thoughts: That's 35 thoughts. I saw ten patients that afternoon: That's 350. I'd supervised five residents that morning, each of whom saw four patients, each of whom generated at least ten thoughts. That's another 200 thoughts. It's not to say that we can't handle 550 thoughts in a working day, but each of these thoughts potentially carries great risk if improperly evaluated. If I do a good job juggling 98% of the time, that still leaves ten thoughts that might get lost in the process. Any one of those lost thoughts could translate into a disastrous outcome, not to mention a possible lawsuit. Most doctors are reasonably competent, caring individuals, but the overwhelming swirl of thoughts that we must keep track of leaves many of us in a perpetual panic that something serious might slip. This is what keeps us awake at night.

10 There are many proposed solutions — computer-generated reminders, case managers, ancillary services. To me, the simplest one would be time. If I had an hour for each patient, I'd be a spectacular doctor. If I could let my thoughts roll linearly and singularly, rather than simultaneously and haphazardly, I wouldn't fear losing anything. I suspect that it would actually be more efficient, as my patients probably wouldn't have to return as frequently. But realistically, no one is going to hand me a golden hour for each of my patients. My choices seem to boil down to entertaining fewer thoughts, accepting decreased accuracy for each thought, giving up on thorough documentation, or having a constant headache from neuron overload.

11 These are the choices that practicing physicians face every day, with every patient. Mostly we rely on our clinical judgment to prioritize, accepting the trade-off that is inevitable with any compromise. We attend to the medical issues that carry the greatest weight and then have to let some of the lesser ones slide, with the hope that none of these seemingly lesser ones masks something grave.

12 Some computers have indeed achieved the goal of true multitasking, by virtue of having more than one microprocessor. In practice, that is like possessing an additional brain that can function independently and thus truly simultaneously. Unless the transplant field advances drastically, there is little hope for that particular *deus ex machina*[7]. In some cases, having a dedicated and competent clinical partner such as a one-on-one nurse can come close to simulating a second brain, but most medical budgets don't allow for such staffing indulgence.

13 As it stands, it seems that we will simply have to continue this impossible mental high-wire act, juggling dozens of clinical issues in our brains, panicking about dropping a critical one. The resultant neuron overload will continue to present a distracted air to our patients that may be interpreted as us not listening, or perhaps not caring.

14 When my computer becomes overloaded, it simply crashes. Usually, I reboot in a fury, angry about all my lost work. Now, however, I view my computer with a tinge of envy. It has the luxury of being able to crash, and of a reassuring, omniscient hand to press the reboot button. Physicians are permitted no such extravagance. I pull out the bottle of paracetamol tablets from my desk drawer and set about disabling the childproof cap. It's about the only thing I truly have control over. (1,692 words)

New words and expressions

neuron /'njʊərɒn/ *n.* a nerve cell which carries messages between your brain and other parts of your body 神经元，神经细胞

overload /ˌəʊvə'ləʊd/ *n.* a load or burden that is too much 超载，超负荷

juggle /'dʒʌgəl/ *v.* try to do several important things at the same time 同时应付好几件事

tone-deaf /ˌtəʊn'def/ *a.* unable to tell the difference between different musical notes 音盲的，不会辨别音调的

empathic /em'pæθɪk/ *a.* being able to understand other people's feelings and problems 充满同情心的，有同感的

prey /preɪ/ *n.* a victim 牺牲品

stray /streɪ/ *a.* found or occurring apart from others; incidental 零落的，偶遇的，意外的

three-ring circus /'sɜːkəs/ *n.* (*AmE, infml*) a place or situation that is confusing because there is too much activity 乱哄哄的地方（场面）

tumble /'tʌmbəl/ *vi.* collapse 倒塌

spin /spɪn/ *v.* rotate rapidly; whirl（使）旋转

diabetes /ˌdaɪə'biːtiːz/ *n.* a disease in which there is too much sugar in the blood 糖尿病

hypertension /ˌhaɪpə'tenʃən/ *n.* a medical condition in which your blood pressure is extremely high 高血压

cholesterol /kə'lestərɒl/ *n.* a substance in your blood that can cause heart disease if you have too much of it 胆固醇

medication /ˌmedɪ'keɪʃən/ *n.* a medicine 药物

consultation /ˌkɒnsəl'teɪʃən/ *n.* a meeting with a professional person, especially a doctor, for advice or treatment（向专业人士，尤指医生的）咨询，问诊

glucose /'gluːkəʊs/ *n.* a natural form of sugar that exists in fruit 葡萄糖

statin /'stætɪn/ *n.* 斯达汀（一用来抑制胆固醇的药）

enzyme /'enzaɪm/ *n.* a chemical substance produced by animal and plant cells that causes changes in other chemical substances 酶

nutritionist /njuː'trɪʃənɪst/ *n.* one who is an expert in the field of nutrition 营养学家

podiatrist /pə'daɪətrɪst/ *n.* one who is specialized in the diagnosis, treatment, and prevention of diseases of the human foot 足病医生

outweigh /aʊt'weɪ/ *vt.* be more significant than; exceed in value or importance 胜过，强过

