

e-Perspectives

on the Medical Transcription Profession

May 2009

Issue 57

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e-Perspectives

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Profession

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Why We Matter

The 20th anniversary conference of MTIA (Medical Transcription Industry Association) took place in Louisville, Kentucky, April 22-25. The stated theme of the conference was "Going the Distance," and the very fact of MTIA's continued existence in this dynamic healthcare marketplace owes a great deal to its providing numerous opportunities for successful networking among medical transcription businesses over the past 20 years. Indeed, the association from the beginning has provided a forum for the many mergers and acquisitions that have consolidated the industry. MTIA leaders now plan a name change to better reflect the association's new alliances, strategic partnerships, member expansion, and possible business certification criteria. According to MTIA President Linda Yaniszewski, MTIA is developing best business practices "for improving the exchange, consistency, security, and quality of clinical documentation to optimize patient care delivery." That will indeed be "going the distance" from that first gathering of eighty-something business leaders over 20 years ago. Just being in the same meeting together then, cordially discussing the industry and agreeing to work together to build an association, seems long ago and far away. We've certainly gone the distance "to expand our voice and capitalize on healthcare market reform," to quote Yaniszewski.

The unofficial but oft-quoted theme of the conference, however, was "Why We Matter." Why do medical transcription companies matter in the current giant multi-billion dollar healthcare marketplace? Unenlightened vendors of speech recognition technology (SRT) continue to make lavish claims that their products will eliminate the need for medical transcription components in future electronic medical records (EMRs). The SRT vendors sell their products to unwitting clinicians who are desperately trying to keep up with requirements and demands and promised claims of efficiency needed in the next generation of high-tech healthcare delivery systems. Enlightened vendors of SRT, however, are partnering with medical transcription business leaders to integrate people with technology and, according to Robin Daigh of MD-IT in *For the Record*, April 13, "present clients with integrated solutions that accommodate the wide variety of documentation workflows."

Medical transcriptionists *matter*, and our participation in new technological developments will secure our future in the industry. Our increased knowledge, advanced education, and continued dedication to good healthcare delivery for the *patient* will provide a value-added feature of the new EMRs.

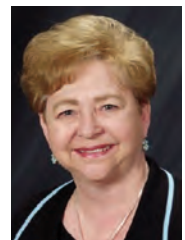
This is the 57th issue of *Perspectives* magazine (first in print form and now electronic) since 1990. Featured in this issue is Dr. John H. Dirckx's medical article, "Turmoil Within: Perspectives on Irritable Bowel Syndrome," a symptom complex that costs American society more than \$20-30 billion annually.

In "Searching the 'Wild, Wild Web'" Ellen Drake and Georgia Green present an update on more effective Internet research techniques, which all of us necessarily need in order to be more efficient researchers.

Rich Lederer both entertains and enlightens us with two columns in this issue: In Looking at Language, "Under a Spell," he explains why we will never have simplified spelling reform despite the efforts of many orthographers over the years. Another column, Jest for Fun, "The World According to Student Bloopers," will have you laughing off your chair. In the vein of "kids say the darnedest things," high school and college students write them. Scary . . .

A special treat in this issue is Judith Marshall's personal essay, "Totally Hip." It's a humorous look at her own hip replacement surgery and successful rehabilitation.

Rounding out this issue is a 4-page list of new, difficult, or hard-to-find terms in "What's New in Medicine." You can tell we've been searching the Wild, Wild Web!



Sally C. Pitman

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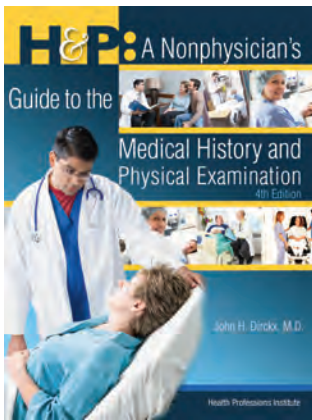
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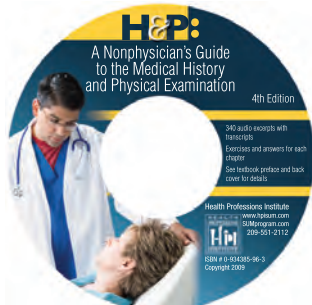
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The CD is NEW for this edition. It features:

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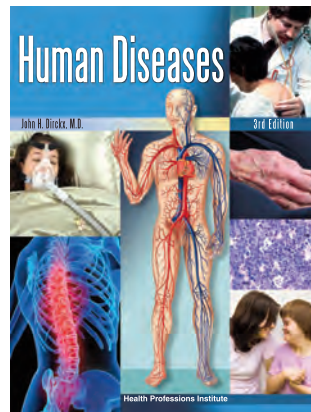
Vera Pyle's Current Medical Terminology, 11th ed.



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Human Diseases, 3rd ed.



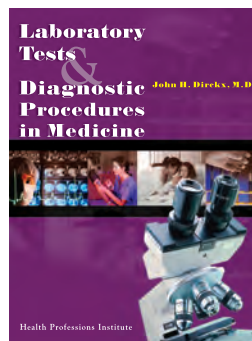
Written by John H. Dirckx, M.D., *Human Diseases* contains the latest information on the diseases most commonly encountered in dictation, including causes, symptoms, diagnostic tests, diagnoses, and treatment regimens.

It includes:

- Chapter outlines
- Learning objectives
- Labeled illustrations
- Special interest boxes on word origins
- Glossary
- Comprehensive index
- Case Study: You're the Doctor, where readers are challenged to make medical and ethical judgments from the physician's perspective.
- The exercises that make *Human Diseases* so valuable for transcriptionists are included on a CD. Students can enter their answers and print out or else submit to the teacher electronically.



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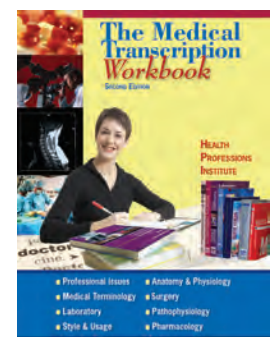
Laboratory Tests and Diagnostic Procedures in Medicine, by

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Searching the “Wild, Wild Web”

by Ellen Drake, CMT, AHDI-F, and
Georgia Green, CMT, AHDI-F

Note: This article is based on multiple presentations on Internet research given by Georgia Green and Ellen Drake over the past several years.

In order to meet the demands of our profession, we must educate ourselves on the job and do so throughout our careers. We learn by doing research. It's the life blood of what we do, and in a perfect world we would be free to research as much as we felt was necessary. But the reality of the production environment intrudes on our perfect world. We must find the information we need quickly, with as little effort as possible. We must be efficient researchers.

The Right Tool for the Job

We must use the tools available to us in the most effective way possible. There isn't always one best tool for every circumstance. But you can narrow your choices to the ones most likely to yield results—and use those resources in the most efficient way.

It's probably pretty obvious that the single largest factor that inhibits your productivity as a medical transcriptionist is when you take your hands off the keyboard. Efficiency in research impacts productivity more than how well you use your expander, word processor, or anything else. If you are an efficient researcher, you can find what you need in 60 seconds. That's Georgia Green's rule. For Georgia's guidelines on keeping your research time down, see her article “Feeling the Need for Speed” on the Downloads page at <http://www.hpisum.com>.

So, where do you go when your books let you down?

The Internet: The “Wild, Wild Web”

Yes, as filled as it is with inaccurate and questionable content, the Internet *can* be a useful tool—if you know its limitations, how to evaluate your sources, and how to use it efficiently. Note my translation of *www*—it's only half in jest as you will see in a moment.

In 1998, the first Google index already had 26 million pages; by 2000 it had reached the one billion mark. Last year, Google hit a milestone: 1 trillion (as in 1,000,000,000,000)

unique URLs on the Web at once! Add in duplicates and related links, and the count is over 8 trillion. It's hard to really understand that number, but imagine if you clicked on a new link every second of every day around the clock for a lifetime of 80 years.

Advantages of the Internet

- It's cheaper.
- It can be faster.
- Information can be more up-to-date.
- Man, there's a lot of information there.
- It's electronic, you can copy and paste.
- You can access the Internet from almost anywhere.

Limitations of the Internet

- It can be slower.
- It's contradictory.
- It can be a big distraction.
- It's unedited, unreviewed.
- It takes a lot more discernment.
- Man, there's a lot of information there.
- Information can be outdated and irrelevant.

Perhaps the Biggest Disadvantage of All Is . . .

You lose the chance for serendipity. That, is, you lose the ability to browse and learn other words and related concepts to the term you're looking for. Many MTs can't look up a word in a dictionary without devouring the other entries on the page and then end up moving from page to page, looking up other terms. Sometimes, when you're searching for a difficult spelling, browsing is the only way to find it.

Of course, you can also find interesting rabbits to chase on the Internet; it's just that more often than not, those rabbits adversely affect your productivity and don't improve your knowledge for job-related tasks.

Don't get us wrong. We love, love, love the Internet. We're both pretty good at evaluating the content and using it efficiently. But let's face it, many MTs think the Internet is a wonderful, free resource and they no longer need any reference books. How cheap is it, though, if it sucks up productive time? And for transcriptionists, time is money—right?

And if you fail to evaluate your source and plug in a wrong word, you can have a far bigger problem than just loss of productivity.

Do you remember the gossip game from when you were a kid? You whisper a message into someone's ear, and they whisper it in the next person's ear, and so on down the row, and by the time it has gone through a dozen people, someone says it aloud and it no longer bears any resemblance to the message you started with. Well, the Internet has a similar problem.

If you found a ton of errors in a reference book, would you really trust it? What if you were handed a reference and told that nine-tenths of what it contained was incorrect—wouldn't you just toss it rather than waste your time? But what if you were told that the other one-tenth of the material in that reference actually contained almost everything you would ever need to know? Oh, boy . . . that reference would be invaluable, wouldn't it? But how would you know which information was accurate and which should be ignored? And how could you find the valuable and correct information quickly?

Let's look at an example of an Internet research dilemma that was posted on MT Chat a while back.

Dorland's spellchecker flags *hyperhomocystinemia*.
Stedman's Medical Terms & Phrases and *Stedman's Medical Speller*, 3rd edition, have *homocystinemia*.
Stedman's GI/GU, 2nd edition, has *hyperhomocystinemia*.
Stedman's Dermatology/Immunology has *cysteine*.
Stedman's Neurology, 2nd edition, has *cysteine* and *cystine*.

Both spellings appear in credible Web sites (PubMed, AHA Journals, Wikipedia, Blackwell-Synergy). The poster who answered the question was able to distinguish between the definitions for *cysteine* and *cystine* using a Wikipedia entry. This dilemma probably took an excessive amount of the original poster's time, not to mention the time of all the other posters who tried to help.

Misspellings of drug names abound. If you use the Web as a reference source, you can usually find multiple ways to spell just about anything. The problem is that you can't tell which is right and which is wrong. As authors of *Saunders Pharmaceutical Word Book*, Randy and Ellen Drake frequently get e-mail from readers writing something like the following: "Your book has Lanacane. Google has it spelled Lanacaine," immediately assuming that the spelling in the Drake drug book was an error.

First of all, Google doesn't "spell" anything. Google is a search engine that indexes words found on Web pages. And yes, there are 1840 pages on the Web that have the product misspelled as Lanacaine, which Google indexes right along with the 62,600 pages that have it spelled correctly. There were 269 pages that had Lanacane misspelled and 7860 pages that had it spelled correctly in 2004 when we were first contacted.

You can find "Levothyroid" all over the Web, but nobody makes "Levothyroid"—anywhere in the world, either now or in the past. At least 28,500 Web pages represents a lot of misspelling perpetrated on the Web, doesn't it? The correct spelling is *Levothroid* (without a "y"). What's more concerning is that some of the "hits" are what would be considered reputable sources.

Just one more example, and we'll move on. There are 15,000 pages that contain *zithromycin*, 7350 that have *azithromicin*, and 224 that have *zithromicin*; the correct spelling is *azithromycin* with over 2 million pages having the drug correctly spelled. Google asks, "Did you mean *azithromycin*?" for all of the misspelled search terms, but clearly, not everyone notices that question. And, sometimes, Google's first results can be correctly spelled, and the "Did you mean . . ." message below the search box can have the *incorrect* spelling!

How much time did all this research resulting in inaccurate results take? How do you decide who's right? Randy Drake, coauthor of *Saunders Pharmaceutical Word Book*, candidly points out: "The Internet can be a wonderful source of entertainment, but if you want to find the correct spelling of a drug quickly and with certainty, you should stick to high-quality medical reference books that have a reputation for accuracy. Can you find information on the Internet? Sure you can, but you can't always trust it to be accurate. *Professional* transcriptionists use *professional* medical references."

Even so, there are times when books aren't enough, so it's important to learn when the Internet is your best resource, how to evaluate your search results, and how to be an efficient researcher.

Evaluating the Web

There is a famous Steiner cartoon published in the *New Yorker* (July 5, 1993) with two dogs sitting before a terminal looking at a computer screen; one says to the other, "On the Internet, nobody knows you're a dog." In a similar vein, Andrew Keen has written a book called *The Cult of the Amateur: How Today's Internet is Killing Our Culture*. The Internet has opened up the world to millions of people. It has given them a voice, a way to connect with others who think like them (or don't), and it has made available a wealth of information and misinformation. There are some real "dogs" out there, but there's also great treasure.

