

TECHNIQUES FOR TEACHING MEDICAL TRANSLATION INTO ENGLISH

Naomi James Sutcliffe de Moraes
Just Right Communications Ltda.

Abstract: Didactic methods for teaching medical and general scientific translation, including research, background reading, register, style, vocabulary, word collocation and ambiguity. Source language examples will be in Portuguese, but the emphasis will be on techniques. All translation teachers and all medical translators should find the discussion interesting.

1. INTRODUCTION

This paper is based on my experiences teaching scientific, engineering and medical translation in the two-year Associação Alumni Translation and Interpreting Certificate Program in Brazil. To provide a bit of background, The Associação Alumni Certificate program was established in 1971 and is a hands-on program, rather than a university-type theory course. Technical translation (4 semesters), literary translation (one semester), consecutive interpretation (one semester), and simultaneous interpretation (two semesters) are taught. Each semester consists of 9 weeks of classes (6 hours a week) translating into Portuguese, and another 9 weeks translating into English. There are three reasons for this: Brazilians regularly translate into English (this is a fact of life in the Third World), native speakers of English also take the course, and being forced to translate into what is normally the source language strengthens comprehension.

I teach the second semester scientific and engineering Portuguese into English class (9 weeks x 2 hours/week). Homework is given once a week, and returned the following week with corrections in ink. The school has standard error codes. Only one medical text is given at this level, but biology and chemistry are often covered. I also like to teach texts on Mechanical Engineering (my BS was in Mechanical Engineering) and environmental engineering (very popular topic for translations from Portuguese into English). Needless to say, there are so many interesting areas and only 9 weeks, I must choose carefully.

I have the same students in the fourth semester for Medical Translation from Portuguese into English. At this point, most of their English grammar problems have been straightened out (thank goodness!) and I correct their texts electronically using the track changes tool in Microsoft Word. This is also important because this module lasts only 4½ weeks (the last ½ is the exam). The students receive homework assignments on Wednesday and must return them to me via e-mail by Monday so I can correct them, return them by e-mail (so the students can see them), and prepare feedback by Wednesday. Needless to say, I have stayed up till 2am correcting homework on at least one occasion!

So, how much medical translation can I teach in 4 weeks (8 hours plus homework assignments)? Not nearly enough. One interesting aspect of the Alumni course is that it is very competitive (there is a written and verbal entrance exam) and very expensive, so we get the best students. I have had medical doctors, veterinarians, and dentists in my Medical Translation classes. Quite daunting! On the other hand, we also have lawyers, engineers, students who studied languages in college, English teachers, and housewives (many married to native speakers of English).

1.1 Text Selection

In addition to this disparate collection of backgrounds, the Alumni students are broken into two groups upon admission, the A group (with stronger translation skills) and the B group (with weaker translation skills). Most B students will not receive the Portuguese into English translation Diploma. Students must receive an average of 90% or above on all assignments and exams to receive the diploma. So, I cannot grade on a curve for each group and I cannot use qualitatively different homework texts.

I try to focus on texts a Brazilian might reasonably be hired to translate into English: medical journal articles, abstracts, medical reports and marketing material. The problem is that the students without a medical background, especially the B students, are normally incapable of competently translating the first three types of documents. I have to balance giving them texts they can translate, thus giving them confidence, and the desire to destroy their confidence so they do not think they are whiz medical translators and go off killing people with horrible translations of harder material. In fact, one of my chief objectives in the second semester scientific and engineering translation is to scare the non-scientific-minded students away from the area and draw the scientific-minded students in. There is nothing worse than a translator translating any text that comes his way just because he has no other job to do at the time.

1.2 Subjects

When I began teaching the Medical Translation class, I used material provided by the previous teacher. Articles on pain, aging, malaria, etc. After feedback received from the second semester students, who felt overwhelmed by the number of different topics taught in engineering and science, I decided to try a different approach. Since both my in-laws have cancer and I translate many cancer related documents, I decided to treat only cancer, with progressively more difficult texts. The first text is basic cancer definitions taken from a Brazilian medical dictionary. The next text is types of treatment. The third text is thyroid cancer. The fourth text is staging, and the exam is on radioactive iodine treatment for thyroid cancer (which my mother-in-law just underwent). This way, the student sees the basic vocabulary he learns in the first class in the other three classes, and builds upon his vocabulary and understanding from the first class to the last. After using this new plan for two groups of students, I found that the students with less medical experience (the majority) enjoyed it, while the students with medical experience would have preferred more of a survey course.