7 ***deus ex machina***: (*Latin*) an unexpected event or person that abruptly solved a seemingly unsolvable problem（拉丁语）突然出现而扭转局面的人或事

bisphosphonate /bɪsˈfɒsfəʊneɪt/ *n.* 二磷酸盐

osteoporosis /ˌɒstiəʊpəˈrəʊsɪs/ *n.* 骨质疏松（症）

lurk /lɜːk/ *vi.* exist without being seen, suspected, or detected 暗藏，隐藏

mammogram /ˈmæməgræm/ *n.* 乳房X线照片

smear /smɪə/ *n.* 子宫颈抹片检查；涂片试验

colonoscopy /ˌkəʊləˈnɒskəpi/ *n.* 结肠镜检查（术）

tetanus /ˈtetənəs/ *n.* a serious illness caused by bacteria that enter your body through cuts and wounds and make your muscles, especially your jaw, become stiff 破伤风

booster /ˈbuːstə/ *n.* a small quantity of a drug that increases the effect of one that was given before, so that sb. continues to be protected against a disease （药物的）增效剂

pneumonia /njuːˈməʊniə/ *n.* inflammation of the lungs 肺炎

vaccine /ˈvæksiːn/ *n.* a substance which contains a weak form of the bacteria or virus that causes a disease and is used to protect people from that disease 疫苗

train of thought a series of thoughts 一连串的念头

segue /ˈsegweɪ/ *vi.* proceed without interruption 继续

intersect /ˌɪntəˈsekt/ *v.* cross 相交，交叉

initiate /ɪˈnɪʃieɪt/ *vt.* begin 开始

keep sb./sth. at bay prevent an enemy, a problem, etc. from coming close or having a bad effect 牵制，控制

sensation /senˈseɪʃən/ *n.* a general feeling such as discomfort, anxiety, or doubt 感觉

evaporate /ɪˈvæpəreɪt/ *vi.* disappear 消失

prescription /prɪˈskrɪpʃən/ *n.* a written direction by a physician for the preparation and use of a medicine 处方

precarious /prɪˈkeəriəs/ *a.* not safe or likely to fall 摇摇欲坠的，不稳定的

unhinge /ʌnˈhɪndʒ/ *vt.* throw into confusion 扰乱，打乱

barrel /ˈbærəl/ *v.* move very fast, especially in an uncontrolled way 飞奔，高速移动

red-flag sign a warning sign of danger 危险症状

allotted (time) /əˈlɒtɪd/ *a.* officially given to sb. for a particular purpose 分配到的（时间）

coverage /kʌvərɪdʒ/ *n.* inclusion in an insurance policy or protective plan 承保范围，承保险别

debunk /ˌdiːˈbʌŋk/ *vt.* expose the sham or falseness of 揭露

multitasking /ˌmʌltɪˈtɑːskɪŋ/ *n.* a situation in which a computer or person does more than one thing at the same time 多任务处理，一心多用

microprocessor /ˈmaɪkrəʊˌprəʊsesə/ *n.* 微处理器

linear /ˈlɪniə/ *a.* extended or arranged in a line 线性的

simultaneous /ˌsɪməlˈteɪniəs/ *a.* happening, existing, or done at the same time 同时的

algorithm /ˈælgərɪðəm/ *n.* 算法

zip /zɪp/ *vi.* move very quickly 快速移动

attune /əˈtjuːn/ *vt.* bring into a harmonious or responsive relationship 使调和，使协调

be a recipe /ˈresəpi/ **for sth.** make it extremely likely that sth. will happen 很可能造成某事

resident /ˈrezədənt/ *n.* a physician receiving specialized clinical training in a hospital, usually after completing an internship 住院医生

lawsuit /ˈlɔːsuːt/ *n.* a situation in which a disagreement between people or groups is formally judged in a law court 诉讼

overwhelming /ˌəʊvəˈwelmɪŋ/ *a.* overpowering in effect or strength 巨大的，势不可挡的

swirl /swɜːl/ *n.* whirling confusion or disorder 漩涡，纷乱

perpetual /pəˈpetʃuəl/ *a.* continuing or lasting for an indefinitely long time 永久的，不断的

ancillary /ænˈsɪləri/ *a.* serving as a supplement 辅助的

haphazardly /ˌhæpˈhæzədli/ *ad.* in a random manner 杂乱无章地

boil down (to sth.) *(infml)* summarize or condense 归纳（某事物）；浓缩（某事物）

practicing physician 执业医师

prioritize /praɪˈɒrɪtaɪz/ *v.* put several jobs, problems, etc. in order of importance, so that you can deal with the most important ones first 按优先顺序列出；确定（工作、问题等的）优先顺序

trade-off an acceptable balance between two opposing things （两种对立物之间的）平衡，妥协，协调

by virtue of 依靠，凭借，由于

drastically /ˈdræstɪkli/ *ad.* strongly, suddenly 猛烈地，突然地

dedicated /ˈdedɪkeɪtɪd/ *a.* spending all your time and effort on sth. 专注的，一心一意的

simulate /ˈsɪmjʊleɪt/ *vt.* make or produce sth. that is not real but has the appearance or feeling of being real 模拟

staffing /stʌfɪŋ/ *n.* providing with a staff of workers or assistants 人员配备

indulgence /ɪnˈdʌldʒəns/ *n.* a behavior towards sb. that is very kind, especially when it should be strict 迁就，纵容

as it stands as it is now 按现实情况，以现状来说

high-wire /ˈhaɪwaɪə/ *a.* dangerous 危险的，高空走钢丝（般）的

resultant /rɪˈzʌltənt/ *a.* following as a consequence or result 因而发生的，必然产生的

reboot /ˌriːˈbuːt/ *vt.* restart 重新启动

tinge /tɪndʒ/ *n.* a very small amount of a color, feeling, or quality 些许，一点，一丝（颜色、感觉或特征）

reassuring /ˌriːəˈʃʊərɪŋ/ *a.* making you feel less worried 使人放心的；安慰的

omniscient /ɒmˈnɪsiənt/ *a.* knowing everything 全知的，无所不知的

extravagance /ɪkˈstrævəgəns/ *n.* luxury 奢侈

paracetamol /ˌpærəˈsiːtəmɒl/ *n.* 扑热息痛（解热镇痛药）

tablet /ˈtæblɪt/ *n.* a small round hard piece of medicine to be taken orally 药片

childproof /ˈtʃaɪldpruːf/ *a.* incapable of being opened, tampered with, or operated by a child 防止儿童打开的，对儿童安全的

Critical reading and thinking

Task 1 / Overview

An exposition usually consists of three parts: introduction of the theme, elaboration on the theme, and conclusion about the theme. Write a summary of the text with the help provided.