What does this teach us? *Discernment is critical*. Books can have errors and be inconsistent, but books are generally proofread and edited. Their errors should be fewer and more minor. Medical journals are peer-reviewed. There is no editing or peer review for most of what you'll find on the Internet. It's important to be able to research more than just spelling.

We're not trying to belabor the point; we merely feel that being forewarned is forearmed. Knowing the limitations of the Internet will make you a more informed user of all that's good about it. Performing a Google search or using any search engine is somewhat like reaching your hand into a huge grab bag full of all kinds of goodies. You may get what you want—

you're just as likely to get what you don't want unless you know what you're doing. To put it another way, using and citing information found over the Internet is a little like swimming without a lifeguard. You shouldn't do it unless you're a really good swimmer.

There is an extremely wide variety of material on the Internet, ranging in its accuracy, reliability, and value. Unlike most traditional information media (books, magazines, organizational documents), no one has to approve the content before it is made public. It's your job as a researcher, then, to evaluate what you locate, in order to determine whether it suits your needs.

In evaluating information on the Internet, it is important to take into account the following factors.

Authority: What are the credentials of the person(s) providing the information?

Affiliation: Who is the sponsor? What is their agenda?

Currency: How current is the information? When was the site last updated? Copyright date is not relevant.

Purpose: Is the information being provided for entertainment or education?

Audience: Is it prepared for patients or clinicians?

Accuracy: Does information on the site contradict itself or other sites? Is the site well developed, free of typos and English usage errors? And, finally.

Verifiability: Is there a bibliography or other resources provided? Where did the provider get its information?

Rather than take up a lot of space going into detail about how to evaluate Web resources, let me point you to a couple of excellent resources that will take you through the process quickly and easily. The first is Georgia Green's article, "Critical Literacy," which goes into detail about how to evaluate the integrity of a Web site

([http://www.hpisum.com/ Downloads.aspx](http://www.hpisum.com/Downloads.aspx)).

Another is "Evaluating Web Pages: Techniques to Apply & Questions to Ask" from the UC Berkeley—Teaching Library Internet Workshops

([http:// www. lib. berkeley.edu/ TeachingLib/ Guides/ Internet/ Evaluate. html#Why](http://www.lib.berkeley.edu/TeachingLib/Guides/Internet/Evaluate.html#Why)).

To summarize, information exists on many levels of quality or reliability. You may have heard that "knowledge is power," or that information, the raw material of knowledge, is power. But the truth is that only some information is power: reliable information. The determination of information quality is something of an art. That is, there is no single perfect indicator.

Whenever a Web site requires that you register in order to access more detailed information, always register as a professional. You don't have to register as a doctor, although Ellen has, on occasion, registered as a physician on some Web sites that provided no other option. One site required that you click on an anatomical structure in the brain on an MRI scan; Ellen simply opened another tab, Googled for an image of what was being asked for, went back to the original site, clicked in the correct spot on the brain scan and got access to

the information she wanted. Usually, however, we register as an "other health professional" or "educator." You may want to set up a separate e-mail account through Google mail (gmail), Yahoo, etc., to use exclusively for registering on Web sites.

Internet Research Techniques

Choosing a search engine is akin to knowing which book to use when. Different search engines are appropriate for different tasks. Google is currently the most popular search engine, and to its credit, it generally lists the most worthwhile pages near the top of its search results—but not always. Google searches blog posts, wiki pages, group discussion threads, and various document formats that are not Web pages per se (e.g., PDFs, Word or Excel documents, PowerPoints). Most of these resources, with the exception perhaps of PDFs which are often journal articles or pure research, are not the sources you want to use for reliable information.

Other useful Google searches include Image search. An Image search brings up photos, drawings, graphics—helpful if you need to see where the navicular bone is, for example. You can avoid certain types of results (like blog posts, wiki pages, and discussion threads) by using Google's Scholar search. In addition, Google "Health" is being beta-tested now. These specialized Google searches will help you not only to limit your searches but also to qualify their reliability and accuracy.

There are other search engines. **Ask.com** is trying hard to compete with Google by giving you a pop-up preview of the page(s) cited before you actually click on the link. You can also Google "most popular search engines" and see what features each touts and which one appeals to you. *Scirus* is a scientific search engine and *Intute* has a health and life sciences specialized search; it's based in the UK, so watch for British spellings.

Research is not one of those skills that just comes naturally. Even if you are very familiar with an English dictionary and a variety of nonmedical electronic references, there are some differences with respect to medical references that still must be learned. This is even more true for medical information on the Internet. It's like searching for that elusive needle in a haystack. You can't begin to evaluate the integrity of information, however, until you are dealing with a manageable amount of information. You can avoid this problem by learning to use a search engine judiciously.

Customize: You can customize your **preferences** and save them, so that, for example, only Web pages in English are searched, and when you click on a link, it always opens in a new window or tab.

To maximize your search, you should learn how to construct an advanced search using boolean logic. Boolean refers to a system that combines key words and certain "operators" (connecting terms) that show relationships between your key words, enabling you to quickly search a large database, which is what the Internet is. When multiple terms are entered for a search using no Boolean operators, a default operation takes

place. Whether results include documents with all the words or any of the words in a search string depends on the search engine's default settings. The search engine's "help" feature or FAQs pages will tell you what the defaults are and teach you how to construct effective searches. Briefly, here are the boolean operators you should be familiar with.

Boolean Operators: These terms are generally typed in all caps to distinguish them from the search string.

AND narrows a search by retrieving only those documents that contain all the keywords.

OR retrieves documents containing any of the keywords.

NOT or the minus sign will retrieve documents that contain the key word(s) but without the word preceded by this operator.

Proximity Searching refers to the ability to specify how close within a record multiple terms should be to each other, such as a phrase search that requires terms to be in the exact order specified within the phrase markings (usually quotation marks). Other proximity operators specify how close terms should be to each other or the order of the search terms. Each search engine can define them differently and use various operator names such as NEAR, ADJ[acent], W[ith], or AFTER.

Nesting: You can nest your search terms within parentheses. With nesting, keywords and operators included in parentheses will be searched for first, then terms and operators outside the parentheses. A search for: **(CVA OR cerebrovascular accident) AND women** will search for documents containing either the acronym *CVA* or the phrase *cerebrovascular accident*, then narrow the search results only to those documents which also contain *women*.

Truncation refers to the ability to search just a portion of a word, typically using an asterisk to represent the rest of the term or a ? to represent a missing letter(s). This may also be referred to as a "wild card search." End truncation is where several letters at the beginning of a word are specified but the ending can vary. **Stemming**, related to truncation, usually refers to the ability of a search engine to find word variants such as plurals, singular forms, past tense, present tense, etc.

Case: Most search engines are NOT case sensitive, so next finds next, Next, NeXT, neXT. If they are case sensitive, you will generally be told so.

Fields: Rather than searching for words anywhere on a Web page, fields define specific structural units of a document. The title, the URL, an image tag, or a hypertext link are common fields on a Web page. Fields searching is often facilitated by check boxes or drop-down menus in an advanced search form.

Limits: Commonly available limits are the date limit and the language limit. In PubMed, which we will discuss later, one of the limits is human which will restrict the search to omit studies done in vitro or on animals.

Stop Words: Frequently occurring words that are not searchable. These are words that are ignored by most search engines unless you have them in quotes or have clicked a box that says "exact phrase."

Stop Words

about, again, all, almost, also, although, always, among, an, and, another, any, are, as at

be, because, been, before, being, between, both, but, by

can, could

did, do, does, done, due, during, . . . etc.

Sorting: The ability to organize the results of a search. For example, by relevance or date.

Advanced: Clicking on Advanced will allow you to use check boxes and drop-down menus to restrict your search, without having to understand Boolean operators.

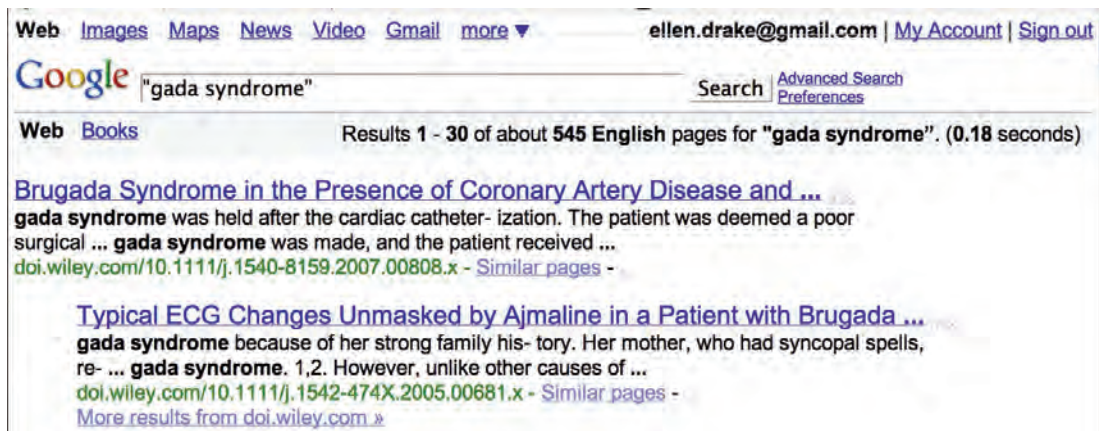
Always, always look for a "help" or FAQs link for the search engine to nail down the best way to construct a search for that particular site.

Specific Searching Tips

Google: Google is a good search engine to use when you don't have enough information to construct a more specific search or when you're not sure how to spell a term. For example, an MT heard "senopalatine block." Putting that string into the Google search box resulted in Google asking "Did you mean: 'sphenopalatine block'?" Truncation is not available on Google but sometimes happens by accident and is worth trying. An MT heard "___gada syndrome." (See Figure 1, next page.) What happened here is that the text on the Web page broke "Bru-gada" at the end of a line. It's a long shot but sometimes works.

Google Scholar provides a simple way to broadly search for scholarly literature. From one place, you can search across many disciplines and sources: peer-reviewed papers, theses, books, abstracts and articles, from academic publishers, professional societies, preprint repositories, universities and other scholarly organizations. It's still a better place to search than regular Google in some ways. You can eliminate a lot of irrelevant hits if, for example, if what you're searching for is an eponym, like Brugada. You won't retrieve genealogy, political, community news, obituaries, and business sites that may also carry the eponym. But Google Scholar doesn't take the place of PubMed because it isn't medicine specific.

Figure 1



You can also use Google to search for a missing word in a phrase by entering several key words surrounding the missing term into the Google search box. For example, suppose you couldn't hear the word "upstroke" in the following sentence: "Neck exam reveals no jugular venous distention, normal carotid upstroke, no carotid bruits." Entering the sentence without the missing word and no quotation marks can bring up a sentence containing the missing word. (See Figure 2.) You have to play around with this type of search. Sometimes, the more key words you use, the better. Other times, the fewer key terms yields better results.

Caveat: There are lots of sample medical reports on the Internet; don't assume that what you find is necessarily correctly spelled.

PubMed (<http://www.ncbi.nlm.nih.gov/pubmed/>) is a service of the U.S. National Library of Medicine that includes over 16 million citations from MEDLINE and other life science journals for biomedical articles back to the 1950s. PubMed includes links to full text articles and other related resources. Key terms, called MeSH terms, along with their synonyms are

indexed in PubMed. Every MeSH term is also automatically exploded as well as any subheading that is the top of a "subheading tree." Untagged terms entered in the PubMed search box are automatically mapped to the MeSH vocabulary when a match is found.

If you register (it's free), you can set certain filters that will be "remembered" each time you log on, you can have PubMed keep you signed in, and you can save searches. This is all done under MyNCBI. After registering and logging in, scroll down the left pane to MyNCBI. There are instructions for setting up your preferences that are too detailed to go into here.

PubMed has a very sophisticated search engine and allows all kinds of filters or limits to be placed on a search. We strongly suggest that you read the Help and FAQs files as well as complete a few of the tutorials. Even without registering, you can choose to set limits using the Limits button just under the word Search on the left.

At a minimum, you will probably want to set the language as English and choose Human in the "Humans or Animals" field. (See Figure 3, next page.)