2. REGISTER

One important characteristic of medical translation is register. This can be broken down simply into the three following divisions:

- doctor-to-doctor medical articles, laboratory reports
- doctor-to-patient medication inserts, marketing material, instructions
- patient-to-patient material provided by charities or sufferer's organizations

The doctor-to-patient register is the trickiest to translate, because Brazilian doctors often use the same words for the first two registers, whereas an English-speaking doctor would not. I recently went to a clinic for a vaccine, and they told me they would inject it in the *nádegas*. I was a bit

surprised, not expecting this turn of events, and the nurse explained that she would give me the injection in the *bunda*, the everyday word. I would expect an American doctor to give me an injection in the "rear", and not the "buttocks" or "gluteus". American doctors have been trained (at least recently) to talk the language of the patient, to put the patient at ease and stimulate him to participate in his improvement. If a patient does not understand how a medication should be used, or why, he is unlikely to take it as prescribed.

The patient-to-patient register is interesting, because the text often has the doctor-to-doctor register word followed by a layperson's explanation. These sites can be very helpful to medical translators, when used carefully. Translators working on doctor-to-doctor texts should try to use similar texts when researching and reading about the subject.

The table that follows shows some Brazilian Portuguese and American English terms in the doctor and patient registers.

American English		Brazilian Portuguese	
Doctor Register	Patient Register	Doctor Register	Patient Register
encephalitis lethargica	sleeping sickness	encefalite letárgica	
thrombosis, embolism	blood clot	trombose	coágulo [not very common]
cerebral hemorrhage	stroke	hemorragia cerebral	derrame cerebral
conjunctivitis	pink eye	conjuntivite	
candidiasis	yeast infection/thrush	candidíase	
hordeolum	stye	órdeolo	terçol
fracture	break	fraturar	quebrar
urinate	pee	esvaziar a bexiga	urinar, fazer xixi

3. RESEARCH AND BACKGROUND READING

On the very first day of class, I have show-and-tell (both for second semester and fourth semester students, but the dictionaries and resource materials are different). The most important thing I stress is the importance of non-translated dictionaries and resources, since a translation is only as good as the unknown translator who was paid an unknown fee and allowed an unknown amount of time to complete the job. Many second semester students find Brazilian web sites with texts translated into English and think they are all set.

For Portuguese>English, I recommend the *Dicionário de Termos Técnicos de Medicina e Saúde* by Rey (see bibliography at end). Its main drawback is the lack of a reverse index (it can be used only Pt>En, unless you guess the Portuguese word). I recommend it because it was written by Brazilian physicians for physicians, and has proven to have correct English translations. I also mention the translated versions of and Dorland, which both have En>Pt entries with an reverse index at the end. The disadvantage of all three is that the definitions, which are a good place to find collocations, are in Portuguese. For this reason, I recommend Steadman or Dorland in English, or the Oxford Concise Medical Dictionary (lower cost, but UK English).

For reference material, we recommend a basic medical book for students really interested in the area. I use *Clinical Medicine* by Kumar and Clark, which is also in UK English. (Needless to say, I point out spelling differences whenever they pop up). Other useful tools are the Merck Manuals, available in English on the Internet and translated into Portuguese in print editions. A surprisingly good resource is an unabridged dictionary. I am constantly amazed by what I find in Webster's Unabridged.

During the second semester course, the biggest problem is convincing students that everything found in a bilingual dictionary must be checked, either in a monolingual dictionary (preferably an unabridged version) or on the Internet. Since Internet sources are often of dubious value, I stress monolingual dictionaries. My rule is "back it up". If a client asks you why you used a word, you need to know where you got it from and a printed dictionary is more likely to impress him than some unknown site. Indeed, I make students provide a mini-glossary at the end of each homework assignment, indicating which bi- and monolingual dictionaries were used. If the Internet was used, I want to know the exact page (yes, students have put the word "Internet" and nothing else in the source column). I have had students use the Sea World page as a reference for biology texts! I do not grade the glossary, but rather use it as a tool to determine where the student went wrong. Even bilingual medical dictionaries must be checked. Both Stedman and Dorland have translation errors.