Introduction of the theme: the reason for some doctors seeming prey to patients' complaints

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Elaboration on the theme: Mrs. Osorio's visit as a typical example

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Conclusion: possible solutions to the problem faced by juggling physicians

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Task 2 / Topics for presentation

Prepare a brief presentation on one of the following topics before class and get ready to deliver it to the class.

1 Do you agree that it is sheer neuron overload on the doctor side that leads to the complaint that doctors do not listen?

2 Describe Mrs. Osorio's condition.

3 What are the good and bad things about Mrs. Osorio's conditions that run through the author's mind?

4 Describe the situation when Mrs. Osorio might send the author's delicately balanced three-ring circus tumbling down.

5 Compare multitasking in human beings and computers.

6 Use numbers to justify that it is the juggling mind that keeps doctors awake at night.

7 What are possible solutions to the impossible high-wire act of juggling competing details and panicking about slipping a critical one?

Language building-up

Task 1 / Medical terminology

Medical terms consist of roots, prefixes, suffixes, and existing words. A good knowledge of the word formation will contribute a lot to your understanding of medical literature.

1 Study the word formation of medical terms listed in the box.

Roots	Meaning
colon(o)-	colon (结肠)
gluc(o)-	glucose; sweetness (葡萄糖；甜)
iatr(o)-	physician; treatment (医师；医疗)
mamm(o)-	breast (乳房)
neur-	nerve (神经)
nutri-	nourishment (营养)
oste(o)-	bone (骨)
pneum(o)-	air; lung (气；肺)
pod-	foot (足，脚)
por-	a cavity, opening, passage or pore (腔；孔；洞)
Prefixes	**Meaning**
hyper-	abnormally increased, excessive (超出；过度的)
re-	again; back; contrary (再；又；回；反)
trans-	through; across; beyond (经；透过；越；横过)
Suffixes	**Meaning**
-gram	something written or drawn; a record (书写或图；记录)
-ia	disease; pathological or abnormal condition (疾病；行为异常或失常的状态)
-ion	noun-forming suffix (构成名词的后缀)

-ist	a specialist (专家)
-on	a unit (单元)
-osis	diseased or abnormal condition (病变的或不正常的状态)
-scopy	seeing; observation (观看；检查)

2 Match each of the following definitions with its corresponding English term and Chinese equivalent.

English		
pneumothorax	refill	neuron
nutrient	neuralgia	transmit
hypertension	podiatrist	transplant
colonoscopy	nutritionist	pneumonia
mammectomy	osteoporosis	mammogram
Chinese		
移植	肺炎	气胸
高血压	营养物	传染
乳房X线照片	神经痛	骨质疏松
结肠镜检查（术）	营养学家	足病医生
神经元，神经细胞	再配（处方）	乳房切除术

	English	Chinese	Definition
1			examination of the colon with a colonoscope
2			abnormally elevated blood pressure
3			an x-ray image of the breast
4			nerve cell
5			one who is trained or an expert in the field of nutrition
6			a disease in which the bones become weak and break easily
7			inflammation of the lungs
8			one who is specialized in the diagnosis, treatment, and prevention of diseases of the human foot
9			a second or subsequent filling
10			transfer a tissue or an organ from one body or body part to another

Task 2 / Signpost language

Parenthetical statements

In streets, you can see many signposts telling people directions. In English writing, some expressions function as signposts to prepare the reader for what is coming up. In each of the ten units, we will focus on one type of language signposts.

Parenthetical statements allow a writer to insert additional information without creating a separate sentence and are often demonstrated by parenthesis and dash. For example:

> *Sometimes it feels as though my brain is juggling so many competing details, that one stray request from a patient — even one that is quite relevant — might send the delicately balanced three-ring circus tumbling down.* (Para. 1)

Find some examples of parenthetical statement from Text A.

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Task 3 / Formal English

Degree of formality should be determined by the audience and the writer's purposes. For example, the writer employs informal language when recording her juggling thoughts, and a noticeable shift from that of the rest of the article where a more formal style is consistently maintained. A juggling mind is vividly presented by informal and even ungrammatical use of language, such as "*Maybe leave this until next time?*"

Rewrite the following sentences from Text A with a more formal style.

Example:

- *Her weight is a little up.* (Informal)
- *Her weight increased a little.* (Formal)

1 Good thing she did her blood tests. Glucose is a little better. Cholesterol isn't great. May need to think about starting a statin. Are her liver enzymes normal? (Para. 3)

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2 Has she been to the eye doctor? The podiatrist? (Para. 3)

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3 But now I'm piling yet another pill onto her, and one that requires detailed instructions. Maybe leave this until next time? (Para. 3)

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4 Health maintenance: When was her last mammogram? PAP smear? (Para. 3)

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Text B

Ordinary incidents can change one's life. It is true for Dr. David Sackett[1]. In Text B you will read about how a trivial occurrence had changed his medical practice, and more broadly, the way randomized clinical trials are now conducted and reported.

