

通信科技英语

文选

南京大学大学外语部编



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通俗科技英语文选

第二十六辑

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TONGSU KEJI YINGYU WENXUAN

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Ultrasound — the Answer for Infertile Women

The use of ultrasound to achieve pregnancy in infertile women has been perfected by doctors at King's College Hospital in London.① About 25 patients are being treated weekly this way at King's and at a private clinic in the capital.

The doctor uses an ultrasound scan to display on a screen the position of ripe ovarian follicles. He can then be guided as he insert a fine needle through the abdomen to the follicles where he can aspirate the eggs.

The method has several advantages over laparoscopy — the more usual method of egg retrieval. The laparoscope allows the doctor to view directly into the inside of the body cavity, but to do this, the needle has to be inserted through an incision in the abdominal wall and a general anaesthetic administered. The view is often impeded by adhesions and scar tissue.

With ultrasound only a local anaesthetic is needed. The patient can watch the eggs being retrieved② and the husband is usually there to give support. Ultrasound is non-invasive and adhesions pose no problems to the tracking procedure.

Once the eggs are secured they are inseminated with the husband's semen and incubated in a dish. Usually four embryos are transplanted in the womb with the remainder frozen for further implant if the first is unsuccessful.

In 18 months of ultrasound treatment, 121 in vitro fertilisation pregnancies have been achieved with a success rate of between 25 and 30 per cent. The method has now replaced laparoscopy entirely at King's and will be used ultimately at infertility clinics throughout Britain.

词 汇

ultrasound ['ʌltrə'saʊnd] *n* 超声
infertile [in'fɜ:təɪl] *a* 不生育的;

贫瘠的

pregnancy ['pregnənsi] *n* 怀孕
(期)

scan [skæn] *n* 扫描; 细看; 审视

ovarian [əu'veəriən] *a* 卵巢的

follicle ['fɒlikl] *n* 卵泡, 滤泡

abdomen ['æbdəmen] *n* 腹部

aspirate ['æspəreit] *vt* 吸出(空气等)

have an advantage over 优于

retrieval [ri'tri:vəl] *n* 重新得到; 可收回

cavity ['kæviti] *n* 腔; 体内

incision [in'si:ʒən] *n* 切开, 切入

anaesthetic [ˌæniq'θetik] *a* 麻醉的 *n* 麻醉剂

administer [əd'ministə] *vt* 实施; 用(药)

invasive [in'veisiv] *a* 侵袭的; 侵害的

impede [im'pi:d] *vt* 阻碍; 阻止

adhesion [əd'hi:ʒən] *n* 粘连; 黏附

inseminate [in'semineit] *vt* 使受孕

semen ['si:men] *n* 精液

incubate ['inkjubeit] *n* 孵化

embryo ['embriəu] *n* 胚胎; 胎儿

womb [wu:m] *n* 子宫

implant [im'plɑ:nt] *vt* 移植 *n* 移植植物

in vitro 在试管内, 在活体外

fertilisation [fɜ:tilai'zeɪʃən] *n* 受精

注 释

- ① King's College: 英皇家学院, 它是剑桥三十一所学院之一, 它的建筑最出名。该院是英王亨利六世一四四一年所建, 故称“英王学院”。
- ② being retrieved: 为现在分词的被动式作宾语补语。

参考译文

超声波疗法——不育妇女的福音

伦敦皇家学院医院的医生们已成功地利用超声波疗法使不孕妇女怀孕。在皇家学院医院和一家私人诊所里，每周大约有二十五位不孕妇女接受这种治疗。

医生用超声波扫描把卵巢里成熟卵泡的位置显示在荧光屏上，然后他就能准确地将一根细针通过腹部刺入卵泡中，吸出卵子。

超声波疗法在诸多方面优于腹腔探测法——即通常取得卵子最常用的方法。使用腹腔探测镜，医生能直接看到体腔内部，但要这样做，细针就必须通过腹壁上的切口探入，并要进行全身麻醉。用这种方法观察常受到粘连和创伤组织的阻碍。

