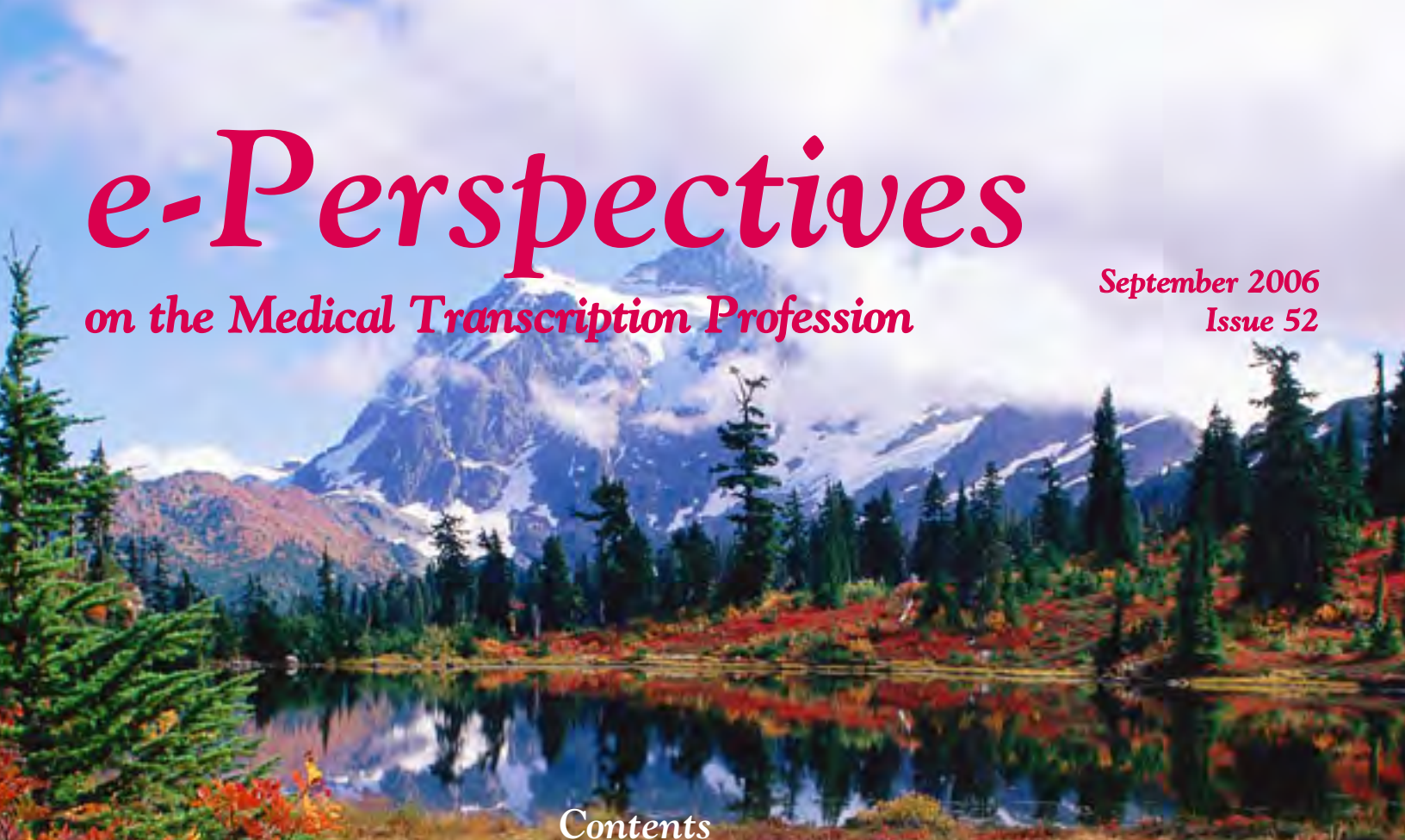
e-Perspectives

on the Medical Transcription Profession

September 2006
Issue 52



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Editor & Publisher
Sally Crenshaw Pitman, M.A.

Editorial Staff
John H. Dirckx, M.D.
Ellen Drake, CMT, FAAMT
Laraine Sookhoo

Circulation
Debbie A. Cook
Carmen Trammell

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A Rose by Any Other Name

Names are tough. When we name newborns, we give them family names, faddish names, or saddle them with lofty names of people we expect them to become. It's always a guessing game, and we all know people whom we consider to have unlikely or unsuitable names—someone who doesn't look like a "Hortense" or "Mortimer" (with apologies to anyone with either of those names) or whatever name was given.

Naming a business is also difficult. It's almost a crystal-ball process. We name our businesses what we hope to become. If we survive, we may come to regret our low expectations at the beginning (Motel 6, Two Guys and a Truck) and wish we had had a greater vision of growth and success.

Naming a professional association must be one of the toughest jobs because we don't know at the beginning if we are going to be successful, just as we don't know if a business is going to endure. Thus, what we start with is not necessarily where we are going to end up. A professional society IS a business, and the business of the association may grow and evolve, and the earlier names may become inappropriate as the mission, goals, or client base change.

That's apparently what happened years ago when AMRA (American Medical Record Association) changed its name to AHIMA (American Health Information Management Association). So too has the AAMT (American Association for Medical Transcription) leadership voted a name change for this professional society. The new name selected is Association for Integrity of Healthcare Documentation (AIHD).