A 1955 Clinical Trial Report That Changed My Career[2, 3]

David Sackett

1 In 1955, during the dawn of the modern era of randomized clinical trials, Thomas Chalmers[4] and his colleagues published a remarkable paper. It was then and probably remains one of the most detailed reports of clinical trials ever published: It begins with a Table of Contents and runs on to a further 71 pages of small type. It is a model of how randomized trials should be reported, reflecting Marc Daniels' call for better reporting of clinical trials five years earlier, and anticipating by over four decades the reporting standards agreed and promulgated by the CONSORT Group[5].

2 Tom Chalmers and his colleagues described the eligibility criteria of participants clearly, and their random allocation (with concealment of the next participant's assignment) into their 2 × 2 factorial trials, thus permitting comparisons of two regimens per trial. The similarity between treatment groups in respect of 34 other variables that might affect patient prognosis was confirmed. Experimental and control regimens were precisely defined, and compliance with them was closely monitored and reinforced. All patients were accounted for at the end of the trials. Analyses were clearly described and transparent. The "external validity" of the trial results was tested by comparison with another, independent control group of patients. Finally, late effects

1 **David Sackett (1934-):** a Canadian medical doctor, pioneer in evidence-based medicine and founder of the first department of clinical epidemiology in Canada at McMaster University and the Oxford Centre for Evidence-Based Medicine. He is well known for his textbooks *Clinical Epidemiology* and *Evidence-Based Medicine*. 戴维·萨基特（循证医学创始人之一）

2 The text is taken from *Journal of the Royal Society of Medicine* (2010), Vol. 103.

3 The report refers to "*Controlled studies of the effects of diet, rest, and physical reconditioning on the acute course of the disease and on the incidence of relapses and residual abnormalities*" by T. C. Chalmers, R. D. Eckhardt, W. E. Reynolds, et al., published in *The Journal of Clinical Investigation* (1955- , Vol. 34).

4 **Thomas Chalmers (1917-1995):** famous for his role in the development of the randomized controlled trial and meta-analysis in medical research 托马斯·查默斯

5 **CONSORT Group:** an international and eclectic group, comprising trialists, methodologists and medical journal editors. CONSORT stands for Consolidated Standards of Reporting Trials, encompasses various initiatives developed by the CONSORT Group to alleviate the problems arising from inadequate reporting of randomized controlled trials (RCTs). Its main product is the CONSORT Statement, which is an evidence-based, minimum set of recommendations for reporting RCTs. 随机对照试验报告统一标准工作组（其主要工作成果是《随机对照试验报告统一标准声明》）

of the treatment regimens were assessed in a 10-year follow-up study.

3 I first came across this report in 1959. Although I failed to appreciate many of its methodological strategies and strengths at that time, it changed my career. I was a final-year medical student on a medical ward, where a teenager with "infectious hepatitis" (now called "Type-A hepatitis") was admitted to my care. He presented with severe malaise, an enlarged and tender liver, and a colorful demonstration of deranged bilirubin metabolism that made me the envy of my fellow clerks. However, after a few days of total bed rest his spirits and energy returned and he asked me to let him get up and around.

4 In the 1950s, everybody "knew" that such patients, if they were to avoid permanent liver damage, must be kept at bed rest until their enlarged liver receded and their bilirubin and enzymes returned to normal. And if, after getting up and around, their enzymes rose again, back to bed they went. This conventional wisdom formed the basis for daily confrontations between an increasingly restless and resentful patient and an increasingly adamant and doom-predicting clinical clerk.

5 We clinical clerks were expected to read material relevant to the care of our patients. I wanted to understand (for both of us) how letting him out of bed would exacerbate his pathophysiology. After exhausting several unhelpful texts, I turned to the journals. PubMed[6] was decades away, and the National Library of Medicine[7] hadn't yet begun to help the Armed Forces Medical Library[8] with its *Current List of the Medical Literature*[9]. Nonetheless, it directed me to a citation in the *Journal of Clinical Investigation*[10] (back in the days when it was a real clinical journal) for: "The treatment of acute infectious hepatitis. Controlled studies of the effects of diet, rest, and physical reconditioning on the acute course of the disease and on the incidence of relapses and residual abnormalities." Reading this paper not only changed my treatment plan for my patient, it forever changed my attitude toward conventional wisdom, uncovered my latent iconoclasm, and inaugurated my career in what I later labelled "clinical epidemiology".

6 The paper introduced me to Tom Chalmers, who quickly became my hero and, a decade later, my friend. Tom was a U.S. Army gastroenterologist, and had become involved in a major outbreak of "infectious" hepatitis among American recruits. The application of conventional wisdom on enforced bed rest was keeping affected soldiers in hospital for about two months and requiring another month's convalescence.

6 **PubMed:** a free database released in January 1996 accessing primarily the MEDLINE database of references and abstracts on life sciences and biomedical topics 文献服务检索系统

7 **National Library of Medicine:** the United States National Library of Medicine (NLM), located in Bethesda, Maryland. It is the world's largest medical library. 美国国立医学图书馆

8 **Armed Forces Medical Library:**（美国）军事医学图书馆

9 ***Current List of the Medical Literature*:**《当代医学著作名录》

10 ***Journal of Clinical Investigation*:** a monthly open-access biomedical scientific journal《临床研究杂志》（美国医学杂志）

Tom wrote: "This drain on military manpower, along with more recent (short-term metabolic) observations suggesting that strict bed rest might not be as essential as heretofore thought, emphasized the need for a controlled study to determine the safety of a more liberal regimen of rest and less prolonged hospitalization."