用超声波疗法只需局部麻醉。受治疗者本人也能看到取卵的进程，她的丈夫往往可以守在旁边使之宽心。超声波疗法是无害的，在探索过程中也不会因为粘连而受到影响。

一旦取出卵子，就要使它与丈夫的精子结合受孕，并把它放在试管里培养。通常要把四个胚胎移植在子宫里，其余的全部冷冻起来，这样如果第一次移植失败，以后还可再进行移植。

通过十八个月的超声波治疗，有一百二十一例用人工受精怀孕，其成活率为百分之二十五至百分之三十。

超声波疗法在英皇家学院已完全替代了腹腔探测法，最终并将在全英国治疗不育症的诊所里应用。

吴佩娟 译注 林棣 校

Vitamin in Milk Can Help Diabetics

Damage caused by diabetes can be reversed by attention to diet. Researchers at Glasgow University studied eight

types of damage, including disturbances of the heart, eyesight and muscles, and found that all responded to treatment with a vitamin found in human breast milk, but not readily available in other foods.

The researchers explored the way in which the substance, called gamma-linoleic acid, or GLA, allows repair of damaged nerve endings.

Under normal circumstances the body absorbs linoleic acid from food and converts it into GLA. This, in turn, is transformed into a wide range of substances, each of which plays an important role in some part of the body.

Previous research has shown that in diabetes the production of GLA is much slower than normal, and leads to a deprivation thought to be important in the cause of many longterm disorders associated with the disease.

The use of high levels of vegetable oil in the diet of diabetics has had some success, but is not a satisfactory treatment.

The alternative tried by the researchers at Glasgow was to bypass the process of conversion by giving the GLA directly.

The scientists used the seed oil from a specially-grown hybrid of the evening primrose. The hybrid has a high proportion of GLA in its seeds.

The trials consisted of giving capsules of five grammes four times a day. The researchers found improvements in all conditions over the trial.

词 汇

diabetic [ˌdaɪəˈbetɪk] *n* 糖尿病

患者 *a* (患) 糖尿病的

diabetes [ˌdaɪəˈbiːtiːz] *n* 糖尿病;

多尿症

respond to 有反应

readily ['redɪli] *ad* 无困难地; 容易地

gamma ['gæmə] *n* 希腊语第三个字母 (Γ, γ); 丙种

linoleic acid [ˌlɪnəˈliːk ˈæsid] *n*

亚油酸

GLA (=gamma linoleic acid)

丙种亚油酸

in turn (同样, 本身) 也; 依次

deprivation [ˌdepriˈveɪʃən] *n* 丧失; 剥夺

conversion [kənˈvɜːʃən] *n* 变换, 转化

bypass ['baɪ-pɑːs] *vt* 回避; 绕过

hybrid ['haɪbrɪd] *n* 杂交; 杂种

primrose ['prɪmrəʊz] *n* 报春花属; 樱草

evening primrose 待霄草

capsule ['kæpsjuːl] *n* 胶囊

in ... condition 处于……的状况

in all conditions (本文中意为) 病势不同

参考译文

人奶中的维生素可治糖尿病

糖尿病给人造成的机能失调可通过注意饮食得以恢复。格拉斯哥大学的研究人员分析了糖尿病造成的八种机能失调, 其中包括心脏、视力和肌肉的失调, 发现使用一种在人奶中发现的维生素进行治疗对这些病症均有效。然而, 这种维生素在其它食物中却不可轻易获得。

研究人员探讨了这种被称为丙种亚油酸的物质是如何治愈受损神经末梢的。

一般情况下, 人体从食物中摄取亚油酸, 然后将其转化为丙种亚油酸, 这种物质再经转化成各种其他成分, 每种成分在人体的某个部位发挥重要作用。

以前研究表明糖尿病患者体内丙种亚油酸的转化形成过程远远慢于正常人, 以致造成丙种亚油酸的供不应求。这种供不应求被认为是导致与糖尿病相关的各种长期身体机能失调的主要原因。