Figure 2

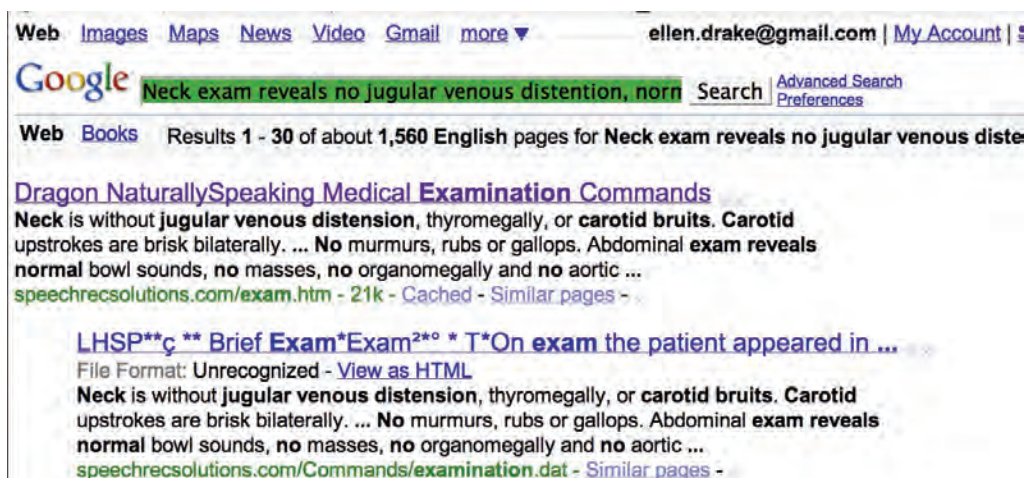


Figure 3

The screenshot shows the 'Limits' section of a PubMed search interface. It includes several filter categories: 'Dates' with 'Published in the Last' set to '5 years' and 'Added to PubMed in the Last' set to 'Any date'; 'Humans or Animals' with 'Humans' selected; 'Gender' with 'Male' and 'Female' options; 'Languages' with 'English' selected; and 'Subsets' with 'Journal Groups' and 'Core clinical journals' options. Each filter has a 'CLEAR' button.

If you're not setting up a MyNCBI account, you will probably also want to limit your searches to a specific date range; anything older than 10 years is probably not relevant to your report. In the examples below, you can see that the results can be displayed in a number of ways (All, English & Humans, Items with Abstracts) . . . Published in the last 10 years); these are MyNCBI preferences. (See Figure 4, with 441 citations for metaphyseal spelling.)

In addition, several filters have been used. The "Field: Text Word" is a tag term and is the last option when you click on the Limits button. Choosing that means that the term appears somewhere in the text and is more likely also to appear in the abstract. You can use this to eliminate citations that contain your search term in the journal name or authors' locations.

One use of a PubMed search is to determine the preferred spelling for a term. Suppose you have two references that disagree. See examples in Figures 4 and 5 for determining whether *metaphyseal* or *metaphysial* is preferred.

You can do a similar "style" search—for example, if you want to know if PT-INR or PT/INR or PT INR is more common in literature. For this type of search, however, you will have to scan the abstracts and simply count the instances you see of each format. In Figure 5 (with only 4 citations for *metaphysial* spelling), the Display drop-down menu has been clicked to choose Abstract. You will probably also want to choose the Show menu next to it and choose a higher number of abstracts to view so that you can scroll through a significant number of abstracts without having to go to another page.

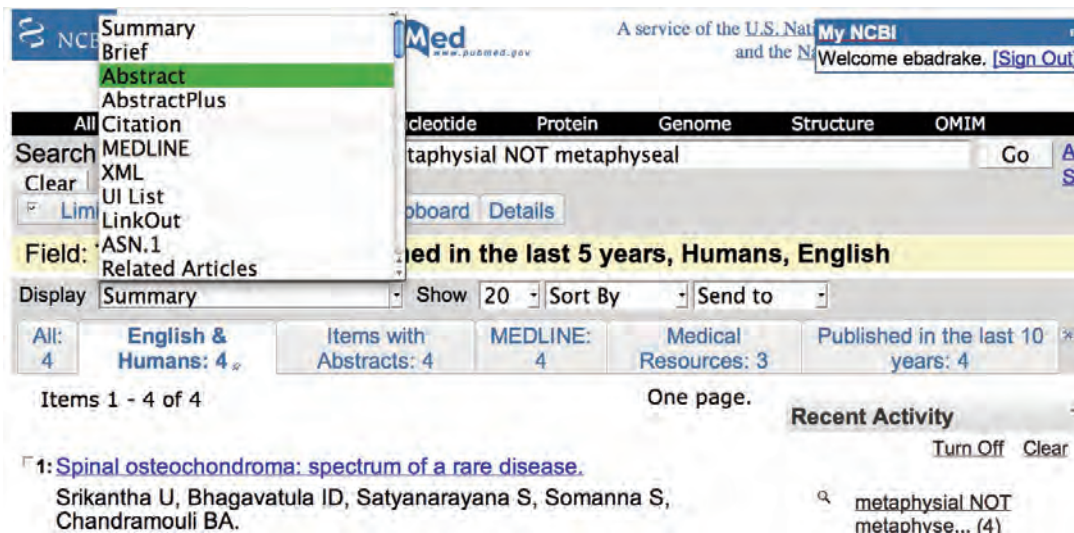
PubMed searches are recommended for eponyms, techniques, methods, procedures, disease entities, signs, phenomena, phrases, and acronyms or abbreviations. Do not assume, however, that acronyms and abbreviations used in journal articles necessarily have the same translation as what you are hearing. Make sure the context matches. You can search for new or investigational terms, but generally after a trademarked device or drug has been on the market for awhile, it will be referenced by its generic name if it is referenced at all. When you do find devices mentioned, you'll almost always be given the manufacturer, which is great because you can then go to the manufacturer's Web site to get more information. PubMed searches are generally useful for slang and coined terms, although not always. You can also find many of those colorful, descriptive terms like "hand-in-the-bucket" sign.

Eponym searches: Eponym searches can be tricky, but PubMed is a far better resource than Google where you are likely to have more unrelated hits than related ones. Putting the eponym-noun phrase in quotation marks will often bring up the phrase, but sometimes, you'll get a "no results" or "phrase not found" message. If that happens, don't give up just yet. Just put in the eponym without its accompanying noun, and you will get any article with an author by that name as well as any article with that eponym associated with any

Figure 4

The screenshot shows the PubMed search results page for the query 'metaphyseal NOT metaphysial'. The search was performed in the 'PubMed' database. The results are displayed as a 'Summary' with 20 items per page. The search filters are: 'Field: Text Word', 'Limits: published in the last 5 years, Humans, English'. The search results show 441 items. The first result is 'Fixation of extra-articular distal humerus fractures using one locking plate versus two reconstruction plates: a laboratory study' by Tejwani NC, Murthy A, Park J, McLaurin TM, Egol KA, Kummer FJ. The search history shows 'metaphyseal NOT metaphysi... (441)'. The page number is 1 of 23.

Figure 5



noun. If there aren't too many citations, you can scan the abstracts for the phrase you're seeking. You can limit the search to authors only by using the Limits option or by simply typing [au] after the name in the search box. If you want to exclude authors because they seem irrelevant to your search, use Name NOT Name[au], and it will exclude authors (Name being the eponym you're looking for).

As a learning technique, start out by using the Limits check boxes to limit your searches, but pay attention to the search box when the results come up. It will insert the appropriate tags that you can later just type in for those limits you use most often.

OneLook.com. OneLook is an online search engine that indexes, as of this writing, 13,549,061 words in 1009 dictionaries. You can set preferences for the results in OneLook by clicking on Customize. You can choose whether you want the results displayed as verbose or compact; set the category for the type of dictionaries you want to be displayed first to medicine rather than English dictionaries; tell it whether to display results in the same window, another window, or a separate frame; and choose to have results include single words or words and phrases among other preferences. Often the definition for the term you need is displayed on the results page, and you need look no further.

OneLook has a very robust wild card search feature that is clearly explained on the home page. You can also do a reverse search and search for key words in a definition to find a term you're looking for. OneLook searches a number of medical dictionaries and glossaries including *Dorland's* and *Stedman's*. With its wild card feature, it's an invaluable resource. And, like Google, if you spell a term incorrectly, it will suggest an alternative spelling.

Recommended Web sites

You can find **Ellen Drake's Useful Internet Links** on the <http://www.hpisum.com> Downloads page. Links were working at the time of this writing.

Books: Who Needs 'Em?

We hope your answer to this question is, "We do!" Let's not throw away our books just yet. You may prefer electronic references over paper and ink references, but either way, there's still a place for books. But books are not always the best resource, as noted above. We hope this article has helped you make better choices about which resource to choose when and to be a more efficient and astute researcher when the Internet is your chosen resource.



Ellen Drake



Georgia Green

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Turmoil Within: Perspectives on Irritable Bowel Syndrome

by John H. Dirckx, M.D.

The past two centuries have witnessed the steady evolution of Western medicine from a welter of confusion, ignorance, superstition, and hit-or-miss empiricism into a scientific discipline based on objective data, rigorous logic, diagnostic precision, and evidence-based therapy. During that period many diseases have come to be clearly delineated, their causes exactly traced, diagnostic and treatment guidelines established, and preventive strategies worked out.

Yet a stubborn residue of enigmatic conditions, many of them hovering on the borderline between purely organic and psychosomatic disorders, remains to mock all efforts at scientific analysis and management. Irritable bowel syndrome (IBS) is one such, a disease with an ambiguous clinical picture, entirely lacking in pathognomonic symptoms or signs, organic lesions, laboratory markers, or fully satisfactory treatments.

For many decades the medical profession has struggled to pin down this ill-defined clinical entity, to find a unitary cause, to establish valid diagnostic criteria, and to develop safe and consistently effective therapies. Although the difficulty of defining the condition lies at the very heart of its elusiveness, most authorities would agree that it is a symptom complex characterized by

- chronic or recurrent abdominal pain,
- bloating (distention of the bowel with gas), and
- disturbance of bowel function,
- in the absence of any demonstrable organic lesion.

This is not an arcane disorder of purely academic interest. Irritable bowel syndrome of varying severity affects 15-20% of adolescents and adults in this country and accounts for 3 million physician visits a year: 10% of all visits to primary care physicians and 25-50% of all visits (including self-referrals) to gastroenterologists. IBS is easily the most frequent diagnosis made by gastroenterologists. Yet it is estimated that as many as 70% of persons who meet diagnostic criteria for the disorder never seek treatment for it.

The annual cost of IBS to American society, including direct medical charges and losses due to absenteeism from work and other forms of nonproductiveness, has been placed at \$20-30 billion. The out-of-pocket medical expenses of IBS

patients average about 50% more than those of persons without IBS, and the diagnosis is associated with about a 35% reduction in productivity on the job.

For most patients, IBS is a chronic, indeed lifelong condition. Symptoms may persist indefinitely, but typically they occur in episodes lasting days or weeks and separated by intervals of remission lasting days, weeks, months, or years. The pattern of symptoms can vary considerably from person to person, but each patient's pattern tends to remain stable throughout life.

The chief complications of IBS are chronic emotional distress (anxiety and depression), impaired quality of life, and unnecessary abdominal surgery (especially cholecystectomy and hysterectomy) prompted by misdiagnosis.

Pain, variably described as bloating or cramping, is usually felt in the lower abdomen or periumbilical area. It may be moderately severe but is seldom excruciating.

Disturbances of bowel function are an essential part of the syndrome. Some patients suffer chiefly from constipation (IBS-C), some chiefly from diarrhea (IBS-D), and some have both symptoms alternately (IBS-A). About one third of IBS patients fall into each of these categories. Patients often find that abdominal pain is relieved temporarily by a bowel movement, but many complain of the sensation that defecation doesn't effectively empty the lower bowel. Stools are often accompanied by an excessive secretion of mucus, hence the old-fashioned misnomer *mucous colitis*.

IBS does not impair the digestion or absorption of nutrients. It is not associated with increased mortality and it does not herald the onset of inflammatory bowel disease or gastrointestinal (GI) tract malignancy. It does not cause fever, weight loss, passage of blood by rectum, leukocytosis, or anemia. Those findings are red flags for organic disease and they demand investigation to detect or rule out a life-threatening condition.

Although symptoms typically begin during adolescence, most patients first seek treatment between the ages of 30 and 50. Onset is uncommon after age 65. Population-based surveys suggest that women patients with IBS outnumber men by a ratio of about 2:1, but the ratio among persons actually seeking treatment approaches 4:1.

Irritable bowel syndrome (IBS) is . . . a disease with an ambiguous clinical picture, entirely lacking in pathognomonic symptoms or signs, organic lesions, laboratory markers, or fully satisfactory treatments.

Some patients relate changes in the severity of their symptoms to dietary factors. A few report the onset of IBS after an episode of acute gastroenteritis. Many note an increase of symptoms at times of heightened emotional stress.

It has long been recognized that persons who fit diagnostic criteria for IBD are more likely than members of the general population to have psychiatric comorbidities. In fact, mood disorders (anxiety, depression) and somatoform disorders occur in more than 90% of patients with IBS. Moreover, the syndrome occurs in as many as 50% of patients with chronic fatigue syndrome, fibromyalgia, temporomandibular joint syndrome, and chronic pelvic pain. Only slightly less impressive are statistical associations between IBS and migraine headaches, endometriosis, and a history of sexual abuse in childhood.

For these reasons, the constellation of symptoms that we nowadays call irritable bowel syndrome was long regarded by physicians as purely psychosomatic, just another one of the many physical manifestations of unresolved emotional conflict that keep doctors busy and pay their office rent month after month. The absence of physical findings, the intermittency and elusiveness of symptoms, and the lack of clear-cut response to antispasmodics and other medicines that are effective in other bowel disorders have led to many psychiatric referrals and many prescriptions for psychoactive drugs.

The patient who is told that chronic, distressing, and perhaps disabling symptoms are due to “nerves” usually feels put down, humiliated, cheated. The physician with an appropriately scientific attitude can scarcely be satisfied with such a vague diagnostic formula as “spastic colon” for a condition that is without physical findings and that responds poorly to treatment, but is nonetheless seen day in and day out in primary care, internal medicine, and gynecology. And third party payers naturally object to doling out money for the diagnosis and treatment of a nebulous and relentlessly chronic disorder for which new treatments seem to be tried every few weeks, generally without much success.