7 Employing what I increasingly came to recognize as "elegant simplicity", Tom and his colleagues allocated soldiers who met pre-defined hepatitis criteria at random either to bed rest (continuously in bed, save for one trip daily to the bathroom and one trip to the shower weekly), or to be up and about as much as the patients wanted (with no effort made to control their activity save 1-hour rests after meals) throughout their hospital stay. The time to recovery (as judged by liver function testing) was indistinguishable between the comparison groups, and no recurrent jaundice was observed.

8 Armed with this evidence, I convinced my supervisors to let me apologize to my patient and let him be up and about as much as he wished. He did, and his clinical course was uneventful.

9 My subsequent "clinical course" was far from uneventful. I became a "trouble-maker", constantly questioning conventional therapeutic wisdom, and offending especially the subspecialists when they pontificated (I thought) about how I ought to be treating my patients. I had a stormy time in obstetrics, where I questioned why patients with severe pre-eclampsia received intravenous morphine until their respirations fell below 12 per minute. I gained unfavorable notoriety on the medical ward, where I challenged a consultant's recommendation that I should ignore my patient's diastolic blood pressure of 125 mmHg "because it was essential for his brain perfusion". And I deeply offended a professor of paediatrics by publicly correcting him on the number of human chromosomes (They had fallen from 48 to 46 the previous month![11]).

10 Tom Chalmers, along with Ed Fries (who answered the question about whether diastolic blood pressure should be ignored) and Archie Cochrane, became my role models. Ten years after I discharged my hepatitis patient, armed with some book-learning and blessed with brilliant colleagues, I began to emulate these mentors by converting my passive skepticism into active inquiry, addressing such questions as: Why do you have to be a physician in order to provide first-contact primary care[12]? Are the "experts" correct that teaching people with raised blood pressure all about their illness really makes them more likely to take their medicine? Just because the aorto-coronary arterial bypass[13] is good for ischaemic hearts, should we accept claims that extracranial-intracranial arterial bypass[14] is good for ischaemic brains?

11 **They had fallen from 48 to 46 the previous month!:** 人体细胞到底有多少条染色体？这个问题经过了几十年的反复争论和求证，到1954年才确定为23对，46条。

12 **first-contact primary care:** 首诊初级保健

13 **aorto-coronary arterial bypass:** 主动脉冠状动脉旁路

14 **extracranial-intracranial arterial bypass:** 颅内 — 颅外动脉旁路

11 In the year that the paper by Tom Chalmers and his colleagues was published, there were only 347 reports of randomized trials. Half a century later, about 50,000 reports of randomized trials were being published every year, with the total number of trial reports by then exceeding half a million. I am proud to have contributed to this development, to the skepticism that drives it, and to the better informed treatment decisions and choices which have been made possible as a result. (1,133 words)

New words and expressions

randomize /'rændəmaɪz/ *vt.* arrange, select, or distribute in a random manner （为进行科学实验而）随机选择

randomized clinical trial 随机比对临床试验

promulgate /'prɒmʌlgeɪt/ *vt.* make known 宣告，发表

eligibility /ˌelɪdʒɪ'bɪlɪti/ *n.* the quality or state of being allowed by rules or laws to do sth. or receive sth. 合格，符合条件

criterion /kraɪ'tɪəriə/ *n.* (*pl.* criteria) a standard by which to judge or criticize 标准

eligibility criteria 资格标准

participant /pɑː'tɪsɪpənt/ *n.* sb. who takes part in sth. 参与者

allocation /ˌælə'keɪʃən/ *n.* the amount or share of sth. that has been allocated to a person or organization 配给物，配给量，份额

concealment /kən'sɪːlmənt/ *n.* the state of being hidden or the act of hiding sth. 隐瞒，隐藏

factorial /fæk'tɔːriəl/ *n.* the result when you multiply a whole number by all the numbers below it 阶乘积

factorial trial 析因试验，一种将两个或多个因素的各水平交叉分组，进行试验的设计

regimen /'redʒɪmɪn/ *n.* (*medicine*) a systematic plan for therapy 疗程

prognosis /prɒg'nəʊsɪs/ *n.* a prediction of the probable course and outcome of a disease 预后（医生对病情如何发展的预测）

compliance /kəm'plaɪəns/ *n.* willingness to follow a prescribed course of treatment （对治疗的）服从，遵守

external validity the extent to which research findings can be generalized to make predictions about the entire population 外部效度

control group （科学实验中的）对照组

methodological /ˌmeθədə'lɒdʒɪkəl/ *a.* relating to the methods and principles used for doing a particular kind of work, especially scientific or academic research （尤指科学或学术研究的）方法的

ward /wɔːd/ *n.* an area in a hospital where people who need medical treatment stay 病房，病室

infectious /ɪn'fekʃəs/ *a.* an infectious disease is one that can spread from one person to another 传染的，有传染性的

hepatitis /ˌhepə'taɪtɪs/ *n.* inflammation of the liver 肝炎

Type-A hepatitis 甲型肝炎，甲肝

malaise /mə'leɪz/ *n.* a vague feeling of bodily discomfort 不适

deranged /dɪ'reɪndʒd/ *a.* disordered 紊乱的

bilirubin /bɪlɪ'ruːbɪn/ *n.* 胆红素

metabolism /mɪ'tæbəlɪzəm/ *n.* the chemical processes in your body that change food and drink into energy 新陈代谢