在糖尿病患者的饮食中使用大量植物油的治疗方法现已取得某些成功, 但它并非是令人满意的一种治疗方法。

格拉斯哥大学的研究人员尝试用的另一种方法是越过转化过程而直接食用丙种亚油酸。

科学家们使用一种特别栽培的杂交待霄草种子油，这个杂交品种的种子中丙种亚油酸含量较高。

试验包括日服四次，每次为五克的丙种亚油酸胶囊。研究人员在试验中发现不同病势的患者服用此药后病情均有好转。

孔丽平 译注 卿 校

Exercise Problems

Dieting and rigorous exercise in girlhood can lead to deformed spines and fractures of the legs and feet in young women, according to a study of 75 ballerinas aged 17 to 34. Eighteen of the dancers had curvature of the spine, or scoliosis, and 46 had suffered fractures.

Dieting and heavy exercise often delay first menstruation, and this delay is linked to an increased risk of scoliosis.

Low estrogen levels — a result of delayed puberty — are known to deplete bones of calcium.

词 汇

spine [spain] *n* 脊椎, 脊骨
deformed spines [di'fɔ:md 'spainz] 脊椎畸形
fracture ['fræktʃə] *n* 破裂, 折断, 骨折
ballerina [bælə'ri:nə] *n* 芭蕾舞女演员(尤指主角)

curvature ['kə:vəʃə] *n* 弯曲; 弯曲部分
scoliosis [,skoli'əʊsis] *n* 脊椎侧凸
menstruation [,menstru'eɪʃən] *n* 月经; 行经; 行经期
estrogen ['i:stɒrɒdʒən] *n* 雌性激

素
puberty ['pjʊ:bə(:)ti] *n* 发身; 青

春期
calcium ['kælsiəm] *n* 钙

参考译文

运动带来的危害

根据一项对七十五名十七至三十四岁的芭蕾舞演员的调查研究表明, 未成年女孩子的节食与超量运动可导致青春 期 脊椎畸形和腿足骨折。这些舞蹈演员中有十八人的脊椎弯曲, 即侧凸, 另外四十六人则曾骨折过。

节食与超量运动通常延迟第一次行经, 而这一现象又极易导致脊椎侧凸。

据信, 雌性激素的缺乏——青春 期 延迟到来的结果——降低了骨骼中钙的含量。

孔丽平 译注 卿 校

Permanent False Teeth

For fifty years, dentists have been searching for a way to permanently anchor false teeth to the jawbone.

By the late 1960s, they had developed a system for attaching the denture to a thin metal wedge planted in the bone — and it sometimes worked. But too often infection set in or the teeth came loose, and the public became disenchanted with the expensive procedure.

Now, however, dentists claim the problems that dogged permanent dental implants have been largely solved by a technique developed in Sweden for surgically implanting metal

screws and posts in the jawbone, then attaching the bridge-work.

Recent Swedish studies found that such implants typically held dentures firmly in place for more than 15 years. Last September, the Swedish system became the first to win provisional approval of the American Dental Association, and since then thousands of US dentists have been trained in the technique.

The Swedish experience also has given US researchers new confidence in using older implant systems developed more than 20 years ago. Applying the more sterile and precise surgical procedures pioneered in Sweden,^① US dentists claim their implants, too, go in more easily and stay in much longer.