All of these factors have provided strong motivation for the medical profession to characterize the disorder as precisely as possible, to determine whether it is one disease or several, and to uncover its cause or at least identify some associated physiologic or biochemical aberration.

A first step was to assume that a solitary clinical entity was masquerading under such varied names as nervous indigestion, spastic colon, intestinal neurosis, functional colitis,

irritable colon, and mucous colitis, and to assign it a distinctive and apposite name.

In 1978 the British gastroenterologist Adrian Manning and his colleagues made an initial attempt to establish a clear diagnostic framework for what came to be called *irritable bowel syndrome*. The Manning criteria for the diagnosis of IBS are as follows:

- visible abdominal distention;
- relief of pain by bowel movement;
- increased frequency of stools with the onset of pain;
- looser stools with the onset of pain;
- rectal passage of mucus; and
- a sensation of incomplete evacuation.

Participants at the 13th International Congress of Gastroenterology, held in Rome in 1988, proposed significant modifications of the Manning criteria. The features of the disease that they identified as essential are now known as the Rome I criteria:

- abdominal pain that is relieved by defecation and that is associated with
 - changes in the frequency or consistency of stools,
 - bloating,
 - nausea, and
 - a sense of incomplete evacuation after passage of stool.

The Rome II criteria, published in 2000, are as follows:

At least 12 weeks or more, which need not be consecutive, in the preceding 12 months, of abdominal discomfort or pain that has at least two of the following three features:

- relieved by defecation;
- onset associated with a change in frequency of stools;
- onset associated with a change in the appearance of stools.

The Rome II formulation also recognizes the following symptoms as cumulatively supporting the diagnosis of IBS:

- abnormal stool frequency (more than three bowel movements per day or fewer than three bowel movements per week);
- abnormal stool form (lumpy/hard or loose/watery stool);
- abnormal stool passage (straining, urgency, or feeling of incomplete evacuation);
- passage of mucus;
- bloating or a feeling of abdominal distention.

The latest (but surely not the last) revision (2006) is known as the Rome III criteria:

Recurrent abdominal pain or discomfort and a marked change in bowel habits for at least six months, at least three days a month, and

At least two of the following:

- pain relieved by bowel movement;
- onset associated with a change in frequency of stools;
- onset associated with a change in appearance of stools.

It is understood in all of these diagnostic formulations that signs and symptoms of organic disease (fever, bleeding from the bowel, weight loss, nocturnal pain or diarrhea, evidence of infection or malignancy) are absent. In 1984, even before the development of the Rome I criteria, Kruis and associates proposed a scoring system incorporating negative values for a history of blood with stools and laboratory indicators of organic disease: elevated erythrocyte sedimentation rate (ESR), leukocytosis, anemia.

All sets of diagnostic criteria thus far established for IBS suffer from two fundamental defects. First, all positive diagnostic criteria are based on patient-reported symptoms, with the possible exception of physician-observed abdominal distention. Second, given the lack of any objective standard by which either to confirm or rule out the presence of IBS, attempts to validate any given set of diagnostic criteria lead inevitably to circular reasoning (A, therefore B; B, therefore A).

Repeated revisions of diagnostic criteria based on the assumption that IBS is a single disease with a unitary cause and on increasingly stringent analysis of statistics cannot reasonably be expected to clarify the essence of the condition, much less to lead directly to answers as to its etiology.

Efforts have been underway for several decades to correlate IBS with some demonstrable anatomic or biochemical deviation from normal or, failing that, at least to establish a plausible theory of its etiology. A major clue has been the close association between IBS and mood disorders and the fact that antidepressants are sometimes helpful in relieving the symptoms of IBS.

It has been postulated that complaints of bloating and a sense of inadequate emptying of the rectum may reflect an enhanced or distorted sensitivity to stretching or intraluminal pressure in the bowel due to altered processing of signals in the central nervous system (CNS).

Balloon distention studies of the ileum, sigmoid, and rectum have indeed shown that IBS patients experience pain or a sense of bloating at lower volumes than control subjects. In addition, limited studies have shown nonspecific differences on functional MRI and PET scans of the brain between IBS patients and others.

Some researchers have suggested that disturbances of bowel function (flatulence, constipation, diarrhea) may result from dysregulation of motility due to a local "lesion" in the bowel wall rather than, or in addition to, a central disorder. In this connection, particular attention has been focused on the monoamine neurotransmitter serotonin (also called 5-hydroxytryptamine or 5-HT).

Disturbances in the production, transmission, and signaling functions of this substance in the CNS are directly involved in several forms of psychiatric illness, particularly clinical depression. Some antidepressants and anti-anxiety agents, and many drugs of abuse, produce their psychoactive effects by altering serotonin metabolism.

Serotonin is recognized not only as a central neurotransmitter but also as a peripheral signaling agent. It is one of several biological messengers that affect GI motility and secretion. In fact, 80-90% of the serotonin in the body is

Irritable bowel syndrome of varying severity affects 15-20% of adolescents and adults in this country and accounts for 3 million physician visits a year: 10% of all visits to primary care physicians and 25-50% of all visits (including self-referrals) to gastroenterologists. IBS is easily the most frequent diagnosis made by gastroenterologists.

found in the walls of the digestive tract. A prominent symptom of carcinoid syndrome, which is due to excessive production of serotonin by neoplasms containing argentaffin cells, is chronic watery diarrhea. One study showed that intestinal biopsies from patients with constipation-predominant IBS secreted higher levels of serotonin in vitro.

Seven types of serotonin receptor have been identified in peripheral nerves, blood vessels, and the GI tract. Digestive tract 5-HT₃ receptors are involved in nausea and vomiting, while 5-HT₄ receptors stimulate peristalsis. Some of the drugs currently used in the treatment of migraine and nausea act on peripheral 5-HT receptors.

The innervation of the digestive tract is derived from the autonomic nervous system, of which the parasympathetic division promotes muscle action (peristalsis) and the secretion of digestive fluids. Parasympathetic fibers reach the stomach, biliary tract, small intestine, and ascending colon as branches of the vagus (tenth cranial) nerve. The rest of the colon, including the rectum, receives its parasympathetic nerve supply from branches of the pelvic plexus, which arise in sacral segments of the spinal cord.

The alimentary tract is also supplied with sympathetic (adrenergic) nerve fibers, which originate in ganglia associated with thoracic and lumbar spinal segments. Sympathetic stimulation of digestive organs, which can be thought of as a feature of the body's "fight or flight" reaction to physical and emotional stresses, typically inhibits gastric and intestinal motility and suppresses the secretion or release of gastric and intestinal juices, bile, and pancreatic fluid.

Both divisions of the autonomic nervous system also contain afferent (sensory) fibers, which not only provide feedback to control centers in the brain stem and spinal cord but also mediate feelings of hunger or satiety, burning, bloating, and the urge to vomit or defecate.

Normal digestive function depends on a balance between parasympathetic and sympathetic stimulation, a fact reflected in the universal observation that anger, anxiety, grief, frustration, and other negative emotions can cause a wide spectrum of complaints referable to the digestive tract, including anorexia, nausea, heartburn, indigestion, belching, bloating, "butterflies," intestinal rumbling, and bowel irregularity.

The general cross-sectional anatomy of the GI tract is essentially the same from the esophagogastric junction to the rectum. From within outward, the gut wall consists of four

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more or less distinct layers: the mucosa or mucous membrane (several layers of secretory, absorptive, and supporting cells surrounding the lumen); the submucosa (a zone of connective tissue, blood vessels, and deeper glands); the muscularis (smooth muscle fibers divided into an inner circular layer and an outer longitudinal layer); and the serosa, a connective tissue sheath blending with surrounding structures.

In recent years it has been discovered that both layers of muscle in the walls of the alimentary canal are spirally disposed rather than strictly circular or longitudinal. This observation has led to a revision of nomenclature according to which the circular muscle layer is now called the *short pitch helicoidal layer* and the longitudinal layer is called the *long pitch helicoidal layer*. Their official names in *Terminologia Anatomica* are *stratum helicoidale brevis gradus* and *stratum helicoidale longi gradus*. I suspect that most of us will be on the other side of the turf before these terms catch on, if they ever do.

The coordinated action of the two muscle layers results in a mechanical churning action, which aids digestion of foods and absorption of nutrients, and in peristalsis, the wave-like activity by which the contents of the digestive tube are propelled forward.

Autonomic nerves supplying the digestive tract form an intricate network of unmyelinated fibers and nerve cell bodies distributed throughout its walls. These are divided into submucosal, myenteric, and subserosal plexuses.

The submucosal plexus (Meissner's plexus) provides innervation to secretory structures in the mucosa and submucosa. The myenteric plexus (Auerbach's plexus), situated between the longitudinal and circular muscle layers, promotes contraction chiefly of the circular layer. The subserosal plexus carries motor fibers to the longitudinal muscle layer. All three plexuses also carry afferent fibers for sensation and for feedback to regulatory systems.

For many decades, peptic ulcer disease was attributed to overproduction of stomach acid accompanied by a failure of biochemical or physiologic mechanisms that normally protect the gastric mucosa from attack by its own digestive secretions. The idea that psychological stress brings about this state through overstimulation of the vagus nerves was a dogma that few dared to question. Yet about 25 years ago Warren and Marshall in Australia presented irrefutable evidence that most cases of peptic ulceration of the stomach and duodenum result from infection by a gram-negative bacillus, *Helicobacter*

pylori. Diagnostic procedures reliably identify the organism or its products in tissues, and its eradication by various antibiotic regimens predictably cures the disease.

The theory of an infectious cause for IBS has received some support from the fact that a significant subset of patients report that their symptoms began after an episode of acute gastroenteritis. Although treatment of IBS with various antibiotics, including rifaximin, has led to a marked reduction of symptoms in some patients, there is presently insufficient evidence for an infectious cause.

Because infestation with certain unicellular intestinal parasites (*Blastocystis*, *Dientamoeba*, *Giardia*) causes symptoms closely resembling those of IBS, some have concluded that one or more of these are causative agents of the disease. This is one of several areas in which the lack of an objective diagnostic standard for IBS continues to foster muddy thinking and conclusions of highly dubious validity.

It has been suggested that the overgrowth of certain bacteria in the small intestine may induce immune-mediated damage to neurons in the myenteric plexus. In 2002 a group of Swedish researchers performed jejunal biopsies on a small series of patients with severe IBS. They reported finding degenerative changes and signs of low-grade chronic inflammation in the myenteric plexuses of most of their subjects, but no such changes in specimens from persons without IBS. The finding of increased levels of cytokines (interleukin 1, interleukin 6, tumor necrosis factor) in blood and rectal biopsy specimens from IBS patients lends further support to the concept of an immune cause.

Whatever value rigorously applied diagnostic criteria may have in research, they have little to offer in clinical practice. When typical symptoms have been occurring intermittently for months or years, their mere recitation by the patient virtually establishes the diagnosis of IBS.

A review of systems and careful physical examination are nonetheless necessary to rule out other conditions. The differential diagnosis includes inflammatory bowel disease (Crohn's disease, ulcerative colitis), celiac disease, lactose intolerance, and infestation with protozoan parasites, especially *Giardia lamblia*.

Recommended laboratory studies include blood tests to detect anemia, leukocytosis, or elevated ESR. Celiac disease is a chronic allergic response to gliadin, a protein found in glutens (certain cereal grains, including wheat and corn). Symptoms vary widely but can mimic diarrhea-predominant IBS. The American College of Gastroenterology accordingly recommends that all patients with symptoms of IBS be tested for celiac disease. Testing for thyroid disease, lactose intolerance, and intestinal parasitism have also been advised.

Routine endoscopy, rectal biopsy, and abdominal ultrasound examination or other imaging studies are not recommended. For the patient with severe anxiety about malignancy, however, some of these studies may have therapeutic value.

More aggressive diagnostic assessment is appropriate in any patient who first develops symptoms after age 50, who has a marker of organic disease such as weight loss or blood in the stool, or who has a family history of inflammatory bowel disease or gastrointestinal malignancy.

The treatment of IBS starts with the development of a comfortable relationship between the patient and the primary care physician or specialist. The physician must be willing to spend as much time as necessary in educating the patient, clarifying the benign but chronic nature of the disease, and securing the patient's collaboration in what may be a long-term therapeutic process. The patient needs to understand that there is presently no cure for IBS and that no available medicines control symptoms perfectly.

The management of the disease must be individualized on the basis of the patient's symptoms, including the severity of pain and disablement and the perceived effects of diet, stress, and other factors. Some patients note that pain, bloating, and bowel dysfunction are aggravated by alcohol, caffeine, chocolate, carbonated beverages, fatty foods, fructose, sorbitol, or lactose. Prescription medicines, particularly antibiotics, hormones (oral contraceptives, estrogen replacement therapy), and benzodiazepine tranquilizers and hypnotics, may also worsen symptoms.