recede /rɪ'siːd/ *vi.* move back or away from a limit, point, or mark 消退

confrontation /ˌkɒnfrən'teɪʃən/ *n.* a situation in which there is a lot of angry disagreement between two people or groups with very different opinions 对抗，冲突

adamant /'ædəmənt/ *a.* determined not to change a belief or decision 固执的，坚定的

doom-predicting /'duːm prɪ'dɪktɪŋ/ *a.* foretelling the future of life 预测生死的

exacerbate /ɪg'zæsəbeɪt/ *vt.* make a bad situation worse 使加剧，使恶化

pathophysiology /ˌpæθəʊˌfɪzɪ'ɒlədʒi/ *n.* the functional changes associated with or resulting from disease or injury 病理生理学

citation /saɪ'teɪʃən/ *n.* a quotation 引用

relapse /rɪ'læps/ *n.* a falling back into a former state, especially after apparent improvement （旧病）复发

residual /rɪ'zɪdʒuəl/ *a.* relating to or indicating a remainder 残留的

latent /'leɪtənt/ *a.* present but not visible, not apparent 潜在的，不易觉察的

iconoclasm /aɪ'kɒnəklæzəm/ *n.* attack of the established ideas and customs 打破旧习

inaugurate /ɪ'nɔːgjʊreɪt/ *vt.* cause to begin 开始，开创

epidemiology /ˌepɪdiːmi'ɒlədʒi/ *n.* 流行病学

gastroenterologist /ˌgæstrəʊentə'rɒlədʒɪst/ *n.* 胃肠病学家

outbreak /'aʊtbreɪk/ *n.* a sudden occurrence or appearance （疾病的）爆发

convalescence /ˌkɒnvə'lesəns/ *n.* the length of time a person spends getting well after an illness （病后的）恢复期

manpower /'mænˌpaʊə/ *n.* all the workers available for a particular kind of work 人力

heretofore /ˌhɪətʊ'fɔː/ *a.* before this time 在此以前

prolonged /prə'lɒŋd/ *a.* continuing for a long time 持续时间久的，长期的

indistinguishable /ˌɪndɪ'stɪŋgwɪʃəbəl/ *a.* impossible to differentiate or tell apart 难区分的

recurrent /rɪ'kʌrənt/ *a.* occurring or appearing again or repeatedly 复发的

jaundice /'dʒɔːndɪs/ *n.* an illness of the liver that makes the skin and the white part of the eyes become yellow 黄疸

supervisor /'sjuːpəvaɪzə/ *n.* a person who watches over, directs, or manages another or others 导师

uneventful /ˌʌnɪ'ventfəl/ *a.* lacking in significant events 平静的，平淡的

therapeutic /ˌθerə'pjuːtɪk/ *a.* helping to treat or cure illness 治疗的

subspecialist /sʌb'speʃəlɪst/ *n.* 分科专家

pontificate /pɒn'tɪfɪkeɪt/ *vi.* give your opinion about sth. in a way that shows you think you are always right 武断地作出判断，自以为是地发表意见

obstetrics /əb'stetrɪks/ *n.* the branch of medical science dealing with pregnancy and childbirth 产科学

pre-eclampsia /ˌprɪːɪ'klæmpsiə/ *n.* a medical condition in which hypertension arises in pregnancy in association with significant amounts of protein in the urine 先兆子痫

intravenous /ˌɪntrə'viːnəs/ *a.* of, relating to, being, or occurring within a vein 静脉内的

morphine /'mɔːfiːn/ *n.* a powerful drug used for reducing pain 吗啡

respiration /ˌrespɪ'reɪʃən/ *n.* breathing 呼吸

notoriety /ˌnəʊtə'raɪəti/ *n.* ill fame 声名狼藉

diastolic /'daɪə'stɒlɪk/ *a.* 心脏舒张的

perfusion /pə'fjuːʒən/ *n.* pumping a liquid into an organ or tissue (especially by way of blood vessels) 灌注

paediatrics /ˌpiːdi'ætrɪks/ *n.* the branch of medicine concerned with the treatment of infants and children 儿科学

chromosome /'krəʊməsəʊm/ *n.* a threadlike body in the cell nucleus that carries the genes in a linear order 染色体

emulate /'emjʊleɪt/ *vt.* strive to equal or excel, especially through imitation 效仿

mentor /'mentɔː/ *n.* a wise and trusted counselor or teacher 导师

skepticism /'skeptɪsɪzəm/ *n.* a doubting or questioning attitude or state of mind 怀疑态度

aorto-coronary /eɪ'ɔːtəu'kɔːrənəri/ *a.* 主动脉冠状动脉的

arterial /ɑː'tɪəriəl/ *a.* involving or relating to your arteries and the movement of blood through your body 动脉的

bypass /'baɪpɑːs/ *n.* an alternative passage created surgically to divert the flow of blood or other bodily fluid or circumvent an obstructed or diseased organ 旁路，心脏搭桥

ischaemic /ɪs'kiːmɪk/ *a.* (*also* ischemic) 缺血的，局部缺血的

Critical reading and thinking

Task 1 / Reflection

Reflect on the theme of the text and share with your partner what lessons you have learnt from Dr. Sackett's experience. For example: I have learnt from Dr. Thomas Chalmers' paper that preciseness and innovation count as most important factors in the success of one's academic life. What other lessons can you learn from the text? Here are suggested perspectives for your reference:

- Dr. Sackett's challenge to the traditional wisdom in treating his hepatitis patient
- Dr. Sackett's eventful "clinical course" and iconoclasm

Task 2 / Comprehension and discussion

Write down the information on the following topics. Then compare your answers with your partner.

