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Hazards of medical terminology from Classical languages: it's all Greek (and Latin) to me!

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3 **1114 words, 5 references (the word limit for viewpoints is 1,200 + 7 references)**
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5 **Hazards of medical terminology from Classical languages: it's all Greek (and Latin) to me!**
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8 Henrik Wulff noted that the language of medicine offers intriguing challenges to linguists
9 [1]. The oldest written sources of western medicine are the Hippocratic writings from the
10 5th and 4th centuries BC. Greek medicine was later adopted by the Romans and in the first
11 century AD, Aulus Cornelius Celsus translated many Greek medical terms into Latin.
12 However, Peter Frankopan [2] describes the lazy history of civilisation as “Ancient Greece
13 begat Rome, Rome begat Christian Europe, Christian Europe begat the Renaissance, the
14 Renaissance the Enlightenment” and, as John Wade said, “the rest is history”. Or was it? In
15 reality, the first great civilisations were established 5,000 years ago in the Indus valley and
16 Mesopotamia with sophisticated sewage systems which would not be matched by European
17 public health measures until John Snow linked cholera to the water supply in the mid-
18 nineteenth century. There are ancient Chinese texts documenting the medicinal effects of
19 herbs from 2,700 BC [3]. The most famous centres of learning after the eighth century AD,
20 when Europe was still in the Dark Ages following the collapse of the western Roman Empire,
21 were the Islamic schools in Baghdad, Cairo and Cordoba. The texts studied in the Islamic
22 schools were those of the Greek scientists and philosophers and between 750 and 900 AD
23 most of the works of Hippocrates, Galen and Aristotle were translated into Arabic.
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29 Around 1000 AD, Ibn Sina (known as Avicenna – Persian in origin but writing in Arabic),
30 benefitting from the library of the Sultan of Bokhara in modern day Uzbekistan, compiled
31 his Canon Medicinæ which reached the west in the 12th century and remained influential
32 for centuries [4]. Avicenna is often referred to as the father of modern medicine. Arabic
33 pharmacopoeia listed experiments with lemongrass, cumin, celery seeds and wine vinegar.
34 However, during the Renaissance both Greek and Arabic works were translated into Latin,
35 and the era of medical Latin really took off. As a result, from then until the 19th century
36 almost all medical works were published in Latin, such as Regimen Sanitatis by Moses
37 Maimonides, a Jewish physician in Cairo, composed in Arabic but later translated into Latin
38 and published in Florence in 1477 or De Motu Cordis on the circulation by William Harvey in
39 1628. A benefit was that physicians from different countries could converse with one
40 another in a common language but, sadly, they could also discuss a case in front of a patient
41 without the patient having any idea what was being discussed. As a medical student, I can
42 still recall the ‘mitotic lesion’ being discussed without the elderly patient being told about
43 their cancer diagnosis.
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48 On my first day as a medical student I was told that I would learn a new vocabulary ten
49 times greater than a modern languages student. My tutor later gave me a monograph by Sir
50 George Pickering, Regius Professor of Medicine in Oxford 1956-68, in which he emphasised
51 the necessity in medicine for precision of expression and the proper use of the English
52 language which should clarify thinking since, if words were badly chosen, ambiguity and
53 confusion could well result. Unfortunately, perhaps partly as a consequence of the repeated
54 translations described above, over 40 years later much of this vocabulary still confuses me.
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58 Ringworm is not due to a worm. The concentric rings on the skin are caused by
59 *Microsporum canis*, a genus of fungi which cause dermatophytoses (Greek: plants on the
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3 skin), including tinea corporis (Latin: worm on the body). The relationship to wolves and
4 dogs of the genus canis escapes me since cats (excluding my own Princess Jessica) are the
5 commonest host. Ringworm was termed tinea (L. worm) because it was attributed, before
6 the science of mycology (Gk. mycos = mushroom), to a wormlike parasite. More
7 confusingly, ringworm is not treated with a tiazole, which is an antiprotozoal agent.
8 *Taenia coli* are not worms in the gut but tapelike bands of muscle on the large intestine (Gk.
9 tainia = a band) although taeniasis refers to intestinal tapeworm infection.
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13 Tinea can be caused by other fungi (L. mushroom), not just *Microsporum canis*, including
14 *Trichophyton verrucosum* (although verrucas are due to viruses). *Trichophyton* (Gk. trichos
15 = hair; phyton = plant) sits within the family Gymnoscaceae. The prefix 'gym' seems
16 apposite since *Trichophyton rubrum* (L. red) causes tinea cruris, affecting the groin of gym
17 enthusiasts, also referred to as gym itch or jock itch. The association between 'jock' and
18 groin has nothing to do with the Scots and the wearing of kilts but also occurs in 'jock strap'
19 and the American vernacular 'hockey jocks'.
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23 Finally, the fungus *Trichophyton* should not be confused with *Trichinella* (L. genus name
24 from the Gk. trikhine = like hair) which is a tiny hair-like, parasitic nematode worm, for
25 example the pork worm parasite, which causes trichinosis. Hence, you are more likely to
26 get worms from your ham pizza than your fungi pizza but if you remain as confused as I am,
27 don't pull your hair out (trichotillomania)!

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30 On the other hand, sometimes the classical terms were both more specific and correct.
31 Charles Harrison Blackley noted that catarrhus aestivus (hay fever) was very rare in farming
32 families in 1873 [5] - a century before demographic studies confirmed his observation. Hay
33 fever is not due to hay but an allergic reaction to pollen. Hay is a plant, most commonly
34 grass, that has been cut, dried, and stored for animal feed. So actually catarrhus aestivus (L.
35 summer catarrh) is a rather better descriptor.
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39 There is hope for today's modern medical student. Perhaps the 'unipennate gracilis muscle
40 which extends from the pubic ramus to the tibia' will become the 'slender muscle running
41 from the pelvic branch to the shin bone'? During the 20th century, English has gradually
42 become the *lingua franca* of modern medicine, partly due to the influence of American
43 medicine and science. As a medical student in the 1970's, my tutor could still insist that
44 proficiency in German allowed him to read new physiological science in *Pflügers Archiv. Acta*
45 *Paediatrica* was originally trilingual (English, German and French) but later English only. By
46 the end of the 20th century, all the most influential medical journals are written in English
47 (as is *Archives of Disease in Childhood*) and English had become the language of
48 international conferences – occasionally with simultaneous translation. We have come full
49 circle in that medical doctors can once again communicate discoveries and discuss cases in a
50 universal medical 'esperanto'. Whilst new medical terms were previously derived from
51 Greek or Latin, now they are often port-manteau words from English - e.g. bypass
52 operation. The term bypass is accepted in German, Dutch, Scandinavian, Italian and
53 Romanian, whereas French doctors, under the watchful eye of the Académie française,
54 translate it to 'pontage' [1]. Plus ça change!
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60 **Professor Sir Terence Stephenson**

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