Although true food allergy has not been demonstrated in IBS, exclusion of milk, wheat, or eggs from the diet has been helpful for some. The addition of fiber (wheat bran, corn fiber, ispaghula husk) to the diet and the use of bulking agents (psyllium, calcium polycarboxylate) may improve constipation in IBS, but pain relief with these agents is minimal, and they often increase bloating. Patients with constipation-predominant IBS are advised to increase their water intake. Reducing the volume of meals and eating more slowly may improve bloating.

Changes in lifestyle may be advisable in order to avoid extreme psychological stressors. Limited studies have shown that some patients improve with relaxation therapy, cognitive-behavioral therapy, hypnosis, or biofeedback. Treatment with tricyclic antidepressants (TCAs) or selective serotonin reuptake inhibitors (SSRIs) has reduced abdominal pain and improved the quality of life for some patients, but the effects of these agents are modest and unpredictable. TCAs have performed better in diarrhea-predominant disease.

Although anticholinergic (atropine-like) drugs have been routinely prescribed for IBS symptoms for more than a century, they show no consistent results and often aggravate constipation. In addition, they can have troubling side effects (dry mouth, blurred vision, urinary retention). Mebeverine, which acts directly on the smooth muscle of the GI tract rather than through parasympathetic blockade, relieves cramping and bloating for many patients without causing anticholinergic side effects.

Laxatives and stool softeners can improve bowel function in constipation-predominant IBS but have little impact on the

Regular consumption of yogurt has been shown in several studies to decrease pain and bloating associated with IBS and to reduce intestinal transit time, thus relieving diarrhea. In controlled trials, yogurts containing cultures of Bifidobacterium lactis DN-173 010 or B. infantis 35624 have clearly outperformed others.

total clinical picture. Because IBS is relentlessly chronic, patients who use laxatives of the stimulant type risk becoming habituated to increasingly potent agents. The prostaglandin E1 derivative lubiprostone and osmotic agents such as polyethylene glycol, sorbitol, and lactulose, which do not directly promote bowel action or lead to drug tolerance, are preferred in IBS.

Antimotility agents such as loperamide can control diarrhea temporarily but do not relieve pain and can worsen gas entrapment or bring on constipation and even paralytic ileus (obstruction due to atony of smooth muscle fibers in the bowel wall).

As with most problems for which scientific medicine has provided only incomplete or unsatisfactory answers, non-prescription herbal remedies have often been promoted for IBS. Some sufferers have apparently obtained significant relief from preparations containing guar gum, peppermint oil, chamomile, lemon balm, angelica, or some combinations of these, but controlled studies are lacking.

Probiotic therapy of IBS with yogurt has recently received considerable media attention. The term *probiotic* refers to the introduction of live microorganisms into the human digestive tract to achieve a health benefit or to mitigate a disease process.

Yogurt is a dairy food produced by the controlled bacterial fermentation of milk sugar (lactose) to lactic acid. The acid yields a pleasant degree of sourness, denatures milk protein (lactalbumin) to form a soft curd, and inhibits bacterial overgrowth and spoilage.

Yogurt and similar soft-curd dairy products have been dietary staples in eastern Europe and Asia for thousands of years. Milk stored in goatskin bags ferments under the influence of bacteria (*Lactobacillus bulgaricus*, *Streptococcus thermophilus*, and others) that are naturally present. A new batch of yogurt can be started by inoculating fresh milk with a small amount of a previous batch.

Early in the twentieth century the Russian biologist Elie Metchnikoff, who received a Nobel Prize for his studies on phagocytosis, promoted dietary yogurt as a means of prolonging life. Yogurt is essentially a culture of living nonpathogenic microorganisms. Its introduction into the diet can lead to a change in intestinal flora, with a predominance of *Lactobacillus*. Although Metchnikoff could not explain how this was supposed to improve health, and could offer no more

It seems likely that, within the next five to ten years, pharmaceutical research will develop safer agents that are effective for the treatment of both types of IBS in both men and women.

compelling support for his theory than the long life spans of Bulgarian peasants, his enthusiasm won over many adherents to his cause throughout Europe.

In the 1950s and 1960s yogurt began to be promoted in this country as a health food. A variety of products appeared on the market, including yogurts whose natural sourness was tempered by the addition of fruit or jam, and whose texture was modified with pectin, gelatin, and emulsifiers. Some persons with mild lactose intolerance found that they could eat yogurt without ill effects, because most of its lactose had been chemically converted to lactic acid.

The effect of yogurt on the intestinal microflora was exploited when it was found that it could reverse some cases of antibiotic-associated diarrhea, in which benign bacteria had been eradicated from the bowel by broad-spectrum antibiotic treatment. Although also promoted as a means of preventing or treating vulvovaginal candidosis, yogurt has performed poorly in clinical trials for this indication.

Regular consumption of yogurt has been shown in several studies to decrease pain and bloating associated with IBS and to reduce intestinal transit time, thus relieving diarrhea. In controlled trials, yogurts containing cultures of *Bifidobacterium lactis* DN-173 010 or *B. infantis* 35624 have clearly outperformed others.

In one small study of adult women with IBS, those who ate yogurt containing *Bifidobacterium* daily during a four-week period experienced a significant reduction not only in pain but also in postprandial abdominal distention as measured with a tape, when compared with control subjects who ate a non-fermented dairy product.

Although Activia, a popular brand of yogurt containing both *Lactobacillus* and *Bifidobacterium*, has been conspicuously effective for many IBS patients, no form of yogurt yields uniformly predictable results. Patients who experience an increase rather than a decrease in symptoms with yogurt may be displaying extreme sensitivity to traces of lactose or an allergic reaction to milk protein. Once again, the impossibility of isolating or classifying patients with “true” IBS robs clinical trials of scientific rigor and renders their outcomes questionable.

To conclude on a more positive and hopeful note, two drugs developed during the past decade to alter serotonin metabolism have shown remarkable efficacy and specificity in some patients with IBS.

In women with diarrhea-predominant IBS, the 5-HT₃ receptor antagonist alosetron (Lotronex) lessens abdominal pain, reduces stool frequency and defecatory urgency, and improves stool consistency. The usefulness of this agent is limited by the risk of severe constipation and ischemic colitis, a potentially serious inflammatory process due to focal impairment of blood supply to the colon, which causes edema, hemorrhage, and sometimes ulceration and necrosis.

Alosetron was withdrawn from the U.S. market in 2000 because of these hazards, but reinstated in 2002 in response to a strong public outcry. It is presently marketed at a lower dose, and is available only for patients who have failed conventional treatment and who are enrolled in a risk management program. The drug is contraindicated in constipation-predominant and mixed IBS. Alosetron is generally ineffective in men.

Tegaserod (Zelnorm), which is classified as a 5-HT₄ receptor agonist, normalizes bowel function and yields global relief of symptoms in some women with constipation-predominant IBS. In treatment-responsive patients, administration of tegaserod has been associated with an improvement in work attendance and productivity, enhanced quality of life, and reduced utilization of health care resources. Like alosetron, tegaserod is generally ineffective in men.

Tegaserod can cause diarrhea and, like alosetron, may occasionally precipitate ischemic colitis. In addition, its use has been associated with an unacceptably high risk of serious cardiovascular disease. In 2007 the drug was temporarily withdrawn from the market. It was again made available later that year, but only to patients who have failed other therapies. Tegaserod is currently not approved for use in the countries belonging to the European Union.

Cilansetron, a 5-HT₃ antagonist that has been found effective in diarrhea-predominant IBS in both sexes, is currently in regulatory limbo because of safety issues. It seems likely that, within the next five to ten years, pharmaceutical research will develop safer agents that are effective for the treatment of both types of IBS in both men and women.

John H. Dirckx, M.D., is the author of *Laboratory Tests and Diagnostic Procedures in Medicine* (2004), *Human Diseases*, 3rd ed. (2009), *H&P: A Nonphysician's Guide to the Medical History and Physical Examination*, 4th ed. (2009), published by Health Professions Institute. He is medical editor of all HPI publications.



1 Clinical Medicine
CE credit approved

Jest for Fun

The World According to Student Bloopers

by Richard Lederer, Ph.D.

For Anguished English, my first language book for the larger public, I pasted together the following history of the world from genuine, authentic, certifiable, and unretouched student bloopers collected by teachers around the globe, from eighth grade through college level. Read carefully, and you will learn a lot.

Little did I know at the time that this fractured chronicle of the human race would become the fuel that runs the motor of my career—the riff I am most often requested to perform as a speaker and the progenitor of four additional books in the Anguished English series.

The inhabitants of ancient Egypt were called mummies, and they all wrote in hydraulics. They lived in the Sarah Dessert, which they cultivated by irritation and over which they traveled by Camelot. The climate of the Sarah is such that the inhabitants have to live elsewhere, so certain areas of the dessert are cultivated by irrigation. Ancient Egyptian women wore a calasiris, a loose-fitting garment which started just below the breasts which hung to the floor.

The Bible is full of interesting caricatures. In the first book of the Bible, Guinness, Adam and Eve were created from an apple tree. One of their children, Cain, once asked, “Am I my brother’s son?” Noah’s wife was called Joan of Ark. Lot’s wife was a pillar of salt by day and a ball of fire by night.

God asked Abraham to sacrifice Isaac on Mount Montezuma. Jacob, son of Isaac, stole his brother’s birthmark. Jacob was a patriarch, who brought up his twelve sons to be patriarchs, but they did not take to it. One of Jacob’s sons, Joseph, gave refuse to the Israelites.

Pharaoh forced the Hebrew slaves to make bread without straw. Moses led them to the Red Sea, where they made unleavened bread, which is bread without any ingredients. Afterward, Moses went up on Mount Cyanide to get the Ten Commandments, but he died before he ever got to Canada. David was a Hebrew king skilled at playing the liar. He fought with the Philatelists, a race of people who lived in Biblical times. Solomon, one of David’s sons, had 300 wives and 700 porcupines.

The Greeks were a highly sculptured people, and without them we wouldn’t have history. The Greeks invented three kinds of columns—Corinthian, Ironic, and Dork. They also

created myths. A myth is a female moth. One myth says that the mother of Achilles dipped him in the river Styx until he became intolerable. Achilles appears in the *Iliad*, by Homer. Homer also wrote the *Oddity*, in which Penelope was the last hardship that Ulysses endured on his journey. Socrates was a famous Greek teacher who went around giving people advice. They killed him. Socrates died from an overdose of wedlock.

In the Olympic Games, Greeks ran races, jumped, hurled the biscuits, and threw the Java. The reward to the victor was a coral wreath. The government of Athens was democratic because people took the law into their own hands.

Eventually, the Romans came along and conquered the Geeks. History calls people Romans because they never stayed in one place for very long. At Roman banquets, the guests wore garlics in their hair. Julius Caesar extinguished himself on the battlefields of Gaul. The Ides of March murdered him because they thought he was going to be made king. Caesar expired with these immortal words upon his dying lips: “Eat you, Brutus!” Nero was a cruel tyranny who would torture his poor subjects by playing the fiddle to them.

The Romans were overrun by the ball bearings. Then came the Middle Ages, when everyone was middle aged. King Alfred conquered the Dames. King Arthur lived in the age of shivery, with brave knights on prancing horses and beautiful women. King Harold mustarded his troops before the Battle of Hastings. Joan of Arc was burnt to a steak and cannonized by Bernard Shaw. People contracted the blue bonnet plague, which caused them to grow boobs on their necks. Magna Carta provided that no free man should be hanged twice for the same offense. People performed morality plays, about ghosts, goblins, and other mythical creatures.

In midevil times most of the people were alliterate. The greatest writer of the time was Chaucer, who wrote many poems and verses and also wrote literature. Another tale tells of William Tell, who shot an arrow through an apple while standing on his son’s head.

The Renaissance was an age in which more individuals felt the value of their human being. Martin Luther was nailed to the church door at Wittenberg for selling papal indulgences. He died a horrible death, being excommunicated by a bull.

It was the ssculptor Donatello’s interest in the female nude that made him the father of the Renaissance. It was an age of great inventions and discoveries. Gutenberg invented the Bible

and removable type. Sir Walter Raleigh discovered cigarettes and started smoking. And Sir Francis Drake circumcised the world with a 100-foot clipper.

The government of England was a limited mockery. Henry VIII found walking difficult because he had an abcess on his knee. Queen Elizabeth was the Virgin Queen. As a Queen she was a success. When Elizabeth exposed herself before her troops, they all shouted, "Hurrah!" Then her navy went out and defeated the Spanish armadillo.

The greatest writer of the Renaissance was William Shakespeare. Shakespeare never made much money and is famous only because of his plays. He lived at Windsor with his merry wives, writing tragedies, comedies, and errors. In one of Shakespeare's famous plays, Hamlet rations out his situation by relieving himself in a long soliloquy. In another, Lady Macbeth tries to convince Macbeth to kill the king by attacking his manhood. Romeo and Juliet are an example of a heroic couplet.

Writing at the same time as Shakespeare was Miguel Cervantes. He wrote *Donkey Hote*. The next great author was John Milton. Milton wrote *Paradise Lost*. Then his wife died, and he wrote *Paradise Regained*.