词 汇

search for 探究

anchor ['æŋkə] *vi* 固定, 抛锚

jawbone ['dʒo:bəʊn] *n* 牙床骨,
颞骨

denture ['dentʃə] *n* 假牙, 托牙

wedge [wedʒ] *n* 楔形物

come loose 变松, 松劲

set in 到来, 开始; 流行

disenchant [disin'tʃɑ:nt] *vt* 使
清醒

dog [dɒg] *vt* 尾随; (灾难等) 缠
住

implant [im'plɑ:nt] *vt* 嵌入; 移

植 *n* 移植片

surgically ['sɜ:ʒikəli] *ad* (做) 外
科(手术)

bridgework ['bridʒwɜ:k] *n* (假牙
的) 桥

Sweden ['swi:dn] *n* 瑞典

in place 在适当的位置; 适当的

provisional [prə'viʒənl] *a* 临时
的

sterile ['sterail; (美) 'steril] *a*
消过毒的; 不生育的

pioneer [ˌpaɪə'niə] *vt* 开辟 *vi*
当先锋

注 释

① Applying more ... in Sweden, 为现在分词短语作状语, 表示原

因,修饰句中谓语 claim. claim 后面是一个省略了关系代词 that 的宾语从句。

参考译文

永久固定的假牙

五十年来,牙科医生一直在探索一种把假牙永久地固定在牙床骨上的方法。

到六十年代后期,他们已研究出一种方法能将假牙镶插于牙床骨中的楔形金属薄片上。用这种方法镶牙有时效果很好。不过,时常会引起感染,牙齿也常好松动,人们对这种费钱的方法不再感兴趣了。

然而,现在牙科医生声称,将永久性假牙托片固定起来的棘手问题现已在瑞典研究出的一种技术解决了。这种方法是通过外科手术将金属螺旋和金属柱一起嵌入牙床骨中,然后再镶上假牙桥。

最近瑞典科学家研究发现,这种假牙托片能把假牙牢牢地固定在牙床骨上超过十五年。去年九月,这种瑞典人发明的方法首先获得了美国牙科协会的临时批准,自那以来已有数以千计的美国牙科医生学习使用该项技术。

瑞典的这一新技术也使美国科研人员对运用二十多年前研究出的较为陈旧的镶牙方法增加了新的信心。美国的牙科医生采用了这种由瑞典率先使用的消毒更严格操作更准确的镶牙方法,并声称也能将假牙更容易地嵌入牙床骨,而且能更长久地保持固定。

刘生 译注 安萍 校

Tea for the Teeth—Naturally Occurring Tannins Seem to Prevent Decay

An apple a day may keep the dentist away.④ So might

a cup of tea or coffee, a bar of chocolate, a glass of beer, a bowl of rhubarb or other foods and beverages loaded with plant compounds called tannins.^②

Used to prevent infection for centuries, tannins have only recently been recognized as potential tooth protectors, with qualities that may make the compounds more effective than fluoride in fighting tooth decay.^③ The Japanese are already selling a toothpaste that contains tannins, and therapeutic mouthwashes rich in the compounds might be around the corner.

Since tannins are prevalent in many edible plants, one might be able to avoid the dentist's drill by using a nutritional approach that goes far beyond shunning candies and cakes. We might be able to prevent cavities by eating certain foods or drinking various beverages.

In one study, tannins hindered bacteria from sticking to tooth enamel in an artificial setting created to simulate the environment in the mouth. Other studies show a diet high in tannins prevents tooth decay in hamsters and reveal that heavy tea drinkers have exceptionally low rate of dental problems.^④ Tannins may also be a tooth-saver for chocolate-lovers since research suggests that tannins and perhaps other ingredients in sweetened chocolate can offset the cavity-promoting effects of the sugar it contains.

One of the key goals to preventing dental problems is to reduce the amount of plaque on teeth. Tannins seem to do just that. Plaque is an acidic bacterial glue that coats teeth and eats away at their enamel, triggering decay. Tannins can aggressively bind to the bacteria before they have a chance to form plaque. Fluoride, in contrast, mainly just buttresses

tooth defenses against bacterial attack by strengthening enamel.