1 design of Thomas Chalmers' trial

2 influence of Thomas Chalmers' paper

3 conventional wisdom of Type-A hepatitis in the 1950s

4 the author's eventful "clinical course"

5 history of randomized trials

Researching

Task / Researching and reporting

Randomized controlled trial (RCT) has been one of the most common forms of clinical trial. Work in groups of 4-5 and explore the media and literature for information about RCT according to the following questions:

1 What is the definition of RCT?

2 Who developed it first?

3 What is the nature of RCT?

4 What is the process of RCT?

Now report your findings to the class.

Text C

Doctors Without Borders[1,2]

1 Doctors Without Borders, French *Médecins Sans Frontières* (MSF), is an international humanitarian group dedicated to providing medical care to victims of political violence or natural disasters, as well as to those who lack access to such treatment. The group was awarded the 1999 Nobel Prize for Peace.

2 Doctors Without Borders was founded in 1971 by 10 French physicians who were dissatisfied with the neutrality of the Red Cross. The doctors believed they had the right to intervene wherever they saw a need for their assistance, rather than waiting for an invitation from the government, and they also felt they had a duty to speak out about injustice, even though it might offend the host government. In 1972 Doctors Without Borders conducted its first major relief effort, helping victims of an earthquake in Nicaragua[3]. Other significant missions were undertaken to care for victims of fighting in Lebanon[4] (1976), and Afghanistan[5] (1979). Doctors Without Borders has continued to work to relieve famine, offer medical care to casualties of

1 This article is taken from the *Encyclopedia Britannica*.

2 **Doctors Without Borders:** a humanitarian-aid non-governmental organization best known for its projects in war-torn regions and developing countries. 无国界医生组织

3 **Nicaragua:** a country in Central America between the Caribbean Sea and the Pacific Ocean, and south of Honduras and north of Costa Rica 尼加拉瓜（中美洲国家，位于加勒比海和太平洋之间，北临洪都拉斯，南接哥斯达黎加）

4 **Lebanon:** a country in the Middle East on the Mediterranean Sea, that is north of Israel and west of Syria 黎巴嫩（地中海畔的中东国家，位于以色列以北，叙利亚以西）

5 **Afghanistan:** a country in Asia that is west of Pakistan and east of Iran 阿富汗（亚洲国家，西临伊朗，东接巴基斯坦）

war, and deal with the problem of refugees in many countries throughout the world. In 2003 Doctors Without Borders was a founding partner in the organization Drugs for Neglected Diseases Initiative (DNDi)[6], which works to create medicines for such diseases as malaria, tuberculosis, and HIV/AIDS.

3 Doctors Without Borders works in more than 70 countries. Headquartered in Brussels[7], the organization has offices in some 20 countries. It was an integral part of the emergency relief efforts in Haiti[8] after the earthquake of 2010, though all three of the organization's hospitals in that country had been destroyed by the quake.

4 In addition to providing medical assistance, Doctors Without Borders has a reputation as a highly politicized group, particularly skillful in achieving publicity for its efforts. Its vocal opposition to perceived injustice led to its expulsion from several countries. (302 words)

New words and expressions

humanitarian /hjuːˌmænɪˈteəriən/ *a.* having concern for or helping to improve the welfare and happiness of people 人道主义的

neutrality /njuːˈtrælɪti/ *n.* the attitude of sb. who does not support either side in a war or disagreement 中立

intervene /ˌɪntəˈviːn/ *vi.* become involved in a situation in order to try to stop or change it 干涉，介入

casualty /ˈkæʒuəlti/ *n.* sb. who is injured or killed in an accident or war 伤亡人员

malaria /məˈleəriə/ *n.* a serious illness caused by being bitten by a mosquito, usually in a hot country 疟疾

tuberculosis /tjuːˌbɜːkjʊˈləʊsɪs/ *n.* a serious infectious disease that affects many parts of your body, especially your lungs 肺结核

integral /ˈɪntɪgrəl/ *a.* essential or necessary for completeness 完整的，整体的

vocal /ˈvəʊkəl/ *a.* protesting or complaining strongly and loudly about sth. 畅所欲言的，直言不讳的

expulsion /ɪkˈspʌlʃən/ *n.* the act of forcing sb. to leave a place 驱逐

Task / Write a brief summary of Doctors Without Borders following the outline.

French Name _____

Founders _____

Date of establishment _____

Headquarters _____

Purpose _____

Past Efforts _____

_____

6 **Drugs for Neglected Diseases Initiative (DNDi):** a collaborative, patients' needs-driven, non-profit drug research and development organization that is developing new treatments for neglected diseases 被忽略疾病药物研发组织

7 **Brussels:** the capital city of Belgium and the city from which the business of the European Union is run 布鲁塞尔（比利时首都，欧盟总部所在地）

8 **Haiti:** a country in the Caribbean Sea on the island of Hispaniola 海地（岛国，位于加勒比海的伊斯帕尼奥拉岛上）

Listening

News Report

Prediction

A valuable skill for listening comprehension is prediction. That is, instead of relying first on the actual words or sounds, you use background information and common sense to develop expectations about what you will hear and then confirm or reject them as you listen. This strategy is considered as an effective way of processing speech because it makes the most use of the resources available to you.

For instance, in this section, you will watch a video clip of a report titled "A Survey of Burnout Among Internal Medicine Physicians". Before watching the clip, think about the following questions:

- Who are the audience of the report?
- What are the findings of the survey?
- Are there any solutions to burnout among internal medicine physicians?