The most important part of medical translation, for translators that are not medical professionals, is background reading. Physicians, nurses, etc. have been background reading throughout their studies and careers. How can we get up to speed? By judiciously choosing to read material that is as similar as possible to the text to be translated. The material should not just be similar—it needs to be in the same register (see discussion in the previous section).

As an example, I have reproduced below a sentence from a Brazilian medical article on Hormone Therapy for Prostate Cancer (first box, with tricky words in bold). A search on Medline/The Lancet using the following key words—leuprolide acetate androgen—brought up many articles. Sentences from three articles are reproduced in the second box. Note one feature of Brazilian medical texts: the use of English acronyms (LH-RH in this example). One of the greatest challenges in poorly written texts is determining if an acronym is in Portuguese or English. In this text, the acronym is used without definition, so the Medline search confirms that it is, indeed, an English acronym. The objective is not to search for new texts with every sentence, but rather read one or two articles on the subject and highlight the keywords that are most likely to appear in the Portuguese original.

Hormonioterapia no Câncer de Próstata

Para a aplicação deste tratamento prévio combinando **bloqueio androgênico** total e Radioterapia a utilização de **agonistas LH-RH** como **Acetato de Leuprolide** ou **Acetato de Goserelina** é necessária para o bloqueio central e transitório da produção de testosterona além da combinação dos **antiandrogênicos** orais comuns ao tratamento do Câncer de Próstata avançado.

Medline:

The most common hormonal treatments today use injections of **luteinizing hormone-releasing hormone (LHRH) agonists**. The US Food and Drug Administration (FDA) has approved 5 LHRH agonist formulations for treatment of prostate cancer in the United States. Of these approved products, 3 involve different delivery systems for the LHRH superagonist **leuprolide**

acetate. Sustained-release formulations of 2 distinct LHRH agonists, **goserelin acetate** and triptorelin pamoate, are also commercially available. Author: Sartor O

The use of the **lutinising hormone releasing hormone (LHRH) analogues--goserelin and leuprorelin** --is well established and forms the backbone of the treatment of locally advanced and metastatic prostate cancer. Maximal **androgen blockade** using LHRH analogues and their adjuvant use with radiotherapy are discussed, as well as their experimental application in intermittent **androgen suppression** therapy. Authors: Gommersall LM , Hayne D , Shergill IS , Arya M , Wallace DM

The Lancet:

In advanced prostate cancer, **androgen suppression (AS)** by surgery or drugs controls testicular hormone secretion, and the further addition of an **antiandrogen** such as nilutamide, flutamide, or cyproterone acetate is referred to as **maximum androgen blockade (MAB)**. The aim of this overview was to compare the effects on the duration of survival of MAB and of AS alone. Authors: *Prostate Cancer Trialists' Collaborative Group*

To emphasize the usefulness of background reading, during the first few classes of each semester students are given a Portuguese text and dictionaries, and told to begin translating. After they struggle for about 40 minutes, background material is provided and translation continues. In later classes, the topic is announced beforehand and students must bring background material to class.

One problem the second semester students always have is using too much of the background reading in the translation, inserting text and ideas into the translation that do not appear in the original. It seems that the students almost always need to go overboard a bit in this way before settling down to a happy equilibrium—using the background reading in an appropriate way.

Due to the short supply of good English-Portuguese dictionaries, we encourage the guess-and-check method. The guess can be made based on spelling, background reading, or a niggle in the back of the brain. Medical terminology, however, must always be checked carefully. When translating *perineural*, the translator may come across perineurial and think eureka!, when in actuality the word perineural does exist in English and is slightly different from perineurial.

4. MEDICAL VOCABULARY

I try to introduce medical vocabulary as a separate activity. I use the *book An Introduction to Medical Terminology* by Andrew Hutton, but there are several other options available. Since I began teaching only cancer in the fourth semester, I have been using the Radiology and Oncology chapters. Each chapter introduces relevant roots, prefixes and suffixes, and then assembles them in various ways with exercises. Brazilian students are often more familiar with these Latin and Greek roots than English-speaking students, due to the dual register medical terminology used in the US.

Students like learning roots and combining forms, but then I have to backpedal a bit. The first hurdle is *cardiomiopatia/miocardipatia*. These two forms are used interchangeably and had 1270/1240 hits on Google. The problem is that, in English, only one form is used: cardiomyopathy. Even worse, when I searched for other options, I discovered the following:

miocardipathy 55 hits on Google

cardiomiopathy	436 hits on Google
myocardiopathy	1100 hits on Google
cardiomyopathy	190,000 hits on Google

Needless to say, many bad spellers have pages on the Internet. If a common medical word does not have at least 5,000-10-000 hits, translators should worry. Part of learning to research the Internet is knowing how to interpret the results.