During the Renaissance America began. Christopher Columbus was a great navigator who discovered America while cursing about the Atlantic. His ships were called the Nina, the Pintacolada, and the Santa Fe. Later the Pilgrims crossed the ocean, and this is known as the Pill's Grim Progress. When they landed at Plymouth Rock, they were greeted by the Indians, who came down the hill rolling their war hoops before them. The Indian squaws carried porpoises on their back. Many of the Indian heroes were killed along with their cabooses, which proved very fatal to them. The winter of 1620 was a hard one for the settlers. Many people died, and many babies were born. Captain John Smith was responsible for all this.

One of the causes of the Revolutionary War was the English put tacks on their tea. Also, the colonists would send their parcels through the post without stamps. Finally, the colonists won the war and no longer had to pay for taxis.

The United States was founded by four fathers. Delegates from the original thirteen states formed the Contented Congress. Thomas Jefferson, a Virgin, and Benjamin Franklin were two singers of the Declaration of Independence. Franklin had gone to Boston carrying all his clothes in his pocket and a loaf of bread under each arm. He invented electricity by rubbing cats backwards and declared, "A horse divided against itself cannot stand." Franklin died in 1790 and is still dead.

George Washington married Martha Curtis and in due time became the Father of Our Country. Then the Constitution of the United States was adopted to secure domestic hostility. Under the Constitution the people enjoyed the right to keep bare arms.

Abraham Lincoln became America's greatest precedent. Lincoln's mother died in infancy, and he was born in a log cabin which he built with his very own hands. When Lincoln was president, he wore only a tall silk hat. He said, "In onion

there is strength." Abraham Lincoln wrote the Gettysburg Address while traveling from Washington to Gettysburg on the back of an envelope.

On the night of April 14, 1865, Lincoln went to the theater and got shot in his seat by one of the actors in the moving picture show. The believed assassin was John Wilkes Booth, a supposedly insane actor. This ruined Booth's career.

Meanwhile in Europe, the enlightenment was a reasonable time. Voltaire invented electricity and also wrote a book called *Candy*. Gravity was invented by Isaac Walton. It is chiefly noticeable in the autumn, when the apples are falling off the trees.

Johann Sebastian Bach wrote a lot of music and had a great many children. He kept an old spinster up in his attic on which he practiced every day. Bach was the most famous composer in the world, and so was Handel. Handel was half-German, half-Italian, and half-English. He was very large. Bach died from 1750 to the present. Ludwig van Beethoven wrote music even though he was deaf. He was so deaf he wrote loud music. He took long walks in the forest even when everyone was calling for him. Beethoven expired in 1827 and later died for this.

France was in a very serious state. The French Revolution was accomplished before it happened. The "Marseillaise" was the theme song of the French Revolution, and it catapulted into Napoleon. During the Napoleonic Wars, the crowned heads of Europe were trembling in their shoes. Then the Spanish gorrillas came down from the hills and nipped at Napoleon's flanks. Napoleon became ill with bladder problems and was very tense and unrestrained. He wanted an heir to inherit his power, but since Josephine was a baroness, she couldn't bear children.

The sun never set on the British Empire because the British Empire is in the East and the sun sets in the West. Queen Victoria was the longest queen. She sat on a thorn for 63 years. Her reclining years and finally the end of her life were exemplary of a great personality. Her death was the final event which ended her reign.

The nineteenth century was a time of many great inventions and thoughts. The invention of the steamboat caused a network of rivers to spring up. Cyrus McCormick invented the McCormick reaper, which did the work of a hundred men. Samuel Morse invented a code of telepathy. Louis Pasteur discovered a cure for rabbits. Charles Darwin was a naturalist who wrote the *Organ of the Species*, Madman Curie discovered radio, and Karl Marx became one of the Marx Brothers.

Richard Lederer, Ph.D., is the author of more than 3,000 books and articles about language and humor. His syndicated column, "Looking at Language," appears in newspapers and magazines throughout the United States. See order form for books by Richard Lederer on page 19.



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What's New in Medicine

Absolute Pro peripheral self-expanding stent—used in patients with iliac artery disease.

Adams-Oliver syndrome—a congenital condition comprising congenital scalp defects and distal limb abnormalities.

adience-abiience scale—a subscale of the Hutt Adaptation of the Bender-Gestalt Test (HABGT) used in evaluation of patients receiving rehabilitation after laryngectomy. *Adiience* refers to the tendency to adapt to new experiences that affect one's physical functioning, whereas *abiience* refers to the tendency to avoid or be inhibited from such adaptation.

Allevyn Gentle, Allevyn Gentle Border—gel adhesive hydrocellular foam dressings.

Anderson's disease—a rare hereditary lipid malabsorption syndrome linked to SARA2 gene mutations; a rare, hereditary hypocholesterolemic syndrome characterized by chronic diarrhea, steatorrhea, and failure to thrive associated with the absence of apo B48-containing lipoproteins. Also called *chylomicron retention disease* (CMRD). Anderson's disease should not be confused with Andersen's disease (glycogen storage disease type 4, type 4 glycolipidosis), a rare autosomal recessive disorder caused by glycogen branching enzyme deficiency and resulting in the storage of abnormal glycogen (polyglucosan).

AVantage A/H5N1 Flu Test—uses nose or throat swabs taken from patients who have flu symptoms. It takes less than 40 minutes for the test to confirm if the NS1 protein is present in the sample. NS1 is a specific protein that identifies the presence of the influenza A/H5N1 virus subtype. This is the strain that is mostly found in birds but can also

pass from birds to humans, usually by touching infected poultry, and of the flu strains that infect birds it is the deadliest to humans.

Banana Bag—a trademarked detox "cocktail" given intravenously to alcoholics. The solution contains thiamine, dextrose, and vitamins, the latter of which give it a yellow banana-like tint.

Biofinity (comfilconA) soft contact lens for extended wear.

brown fat—burns calories and uses energy, unlike the more abundant white fat that mainly just stores energy. It was previously thought only to be present in babies and children but now scientists believe adults also have heat-generating brown fat. If they could find a way to activate this "good" fat reserve, it could open the door to new treatments for obesity and type 2 diabetes.

cholesterol clefts—fissures in paraffin sections caused by dissolving of cholesterol crystals; they would be significant only to the extent that cholesterol is a constituent of atheromatous plaque.

chylomicron retention disease (CMRD)—see *Anderson's disease*.

CIAP (continuous monitoring of intra-abdominal pressure)—a simple means of measuring intra-abdominal pressure using a standard 3-way bladder catheter.

CMIN (contrast-medium-induced nephrotoxicity)—can lead to hospital-acquired renal failure.

Coartem (artemether 20 mg/lumefantrine 120 mg)—artemisinin-based combination treatment (ACT) for malaria. It is considered a highly-effective 3-day malaria treatment with cure rates of over 96% even in areas of multidrug resistance.

Corox OTW BP and Corox OTW S BP left ventricular pacing leads.

corpus albicans (pl. corpora albicantia)—white fibrous tissue that replaces the regressing corpus luteum in the ovary in the latter half of pregnancy.

crossover sign, cross-over sign—an appearance on AP pelvic x-rays in which the anterior acetabular rim is projected laterally relative to the same point of the posterior rim in the superolateral aspect of the acetabulum, an indication of femoroacetabular impingement or acetabular retroversion.

DEKA arm, The—a high-tech prosthetic arm and hand under development. It is designed to restore functionality for individuals with upper extremity amputation.

dome-down approach—a fundus-first laparoscopic cholecystectomy technique with ultrasonic dissection that creates a 360-degree view of the gallbladder-cystic duct junction, reducing the risk for anatomy misidentification and eliminating the risk for electrocautery injuries.

Dowling-Degos disease—a rare inherited disease characterized by reticular hyperpigmentation on flexor surfaces.

DSAEEK (descemet-stripping automated endothelial keratoplasty)—a procedure used to correct severe bullous keratopathy.

DT-MRI (diffusion tensor magnetic resonance imaging) **tractography**—an imaging technique designed to construct global connectivity of white matter tracts in the brain.

E-Luminexx vascular stent.

erbium-doped yttrium aluminium garnet microlaser peel—a non-chemical treatment for photoaged skin.

Update

Express SD renal Monorail pre-mounted stent system.

foamy macrophages (Path)—abnormal macrophage cells containing lipid material.

Galli-Galli disease—a rare genodermatosis in the spectrum of reticulate hyperpigmentation, regarded as an acantholytic variant of Dowling-Degos disease.

glabrous skin—hairless skin.

gobletoid—coined term for goblet cells.

Gordon-Baker phenol peel—a type of chemical dermabrasion.

hand-in-the-bucket sign—the appearance of translucent, white, confluent papules that become evident on the palms after 3-5 minutes' exposure to water and resolve within a short time after drying. It is associated with transient reactive papulo-translucent acrokeratoderma.

Hetter formula—a modified chemical peel formula to reverse heavy lines in the face; it contains less phenol and less croton oil.

Ho-FHBL (homozygous familial hypobetalipoproteinemia).

HOPE (hypothermic oxygenated perfusion)—used to preserve non-heart-beating livers to provide marginal liver grafts for transplantation.

horn pearls—keratinization of cells which can be a sign of malignancy.

horseshoe abscess—infection in the radial bursa and ulna bursa. The bursae of the hand are found at the distinct synovial sheaths and the main two bursae are the ulnar and radial bursa. The ulnar bursa covers the tendons of the index, middle, and ring fingers. The radial bursa covers the thumb tendon and extends to the wrist crease.

hyperorthokeratosis—a variation in the outermost cell layer of skin and mucous membrane characterized by an increase in the number of layers of fully keratinized cells from which the nuclei have disappeared.

idiopathic intracranial hypertension (IIH)—a cause of increased pressure around the brain. It results in vision loss (due to swelling of the optic nerve) more often in men than in women.

idiopathic oligoasthenoteratozoospermia (iOAT)—defective spermatogenesis of unknown etiology. Age, noninflammatory functional alterations in post-testicular organs, infective agents (*Chlamydia trachomatis*, herpes virus and adeno-associated viruses), alterations in gamete genome, mitochondrial alterations, environmental pollutants, and “subtle” hormonal alterations are all considered possible causes of iOAT. It is regarded as undetectable by the common laboratory methods and affects 30% of infertile men.

immunophenotypic—pertaining to the immunologic study of malignant cells in lymphoma or leukemia to determine the degree to which they resemble normal B and T lymphocytes.

Kenny-Caffey syndrome—an extremely rare osteosclerotic bone dysplasia characterized by dwarfism, medullary stenosis, transient hypocalcemia, and ophthalmologic abnormalities.

Knobloch syndrome—a rare autosomal recessive disorder characterized by high myopia, vitreoretinal degeneration, retinal detachment and midline encephalocele or midline occipital bone defect. It is caused by pathogenic mutations in the COL18A1 gene.

laparoendoscopic rendezvous technique—a technique said to reduce endoscopic time and pancreatic damage in patients with gallbladder and common bile duct stones, when compared to endoscopic retrograde cholangiopancreatography with endoscopic sphincterotomy.

LifeStent FlexStar and FlexStar XL vascular stent.

LINX reflux management system—a ring of magnetic beads that can be inserted laparoscopically (through tiny incisions) in less than an hour to help control GI reflux. The device functions like the sphincter itself; the beads not only allow food and drink to pass through on the way down but also assist in helping the muscle constrict to control reflux.

loculated effusion—a collection of fluid whose distribution is limited by adjacent normal or abnormal structures.

loop stoma bridge—a closed suction drain tube of 16 or 18 French placed in the subcutaneous tissue with the help of a trocar used as a bridge. The points of entry and exit of the tube are just beyond the circumference of the flange. The colostomy flange can be applied immediately without leakage.

lytic (osteolytic) lesion—a disease or abnormality resulting from or consisting of focal breakdown of bone, with reduction in density.

mass effect—anything that occupies space within the body and is not normal tissue.

mesenteric swirl sign—the swirled appearance of mesenteric fat or vessels, an easily recognized CT sign and an indicator of internal mesenteric hernia, such as occurs following Roux-en-Y gastric bypass surgery. Other radiologic signs of mesenteric hernia are the *hurricane eye sign* and the *mushroom sign*.

midmaxillary internal distraction osteogenesis—a technique for distracting only the anterior maxilla to improve aesthetics and occlusion while preserving existing speech patterns using skeletally fixated intraoral devices in the mature cleft patient. Osteodistraction with Le Fort I osteotomy may create velopharyngeal incompetence. This technique permits significant anterior movements, allowing dramatic improvements in functional and

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facial aesthetic outcomes. Additionally, intraoral appliances have greater acceptance in the mature patient.

MINTOS (minimally invasive and new technology in oncologic surgery)—resulting in new robotic and intraoperative MRI systems used to treat patients with a variety of cancers at M.D. Anderson Cancer Center. Procedures include da Vinci robotic surgery, VATS (video-assisted thoracoscopic surgery), laparoscopy, BrainSuite, transoral minimally invasive head and neck surgery.

Monheit peel—a combination Jessner-trichloroacetic acid (TCA) peel that can be repeated once or twice a year to reverse photoaging of the skin.

moon crater sign—a defect left by a healed keratoacanthoma.

MURCS association—the combination of Mayer-Rokitansky-Küster-Hauser (MRKH) syndrome with renal anomalies and cervicothoracic dysplasia. MURCS stands for müllerian aplasia, renal anomalies, and cervicothoracic somite dysplasia.