词 汇

tannin ['tænin] *n* 鞣酸
 rhubarb ['ru:bɑ:b] *n* 大黄
 beverage ['bevərɪdʒ] *n* 饮料
 fluoride ['flu(:)əraɪd] *n* 氟化物
 therapeutic [ˌθerə'pjʊ:tɪk] *a* 治疗的, 疗法的
 be round the corner 即将来临; 在拐弯处; 在附近
 shun [ʃʌn] *vt* 避免, 回避
 hinder ['hɪndə] *vt* 阻止, 阻碍
 hinder ...from doing 使...不能(做) ...
 enamel [i'næməl] *n* 珐琅质

simulate ['sɪmjʊ:leɪt] *vt* 模仿; 看上去象
 hamster ['hæmstə] *n* 仓鼠
 ingredient [ɪn'gri:djənt] *n* 配料
 offset ['ɒ(:)fset] *vt* 抵销; 补偿
 plaque [plɑ:k] *n* 齿菌斑
 acidic [ə'sɪdɪk] *a* 酸性的
 eat away 蛀坏, 侵蚀掉
 coat [kəʊt] *vt* 给...涂上, 沾粘
 trigger ['trɪgə] *vt* 引起
 in contrast 与此相反, 可是
 buttress ['bʌtrɪs] *vt* 增强; 支撑

注 释

- ① An apple a day may keep the dentist away. 英语中有一谚语: An apple a day keeps the doctor away. (一天一苹果, 医生不上门。) 本文为说明鞣酸对牙齿的好处, 借用这一谚语, 将 doctor 改为 dentist.
- ② So might a cup of tea ... called tannins. 该句为省略、倒装句, 意为: A cup of tea ... called tannins might also keep the dentist away.
- ③ ... with qualities that ... in fighting tooth decay. with ... 介词短语作定语, 修饰前面的 tooth protectors, 相当于一个非限定性定语从句: which are with qualities that ... decay. 句中, the compounds 指的是 tannins.
- ④ Other studies show ... and reveal that heavy tea.... 句中, show 和 reveal 为并列谓语动词, 各有一个宾语从句: a diet high ... 和 that heavy tea....

参考译文

茶能护齿

——看来天然鞣酸能防止龋齿

每天吃只苹果,无需牙科医生来治病。每天喝杯茶或咖啡,吃块巧克力,喝杯啤酒,吃碗大黄或其它含鞣酸成分的食品,同样也能叫牙科医生无事可做。

几百年来,人们常用鞣酸来预防传染病,最近才发现它对牙齿有一种潜在的保护作用。这类化合物具有防止龋齿的性能,比氟化物效果更佳。日本已在出售一种含鞣酸的牙膏,而含有大量鞣酸的医疗用的漱口剂也将要问世。

既然许多可食植物中都含有鞣酸,那么人们可以采取营养疗法,就能免遭牙医的牙钻手术之苦,这比不吃糖果、糕点强得多。因此,我们也许可以通过吃某些食物,喝多种饮料的方法来防止齿蛀。

一项研究表明,在一个模拟口腔环境的试验装置中,鞣酸能阻止病菌侵蚀牙齿的珐琅质。其它研究也表明:含鞣酸量很高的食物能防止仓鼠牙齿腐蚀;而爱喝浓茶的人患牙病率则极低。鞣酸也许还是爱吃巧克力的人的护齿物,因为研究结果指出:甜味巧克力中的鞣酸,或许还有其他配料,能抵销巧克力中的糖对牙齿的腐蚀作用。

防止牙病的主要目标之一是减少牙齿上的齿菌斑。而鞣酸似乎正具有这一功能。

齿菌斑是一种酸性菌胶,它粘附在牙齿的表面上,并腐蚀牙齿的珐琅质,使之变为龋齿。鞣酸能在细菌形成齿菌斑前把它们先行凝固起来。可是,氟化物却只能靠加固珐琅质来增强牙齿的防护功能,以抵制细菌的侵蚀。

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COMMON KNOWLEDGE 常识

How Long Can a Person Live Without Breathing?

Probably for only four to six minutes. The air we brea-