Reflection on these questions can facilitate the access to relevant knowledge and enhance subsequent understanding.

Word bank

Archives of Internal Medicine《内科医学文献》（期刊）
Annals of Internal Medicine《内科医学年鉴》（期刊）
substance abuse 滥用药物
exhaustion /ɪgˈzɔːstʃən/ *n.* 精疲力竭
depersonalization /diːˌpɜːsənəlaiˈzeɪʃən/ *n.* 丧失个性

Task 1 / Before watching, write down your expectations about the report.

A Survey of Burnout Among Internal Medicine Physicians

Task 2 / Watch the video and take notes about the following points.

1 consequences of physician burnout

2 design of the survey

3 findings of the survey

_____

_____

4 criteria for burnout

_____

_____

5 implication of the survey

_____

_____

Discussion/Seminar

Speaking

Asking for information and clarification

Knowing how to ask questions and seek clarification during tutorials, seminars and lectures is important at university. Here are some useful expressions for your reference. In fact there are two sets of expressions that serve similar purposes, but they differ in the degree of politeness. Remember being polite is important in academic discussions. Now read these sentences in the following two columns and compare them in terms of politeness.

Can you go over the bit about… again?	**Could** you go over the bit about… again?
I didn't understand what you said about…	I didn't **quite** understand what you said about…
Could you repeat…?	**I wonder if you could** repeat…?
Can you give… again?	**Would you mind** giving… again?
Does… mean…?	**Do you know if**… means…?
What does… mean?	**Can you remember** what… mean?
What is…?	**Could you tell me something about**…?

less polite → **more polite**

Task / Work in pairs and use the polite expressions listed above to ask each other to clarify the following terms without referring to Text A and Text B.

1 BP meds
2 DEXA scans
3 control groups
4 red-flag signs
5 randomized trials
6 eligibility criteria
7 human chromosomes

Writing

Research Paper Project

Choosing a topic

An essential part of academics is writing a research paper, which presents the results of systematic investigations on a particular topic. However, this is a very challenging and arduous process. For this semester, you will be exposed to the basic knowledge of research paper writing in medicine. Strategies on how to write the main sections of a research paper are introduced with samples in each of the ten units. You are expected to find more medical papers and analyze them according to what you have learned.

Let's start with the first step — deciding upon a topic on your own. Keep in mind the following points:

1 **Choose a topic that really intrigues you.** Your attitude determines the amount of effort you put into your research.
2 **Narrow down a topic.** Some topics are too broad to make a manageable paper. Begin by doing some general reading about something you are interested in and then try to find a focus. For instance, you may narrow down a topic from "healthy living" to "factors influencing health" , "e-life and health" or "cell phone use and health".
3 **Avoid a topic that has very limited relevant source materials.**
4 **Remember that an initial topic may not be the topic you end up writing about.** This is a common characteristic in a student's ongoing research.

Following the above guidelines, you may start thinking about a topic for your research paper now. Thinking early leads to starting early.

Task 1 / Work in pairs and consider whether the following topics are suitable and manageable for a 2,000-word paper. Check (√) your choices.

- ☐ **1** Reflection on the application of Chinese medicine
- ☐ **2** The effect of some disease prevention programs
- ☐ **3** A survey of some resident physicians' life
- ☐ **4** Problems of American Medicare system
- ☐ **5** Effects of globalization on people's life

Task 2 / Write down the topics that you are curious about. Make sure they are specific and feasible.

Vocabulary Test

Complete the following language chunks taken from Texts A, B and C according to their Chinese equivalents.

1 _____ overload (神经过载)

2 a typical office _____ (典型的诊所就诊)

3 DEXA _____ (DEXA扫描)

4 medical _____ (行医)

5 _____ control (血压控制)

6 health _____ (健康保持)

7 _____ report (乳房X线检查报告)

8 _____ examination (体检)

9 _____ of a medication (药物的副作用)

10 perpetual _____ (永久的恐慌)

11 _____ physicians (执业医生)

12 _____ field (移植领域)

13 medical _____ (医疗预算)

14 paracetamol _____ (扑热息痛药片)

15 _____ cap (防孩子打开的盖子)

16 _____ clinical trial (随机临床试验)

17 random _____ (随机分配)

18 patient _____ (病人的预后)

19 _____ group (对照组)

20 a 10-year _____ study (10 年的跟踪研究)

21 a medical _____ (内科病房)

22 infectious _____ (传染性肝炎)

23 severe _____ (身体严重不适)

24 bilirubin _____ (胆红素代谢)

25 permanent _____ damage (永久的肝损伤)

26 exacerbate _____ (加重病理生理状况)

27 medical _____ (医学文献)

28 clinical _____ (临床调查)

29 _____ of relapse (复发率)

30 clinical _____ (临床流行病学)

31 strict _____ (严格的卧床休息)

32 hospital _____ (住院)

33 recurrent _____ (反复发作的黄疸)

34 clinical _____ (临床病程)

35 _____ morphine (静脉注射吗啡)

36 _____ blood pressure (舒张压)

37 brain _____ (大脑血灌注)

38 _____ care (初级保健)

39 aorto-coronary arterial _____ (主动脉冠状动脉旁路)

40 _____ treatment decision (知情治疗决定)

41 an international _____ group (一个国际人道主义组织)

42 the Red _____ (红十字会)

43 the first major _____ effort (第一次重大援助工作)

44 _____ of war (战争中的人员伤亡)

45 _____ relief efforts (紧急援助工作)