Navistar Thermocool and EZ Steer Thermocool Nav—irrigated deflectable diagnostic/ablation catheter for treatment of paroxysmal atrial fibrillation.

nephrogenic systemic fibrosis (NSF)—a rare and serious syndrome that involves fibrosis of skin, joints, eyes, and internal organs. In 2006 NSF was linked to gadolinium (which is frequently used as a contrast substance for MRIs) in patients with severe kidney failure. It does not have a genetic basis. Also known as *nephrogenic fibrosing dermopathy*.

NOTES (natural orifice transenteric surgery)—an alternative translation to *natural orifice transluminal endoscopic surgery*.

NovoSeven RT—a formulation of the NovoSeven coagulation Factor VIIa (recombinant). It is used in the treat-

ment and prevention of surgical bleeding in patients with hemophilia and congenital Factor VII deficiency.

NT-501 implant—a device used for the treatment of retinitis pigmentosa and age-related macular degeneration. It uses encapsulated cell technology and releases ciliary neurotrophic factor over a period of time to protect photoreceptor cells from degeneration.

ocular wavefront tomography—the process of using wavefront aberration maps obtained along multiple lines-of-sight to determine the shape and position of the major refracting elements of an eye.

Onglyza (saxagliptin)—used for the treatment of adults with type 2 diabetes.

Pallister-Hall syndrome—a genetic disorder with developmental anomalies and associated epilepsy and mental retardation.

paucicellular (Path)—containing relatively few cells, referring especially to highly anaplastic (undifferentiated) forms of certain malignant neoplasms.

PEEK cage—a nonresorbable polyetheretherketone cage used for spinal interbody fusion.

perivillous (Path)—around villi, referring especially to findings on microscopic examination of placental tissue.

per-mag scale—slang for perceptual aberration-magical ideation scale, a measure used in assessing schizophrenia and other thought disorders.

PET (pancreatic neuroendocrine tumor).

PIN (prostatic intraepithelial neoplasia)—a condition in which some prostate cells have begun to look and behave abnormally. In some cases, PIN can progress to cancer. The condition is usually diagnosed following a prostate biopsy or

surgery for benign prostatic hyperplasia. But the diagnosis, which is based on a pathologist's reading of the tissue sample, is rather subjective, resulting in large differences in the reported incidence of PIN.

POD—post-ovulation days.

PPPE (prolonged postpeel erythema).

Reclaim DBS therapy—brain stimulation used in treatment for obsessive-compulsive disorder.

resistin—a hormone produced by fat cells that can predict an individual's risk of heart failure.

rhBMP-2 (recombinant human bone morphogenetic protein)—a bone matrix used in interbody spinal fusion.

ROLL (radio-guided occult lesion localization)—for nonpalpable breast carcinomas.

SCAI (suppressor of cancer cell invasion)—a cell signal factor which inhibits the movement and spread of tumor cells. The new factor is believed to be a starting point for research into new mechanisms for fighting cancer.

Securus—a knotless suture anchor system used in minimally invasive, arthroscopic surgery. It is believed to provide increased flexibility, simplicity, and ease for surgeons performing minimally invasive techniques in the surgical treatment of rotator cuff repair.

Serdolect (sertindole)—used in the treatment of patients with schizophrenia.

seromucinous (Path)—characterized by the presence of both serous (watery) and mucinous (mucus-containing) secretions, or by the glandular elements that produce them.

single-incision laparoscopic surgery (SILS)—reduces scars and helps patients heal more quickly. With this technique a single entry point is used in the abdominal wall to remove gallbladders, appendixes

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and parts of the colon, rather than the standard 4-6 skin incisions used during standard laparoscopic surgery. Some weight-loss and reflux surgeries can also be performed using this single laparoscopic incision. The procedure allows surgeons to make one single incision, about a half of an inch in length, through the umbilicus, or belly button. Through that entryway, the surgeons place an access port, which holds their special cameras and instruments during surgery.

S-100B blood test—may be used as a screening tool in mild brain injury. If measured within 4 hours of the injury, the S-100B test accurately predicts which head injury patients will have a traumatic abnormality such as hemorrhage or skull fracture. The S-100B test gets results in about 20 minutes and can relay critical information about how the blood-brain barrier is functioning after a head injury and thus avert the need for a CT scan.

StikTite—a proprietary porous shell coating on orthopedic implants that encourages bony in-growth.

swirl sign—on nonenhanced CT scan of the brain, a large extra-axial heterogeneous fluid collection containing both a hyperattenuating clot and a smaller hypoattenuating region in a swirled configuration. It represents active bleeding, an ominous sign of epidural hematoma (extradural hemorrhage).

swish-and-spit test—a mouth rinse that captures genetic signatures common to head and neck cancer. It shows promise for screening those at high risk, including heavy smokers and alcohol drinkers.

TAI (traumatic aortic injury)—a major cause of trauma-related fatalities, with the majority of the victims dying at the scene of an accident. For the few who make it to the hospital, rapid diagnosis and treatment

is essential in order to prevent aortic rupture. Helical computed tomographic angiography (CTA) has vastly improved the evaluation of TAI and its frequent use as a screening tool has led to a reduction in the number of aortograms.

Technis multifocal foldable silicone and acrylic intraocular lenses.

Thoratec HeartMate II LVAS—left ventricular assist device.

3M Cavilon No Sting Barrier Film—a skin prep or barrier wipe that is used under the drape after wound cleansing.

three-vessel umbilical cord—two arteries and a vein to carry oxygen and nutrients to the fetus and carry away waste. A two-vessel cord can be due to absence of one of the arteries or fusion of the two arteries. Fetal abnormalities may occur in the uterus in the absence of a three-vessel cord.

touch preparation (Path)—not a frozen section; rather, it uses “fresh” tissue for diagnosis, and it is more rapid and less expensive, uses less tissue, and does not create freezing artifacts in specimens. Also known as *imprint smearing*.

transhiatal esophagectomy—technique for esophageal resection.

transient reactive papulotranslucent acrokeratoderma—a rare disorder, seen mostly in female patients with ages ranging from 6 to 44 years, characterized by intermittent symmetric edema and wrinkling of the palms after soaking in water. The most common histologic findings are hyperkeratosis and dilated eccrine ostia.

transvaginal donor kidney extraction—removal of a healthy kidney (for transplant) through a small incision in the back of the donor's vagina, leaving only three pea-size scars on the donor's abdomen rather than a 5- to 6-inch abdominal incision.

triple-negative breast cancer—a subtype of breast cancer that is clinically

negative for expression of estrogen and progesterone receptors (ER/PR) and HER2 protein. It is characterized by its unique molecular profile, aggressive behavior, distinct patterns of metastasis, and lack of targeted therapies. Patients with triple-negative breast cancer have a high incidence of visceral metastasis, including brain metastasis, and there is a high prevalence of triple-negative breast cancers among younger women and those of African descent.

triple rule-out protocol—reduces the radiation dose delivered to patients in coronary CT angiography to rule out coronary artery disease, aortic dissection, and pulmonary emboli. This protocol is said to be more helpful than nuclear stress testing in diagnosing the cause of undifferentiated chest pain.

Ultra Trak Pro blood glucose monitoring system.

Van der Velden Derma-injector.

vascular pegs—an arteriole and a venule which connect at the tip through a capillary bed.

vilazodone—a dual serotonergic phase III compound under development in parallel with genetic biomarkers to guide its use in the treatment of depression.

V-shaped excision of the anterior aspect of the pancreas—considered a secure and effective approach for small duct chronic pancreatitis, achieving significant improvement in quality of life and pain relief, thereby sparing patients from unnecessary, extended resectional procedures.

XACT soft acrylic UV light-absorbing posterior chamber intraocular lens.

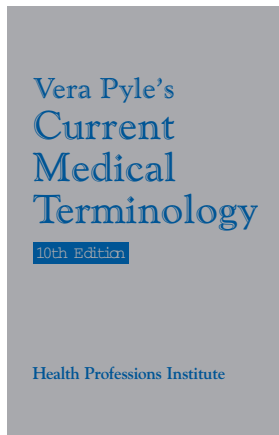
Zilver PTX drug-eluting peripheral stent (DES)—a paclitaxel-coated stent used in the treatment of blockages in peripheral arterial disease.

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SMASH (simultaneous acquisition of spatial harmonics) method—used in MRI procedures.

anvil dunk—a procedure used in laparoscopically performed gastric bypass to construct a gastrojejunostomy. The head of a stapling anvil is used to invaginate the stomach wall in order to bring the surgically created openings in the stomach and jejunum into apposition and stabilize them while they are being sutured together. See also *dunked end-to-end anastomosis*.

bird-beak sign (Radiol)—abrupt, smooth tapering of the distal esophagus on barium swallow, an indication of achalasia.

black knee prosthesis—a femoral component consisting of zirconium metal that has been heated and cooled in oxygen. This oxidizes the surface 5 microns of the metal and turns it into a black ceramic finish.

capillary isotachopheresis (cITP)—a modification of electrophoresis in which the use of two electrolytes with different chemical properties permits more rapid and more complete separation of analytes. It is a more sensitive means of measuring LDL subfractions in plasma.

8-to-S-plasty—a modified technique for closing a skin defect shaped like an 8 (two adjoining round lesions). The traditional method of repair by creating a single elliptical defect sacrifices healthy skin. In the Burow 8-to-S plasty, one triangle of skin with its apex at the constriction in the figure 8 is advanced to close one of the circular defects, and the other triangle of skin is advanced to close the other. No incisions are required and no skin is sacrificed. The suture line after closing resembles an “S”.

odd facet of the patella—the 7th facet of the articular surface of the patella, being the most medial portion. Only at 135 degrees of flexion does the odd facet contact the medial femoral condyles. Therefore, in most patients, it is a very underused part of the articular surface. Underuse has been incriminated as a cause of damage to the articular surface, an example being chondromalacia.

rendezvous laparoendoscopic technique—a technique used in endoscopic sphincterotomy to facilitate the identification and cannulation of the papilla. Using this technique, a guidewire is inserted through the cystic duct, caught with an endoscopic polypectomy loop, extracted from the operative channel and cannulized with a sphincterotome. This is then pulled through the papilla in the common bile duct, thus completing the

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Looking at Language

Under a Spell

by Richard Lederer, Ph.D.

*Forskor and sevn yeerz agoe our faadherz braut forth on
dhis kontinent a nue naeshun, konseevd in liberti, and
dedikated to the propozishun dhat aul men are kreeaeted eek-
wal.*

You've just read the first sentence of Abraham Lincoln's Gettysburg Address recast in the simplified spelling system proposed by Godfrey Dewey. Dr. Dewey is not the only man of good will who has proposed a significant overhaul of our "system" of English spelling. Way back in 1200, the Augustinian monk Orm developed a phonetic spelling system, and in succeeding centuries Orm's lead was followed by such luminaries as Benjamin Franklin, Theodore Roosevelt, George Bernard Shaw, and Upton Sinclair.

In *The Devil's Dictionary*, Ambrose Bierce defines orthography as "the science of spelling by the eye instead of the ear. Advocated with more heat than light by the outmates of every asylum for the insane." "English spelling," declares linguist Mario Pei, "is the world's most awesome mess," while Edward Rondthaler, the inventor of the Soundspel System, labels spelling "a sort of graphic stutter we've tolerated for generations."

Nowhere is the chasm that stretches between phonology (the way we say words) and orthography (the way we spell them) better illustrated than in this eye-popping ditty about the demonic letter combination *-ough*:

Tough Stough

The wind was rough.
The cold was grouggh.
She kept her hands
Inside her mough.

And even though
She loved the snough,
The weather was
A heartless fough.

It chilled her through.
Her lips turned blough.
The frigid flakes
They blough and flough.
They shook each bough,
And she saw hough
The animals froze—
Each cough and sough.

While at their trough,
Just drinking brough,
Were frozen fast
Each slough and mough.

It made her hiccough—
Worse than a sticcough.
She drank hot cocoa
For an instant piccough.

If the road to language heaven is paved with good intentions, why haven't we Americans responded to the succession of well-intentioned spelling reforms proposed by linguists, clerics, writers, statesmen, and presidents? Because, as in most matters linguistic, simplified spelling is no simple matter.

For one thing, spelling reform would plunder the richness of homophones in the English language. *Rain*, *rein*, and *reign* were once pronounced differently, but time has made them sound alike. *Knight* was a logical spelling in Chaucer's day, when the *k*, *n*, and *gh* were distinctly sounded. Today its pronunciation matches that of *night*. In Milton's time, *colonel* was spoken with all three syllables. Now it sounds the same as *kernel*. Thus, the seemingly bizarre spellings that the reformers would excise are actually an aid to differentiation in writing. Think, for example, of the chaos that would be wrought by spelling the antonyms *raise* and *raze* identically.

So-called simplified spelling turns out to be a snare and a delusion of false simplicity. Instituting such reforms would generate a "big bang" effect, blowing apart words that are currently related. Like the builders of the Tower of Babel, lexical neighbors such as *nature* and *natural* would, as *naechur* and *nachurul*, be divorced and dispersed to separate parts of the dictionary. The same fate would be visited upon conversion pairs such as *record* (noun) and *record* (verb) and *progress* (noun) and *progress* (verb), and our streamlined pattern of noun and verb endings would grow needlessly complex. *Cats* and *dogs* would be transmuted into *kats* and *daugz*, *walks* and *runs* into *waulks* and *runz*, and *Pat's* and *Ted's* into *Pat's* and *Ted'z*.