After working out *miocardiopatia*>cardiomyopathy, students are again disillusioned by *miocárdio*>myocardium and *miocárdico*>myocardial, exactly as they would have expected.

Another problem is when English-speaking doctors do not use the long, complicated Greek/Latin words. One example is the word *linfonomegalia* which means "enlargement of the lymph nodes" and should be spelled out. Brazilians commonly visit *otorrinolaringologistas* (there were even 3000 hits on Google) and think nothing of it. They even have a pet name for them: *otorrinos*. The equivalent in English, however, is not otorhinolaryngologist, but rather "Ear, Nose and Throat Specialist". (There were 1600 hits on Google for otorhinolaryngologist, and most of them were dictionaries defining the term). The string "ear, nose, and throat" had 236,000 hits, and the string "ear, nose and throat specialist" had 7,000, to make it the obviously preferred option. Do otorhinolaryngologists even call themselves that? Who could pronounce it?!

Students are encouraged to keep a running glossary from the first day at Associação Alumni, and I always emphasize the importance of noting down the source, whether dictionary or web site or colleague, and the definition if the word is unfamiliar in both languages.

5. COLLOCATION AND USAGE

At Alumni, we stress the importance of looking at English source material as background preparation for a translation into English. Living in Brazil for four years, I often do this myself to make sure no Brazilianisms have sneaked in. This technique is also useful for translating into UK English, which I am called upon to do frequently. Collocations which work for normal, everyday text may not sound so good in a medical text. For basic collocations and prepositions, I recommend the *Cambridge International Dictionary of English* (orange cover for UK English, blue cover for US English, also available on CD). It clearly differentiates between different meanings of a given word, provides good examples, and indicates if the word is countable. (This dictionary is useful principally for foreigners, though I do refer to it when grading homework in order to better explain why a given construction is wrong.)

One example is the word pain (*dor/dores* in Portuguese). Pain is usually uncountable, as shown in the *Cambridge International Dictionary of English*:

<p>pain: (some of the many examples)</p> <p>The symptoms of the disease include abdominal pain and vomiting. [Uncountable]</p> <p>Are you in pain? [Uncountable]</p> <p>These tablets should help to ease the pain. [Uncountable]</p> <p>I felt a sharp pain in my foot and realized I had stepped on some glass. [Countable]</p> <p>He has been suffering various aches and pains for years. [Countable]</p>

One common exception is the expression "stomach pains", but we would not say "foot pains" or "arm pains". Whether pain should be used in the plural normally has nothing to do with the use of the plural or the singular in Portuguese, and everything to do with the "specific grammar" of the word pain. Note the additional information a non-native speaker (or non-UK speaker) can get from these examples. The use of the word "in", the use of the possessive "my" (in Portuguese, a speaker would say "in the foot", since the possessor of the foot is understood through context), and the collocation of the verbs ease and suffer. These examples might not solve the translator's problem, but at least make her realize there is a problem.

Other common (but unexpected) collocations are to "run a fever" or to "feel sick". A problem I have recently run into is the use of the words *neoplasia/neoplasma* in Portuguese, and their translations into English. The standard dictionary definitions are:

neoplasia (pt: *neoplasia*) [Uncountable]

1. *Pathol.* tumor growth.
2. the formation and growth of new tissue.

neoplasm (pt: *neoplasma*) [Countable]

a new, often uncontrolled growth of abnormal tissue; tumor.

But what is the poor translator to do when confronted with the following sentence?

Distinguem-se as neoplasias benignas e as neoplasias malignas...

Here, *neoplasia* is being used to mean **neoplasma**, but this should not be done in English. Sometimes dictionaries only guide us, and we must look to source texts and try to really understand what the writer means. Brazilian doctors are so accustomed to reading English texts, they sometimes forget how to write in Portuguese.

6. AMBIGUITY

The first goal, of course, is to recognize ambiguity. An example in one of my class texts is:

Pela redução da produção normal do hormônio pelo corpo do paciente. Isso pode ser conseguido através da retirada cirúrgica do tecido que o produz, pela sua destruição através de radioterapia ou através de medicação.