Such transformations raise the specter of losing the rich etymological history that current spelling generally preserves. We cannot deny that *seyekaaloguee*, *Wenzdae*, and *troosoe* are accurate visualizations of the sounds they represent. But do we really want to banish the Greekness from *psychology* (from the Greek goddess Psyche), the *Scandinavianness* from *Wednesday* (from the Norse god Woden), and the romantic Frenchness from *trousseau*?

English is the most hospitable and democratic language that has ever existed. It has welcomed into its vocabulary words from tens of other languages and dialects, far and near, ancient and modern. As Carl Sandburg once observed, "The English language hasn't got where it is by being pure." As James D. Nicoll has quipped, "The problem with defending the purity of English is that English is as pure as a cribhouse whore. We don't just borrow words. On occasion, English has pursued other languages down alleyways to beat them unconscious and rifle their pockets for new vocabulary." Purifying our spelling system would obscure our long history of exuberant borrowing.

A perhaps more telling fret in the armor of simplified spelling is that even its most ardent adherents acknowledge that many words, such as *shejl* and *skejl*, are pronounced differently in the United Kingdom and the United States, necessitating divergent spellings of the same words. Moreover, when we acknowledge the existence of Irish English, Scottish English, Welsh English, Australian English, West Indian English, and all the other world Englishes, we must wonder how many variant spellings we must live with.

Compounding the problem is that pronunciation varies widely in different parts of the same country, a reality that leads us to ask this crucial question: if we are going to embrace an exact phonetic representation of pronunciation, *whose* pronunciation is to be represented? For many Londoners, the *raen* in *Spaen* falls *maenlee* on the *plaen*, but for Eliza Doolittle and many of her cockney and Australian cousins the *rine* in *Spine* falls *minelee* on the *pline*. How will reformers decide which spellings shall prevail?

In the Middle Atlantic states, whence I hail, *cot* and *caught* are sounded distinctly as *kaat* and *kaut*. In New Hampshire, to which I moved, I often heard *kaat* for both words. Not far to my south, many Bostonians say *kaut* for both words. I say *gurl*, in Brooklyn they say *goil* (as in the charmingly reversed "The *oil* bought some *earl*"), and farther south and west they say *gal* and *gurrel*. Because our present system of spelling is as much hieroglyphic as it is phonetic, speakers of English can gaze upon *rain*, *Spain*, *mainly*, *plain*, *cot*, *caught*, and *girl* and pronounce the words in their own richly diverse ways.

Even if our spelling were altered by edict, a feat that has never been accomplished in a predominantly literate country, pronunciation would continue to change. As Samuel Johnson proclaimed so long ago, "Sounds are too volatile and subtle for legal restraints; to enchain syllables, and to lash the wind, are equally undertakings of pride." No surprise, then, that the good doctor went on to point out that spelling reformers would be taking "that for a model which is changing while they apply it." The phoneticizing process of spelling reform would itself have to be reformed every fifty or hundred years.

Errors in spelling are the most conspicuous of all defects in written English. Even with the ubiquitousness of spell checkers, business executives complain about the unchecked and unbridled orthography their employees generate. As a business guru once advised: "A burro is an ass. A burrow is

a hole in the ground. As a writer, you are expected to know the difference."

Now gaze upon one hundred words that people in business most frequently misspell. In the line-up are very probably the words that you fear and loathe.

- | | |
|-------------------|-------------------|
| 1. absence | 51. imitate |
| 2. accessible | 52. immediately |
| 3. accommodate | 53. independent |
| 4. accumulate | 54. interest |
| 5. achieve | 55. judgment |
| 6. administration | 56. liaison |
| 7. advantageous | 57. license |
| 8. aggressive | 58. mediocre |
| 9. analyze | 59. millennium |
| 10. appearance | 60. minuscule |
| 11. apparent | 61. necessary |
| 12. appropriate | 62. negligence |
| 13. argument | 63. negotiable |
| 14. background | 64. noticeable |
| 15. bankruptcy | 65. occasion |
| 16. basically | 66. occurrence |
| 17. before | 67. omission |
| 18. beginning | 68. parallel |
| 19. believe | 69. perseverance |
| 20. benefit | 70. piece |
| 21. business | 71. precede |
| 22. calendar | 72. privilege |
| 23. category | 73. proceed |
| 24. character | 74. publicly |
| 25. committee | 75. questionnaire |
| 26. controversial | 76. receive |
| 27. corroborate | 77. recommend |
| 28. definitely | 78. rescind |
| 29. dependent | 79. relieve |
| 30. description | 80. renown |
| 31. develop | 81. repetition |
| 32. dilemma | 82. rhythm |
| 33. disappear | 83. ridiculous |
| 34. disappoint | 84. salable |
| 35. dissipate | 85. secretary |
| 36. effect | 86. seize |
| 37. eligible | 87. sentence |
| 38. embarrassing | 88. separate |
| 39. environment | 89. sincerely |
| 40. exaggerate | 90. skillful |
| 41. exercise | 91. successful |
| 42. existence | 92. supersede |
| 43. experience | 93. surprise |
| 44. finally | 94. their |
| 45. flexible | 95. threshold |
| 46. friend | 96. through |
| 47. forgo | 97. tomorrow |
| 48. forty | 98. truly |
| 49. gauge | 99. whether |
| 50. harass | 100. writing |

See Order Form for Books by Richard Lederer, page 19.

Totally Hip

by Judith Zielinski Marshall

You are too old, too fat, too poor, and too crippled. No one will ever go out with you. Besides, your husband just died. Shame on you.”

Nothing like an old girlfriend to point me in the wrong direction. I hopped on the Internet anyway. Perhaps hop is too strong a word. I limped onto the Internet. The dotcoms were loaded with men seeking women. I met a few of them for coffee but no planets collided or stars exploded.

Then I found David and from his first words on the telephone, I just knew he was delicious. We spoke on the phone for a week and met for dinner in a restaurant parking lot. He slid into my car because I had two things to tell him. I told him that later that month I was scheduled for a serious biopsy. It could be cancer. He gazed at me quietly and said he would be there and what else? I told him the total hip replacement (THR) was scheduled soon. In the trunk I had a walker and a cane but that afternoon I held his hand and walked into the restaurant.

He simply said he would be there. And he was. Nothing fazed David. He liked me and I liked him. He loaded my walker into his car and for the next couple of months, we went to museums and zoos, wineries, movies, and shopping, sightseeing on the Maine and Rhode Island coasts. He was with me from 5 a.m. the day of the first surgery and brought me home and took care of me. The biopsies were negative.

Nothing really prepared me for the hip surgery. Not even the excellent classes the hospital offered or the Internet web sites. In on Monday, out on Thursday, maybe even home, no rehab—that is what they told me. The idea of a foreign body in my body was not uncomfortable, since I already had metal, mesh, and plastic. Why not titanium and ceramic? The best surgeon, the best hospital, the best anesthesiologist—what was there to fear? The worsening pain over seven years made the decision for me. Either buy a wheelchair or have the hip replaced. The surgery was booked nine months ahead. So I had time to lose over 100 pounds, join a gym, get a nutritionist, and join a weight loss support group. And chase men.

Except for David I was virtually alone but strangely calm as September 22 dawned. After surgery, medication dulled the initial pain, and that first evening I was surprised at how ravenously hungry I was. A superb supper was served by lovely people in long white-sleeved shirts, black vests, and bow ties. If it were not for the catheter and the IV running, I would have thought I was in a Las Vegas bistro. Then David appeared next to my bed wearing a black suit and a Roman collar. For a moment I thought I was dead. He called me Sister Mary Catherine and asked if I would like to make a

confession of my sins. Since he could not find a rosary, he used Mardi Gras beads. In retrospect I wonder how much I confessed in that Dilaudid dream. We still play Sister Mary Catherine and Father Dave and there usually is some penance involved. But that is another story.

Yes, they really do get the patients out of bed the second day. I told the physical therapists who looked about 12 years old that I really did not care too much about how soon I would be walking but more importantly when I could have sex. They blushed and giggled. I had to ask the surgeon, who raised his eyebrows and said “in about a month.” He was absolutely correct about that.

David arrived the second night as Uncle Moishe, a character he developed with a voice which took me back to my childhood in the old neighborhood. Uncle Moishe soothed me. Medical personnel hovered near the door listening intently as they heard a heavily accented man tell jokes and stories, wondrously peppered with Yiddish phrases. Uncle Moishe knew I loved herring in sour cream so he brought along an 8-foot stuffed fish-shaped pillow with brilliant speckles and red and black coloring. When I was sitting in a chair, I put Solomon (the fish had to have a name) with his head on the pillow and his huge tail partially covered by bedclothes, then I would wait for various personnel to come in and do a double-take or laugh, and it amused me through that difficult day. I had such great fun with that fish.

Hospital day three was a hundred years long. A petite female aide tried to prop me up so that I could sit and stand. The hip prosthetic weighed more than she did, and as both of us were about to topple to the floor, I saw a bulbous red nose under an enormous multi-colored wig and a clown with balloons walked into the room. David entertained me and the astonished aide while the hospital room doorway filled with delighted nurses. He knew I had a fear of clowns (*fearus clownus* in medical terms). I find them sinister but not that clown, not that night.

Day four brought the ambulance drivers and they strapped me into the stretcher and Solomon the Fish lay on top of me. We paraded out of the hospital and the two wisecracking attendants enjoyed every minute. “Waddya gawkin’ at, never seen a fish before?” “Look what we caught in the Charles River!” “This mermaid is going to rehab!”

The rehab was paradise compared to the hospital. A huge private room with a shower big enough to accommodate a horse in a hoist and a grand window with a view of autumn foliage. Whatever I asked for, David brought to me, including gallons of coffee. The worst problems for me were filth

and constipation. The nursing staff said they were too busy to give me a bath. David, always unfailingly polite, ordered them to find a chair with wheels and he and an aide rolled me into the shower room. I clung to the safety rails while David hosed me down like a pig at a county fair. Then he washed my hair and rinsed it. He patted me dry, blow dried my hair, and powered my bottom. If that is not love, what is?

When I went for physical therapy, he became a Marine drill instructor, a coach, a personal trainer, and a general pain in the neck. He forced me to go farther and faster. He walked backwards while I walked towards him with the walker, cursing him and whining. We went to occupational therapy together and he did the exercises with me, shouting encouragement for me to walk stairs. I had enough gas to fly to Chicago but he never complained.

On discharge, he loaded my belongings into the car and took me home. He fed the cat, went food shopping, made supper, and then sat by the bed until I fell asleep and he went home. The next day I went back to work in my home office. We visited several zoos in the autumn, went mall-walking and sightseeing in museums all winter. He booked New Year's weekend in a Cape Cod hotel with a heated pool and hot tub. The surgeon said to walk in the pool and so I did, with David wearing goggles, swimming around like Jaws and yelling, "One, two, three, four, march." By month six I was dancing at Bavarian night, stepping tentatively and clinging to David. A month after that I was wearing my new green ballerina flats, doing the twist, the foxtrot, and jitterbugging. I sold my walker and threw out the cane.

Each major surgery is a journey for the patient. In the age 65-70 range, hip replacement surgeries are increasing, and approximately 120,000 are performed in the United States annually at a cost of \$43,000 to \$63,000, depending upon which Internet site one reads. According to an article in the 2000 *Journal of Radiology*, patients with THR report satisfaction rates of over 90 percent while knee replacement surgery satisfaction runs about 70 percent.

If a person is contemplating THR, some hints and caveats.

1. If the hospital holds a class for patients, take it.
2. Do not make yourself crazy reading Internet stories and blogs. The same people writing them are the ones who terrorized you decades ago with horror stories of childbirth or gallbladder operations.
3. Choose your spouse and your children wisely (well, too late for that) because you will need them. Not everyone can find a David. Cultivate many friends, especially younger people.
4. Try to have an efficacious bowel regimen early on in your postoperative phase. One Colace a day is not going to suffice. Do not wait until the situation becomes a matter of explode or die. Be vocal, be assertive and totally without shame as you perch upon your throne euphemistically called the bedside commode. Discontinue pain medication as soon as possible. And try to familiarize yourself with the proper medical terminology used on the road to recovery. "Did we poop and pee today?" chirped the morning aide every single morning.
5. Appreciate that any form of bathing which does not include a shower in the postoperative period is not enough. Line up friends and relatives to help or hire strangers in advance. Maintain your dignity even though stark naked and soaking wet.
6. Send thank-you notes and letters to the people who helped you through this process, especially the physical therapy and food service folks.

David often said he was sent to me. I tell him it is because I believe in "The Secret" or the law of attraction. The surgery was a miracle for me after years of dreaming of walking and dancing. David was a miracle for me.

Judith Zielinski Marshall, Wakefield, MA, has been in the medical transcription field for over 30 years as an educator, business owner, and medical transcriptionist. She is the author of two books of humor and satire, *Medicate Me* (1987) and *Medicate Me Again* (1994), and scores of essays and articles published in *Perspectives* magazine over more than 20 years.

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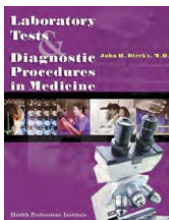
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