Does the medication destroy the tissue, or reduce hormone production? This is the kind of thing that translators should ask their clients about. In English, there is no easy way to make the text equally ambiguous, and ambiguity was obviously not the intention of the original author anyway—he knew what he meant.

Another common problem is the use of *isso/isto/este/esse/esta/essa* which can all be translated as "this" in English. Needless to say, the translator often needs to repeat the subject/object instead of using "this" in English.

7. ENGLISH PROBLEMS

Since my students are mostly non-native speakers of English, they tend to make the same mistakes both during the second semester and the fourth semester (though I do see improvement, thank goodness!). The biggest problem word in medical and scientific translation is the word *apresentar*, which in addition to present/show/display also means "to have". Indeed, Brazilians bend over backwards, do somersaults and cartwheels to avoid using the verbs "to be" and "to have". One of the favorite substitutes is *apresentar*.

Tendo em vista que um órgão pode **apresentar** vários tipos histológicos de tumor.

Crianças e adolescentes que recebem ácido acetil salicílico cronicamente, como tratamento para a doença de Kawasaki ou artrite reumatóide, por exemplo, pelo risco de **apresentarem** Síndrome de Reye.

In the first example, *apresentar* can easily be replaced by "to have", or by "can be seen" with a structure rearrangement. In the second example, "to have" does not fit well, but "contract" does. Even better would be to omit the verb altogether: "due to the risk of Reyes Syndrome".

So, after beating into my students in the second semester that *apresentar* is only translated as present when discussing Mick Jagger (stage shows or presentations), they then see sentences like the following:

Postmenopausal women who **present** with fractures (to confirm the diagnosis and determine disease severity).

Augh! So, where did this strange use of present come from? To make matters worse, *apresentar* is used with this meaning in Portuguese. Basically, I explain to them that this use exists, but tell them to use "to have" or no verb instead, since these options will be understood just as well and by a larger range of people.

Most major problems I correct are related to structure. Even native speakers can fall into structure traps when in a hurry. The golden rule in scientific and medical translation is SVOC (Subject Verb Object Complement). This is the standard order English-speaking readers expect when reading these types of texts. I even analyze a paragraph on fossils from an encyclopedia and show that every single sentence, without exception, has the SVOC form. Some typical examples:

Original Portuguese	Typical Student Translation	Improved structure
É necessário que o anticorpo não leve o sistema imune a destruir tecidos sadios.	It is necessary that....	The antibody must not...
Há anoxia nos tecidos...	It occurs anoxia in the tissues...	There is anoxia of the tissues... - or Anoxia of the tissues occurs...
Os anfíbios em questão são pererecas do gênero <i>Phyllomedusa</i> , e são quatro as espécies que vêm sendo estudadas:	...of the genus <i>Phyllomedusa</i> , and four are the species being studied:	... Four species are being studied:

Another clue is the use of the pronoun "it" without a reference. If the student cannot tell me what "it" is, it is wrong.

8. QUALITY AND HUMILITY

The most important characteristic of a medical translator (who is not a physician, or who is translating a subject she is not familiar with) is humility. Peoples' lives may be at stake. This also applies to some engineering and science translations, of course, and the same rule applies—have your work reviewed! I charge extra for medical texts, and pay another translator to review my work. I have colleagues who are MDs, DDSs, DVMs, psychologists and nutritionists, all with translation certificates. As you learn from your mistakes, you will make fewer errors and pay your editors less (I pay by the hour, and charge by the hour when I am asked to edit). I do not know if I will ever reach a point where I feel my medical translations (except for light, marketing material) will not need reviewing.

Needless to say, the methods described above can be applied to teaching any specialist subject, with slight adjustments.

REFERENCES

1. Rey, Luís. *Dicionário de Termos Técnicos de Medicina e Saúde*. São Paulo: Guanabara Koogan, 1999. 825 pages. See review in the March 2003 ATA Medical Division Newsletter. (BR/US)
2. Kumar, P and Clark, M. *Clinical Medicine*. Edinburgh: W.B. Saunders, 1998. (UK)
3. Hutton, Andrew. *An Introduction to Medical Terminology*. Edinburgh: Churchill-Livingstone, 1998. (UK)
4. *Oxford Concise Medical Dictionary*, 6th ed. Oxford: Oxford University Press, 2002. (UK)
5. *Cambridge International Dictionary of English*. Cambridge: Cambridge University Press, 1995. (UK)