AAMT has always promoted integrity in healthcare documentation—long before it envisioned a name change. Will members of AIHD still perform medical transcription? Some will. Others will have other backgrounds and skill sets. Will AIHD members still edit medical documentation for accuracy and completeness and still CARE about quality? Some will. Are AIHD members going to be able to achieve or assure integrity in healthcare documentation better with the name change than they did as AAMT members? That remains to be seen. The name change is said to be an effort to be more inclusive, to open up practitioner membership to other healthcare professionals involved in clinical documentation and data capture. What will that mean for the medical transcription members of the association? Will efforts to advance the profession of medical transcription be diluted in an effort to be more inclusive and expand the membership base to obtain "increased relevance in a transforming marketplace" (to quote Peter Preziosi, AAMT Executive Director). Renaming the association and redefining the mission are just the first steps in promoting a new brand for the association. A rose by any other name . . .

This is the 52nd issue of *Perspectives* magazine. Featured in this issue is Dr. John Dirckx's update on Complementary and Alternative Medicine. He defines alternative medicine and distinguishes between modalities that are a positive part of modern healthcare and other modalities that may do more harm than good.

Diane Heath's "Don't Just Toss 'Em a Fish!" is reprinted from Fall 1997. No one has equaled her eloquence in teaching all of us the lessons of mentoring medical transcriptionists and to insist that they "learn to fish"—by getting a quality transcription education before entering the job market.

Rich Lederer, Ph.D., shows us how we as editors can at various times be "compassionate correctors," or not, under the guise of Conan the Grammarian.

Linda Campbell provides a Radiology Quick Quiz that tests our basic knowledge of radiology imaging terms. Answers follow the 18 questions.

What's New in Medicine rounds out this issue of *e-Perspectives*. These terms and many others will appear in the 2007 edition of *Vera Pyle's Current Medical Terminology*, 11th edition.

Sally C. Pitman

Don’t Reinvent the Wheel

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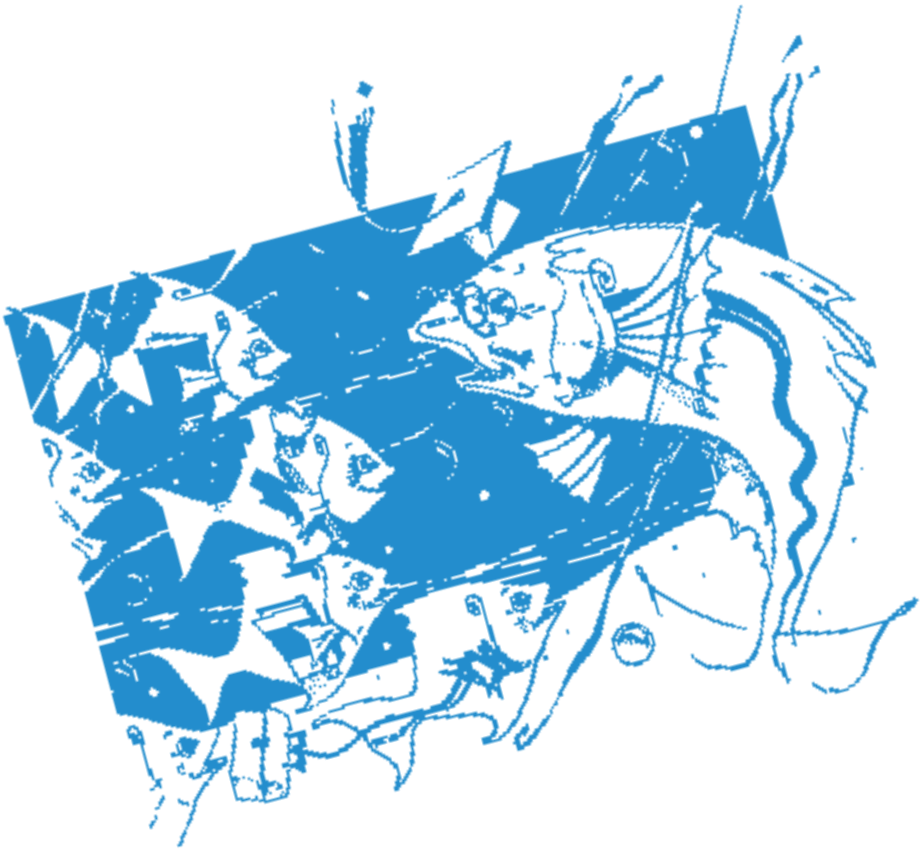

Don't Just Toss 'Em a Fish!

Diane S. Heath, CMT

I think we do new medical transcriptionists and students a great disservice when we respond to their on-line discussion board requests for assistance with very basic dictated words and phrases. My friend thinks it is wonderful that newcomers feel comfortable enough to bring their questions to the on-line forum. I, on the other hand, feel that we are, in effect, offering them a fish when what we really need to do is ***teach them to fish*.**

Along with other qualified MTs, I have been guilty of galloping to the rescue, anxious to demonstrate my supposedly superior skills and knowledge by providing answers to newcomers' questions, even though I realized that I was essentially placing a temporary patch on a problem that required far more than a one-time answer.

Lately, when seeing newcomer questions that demonstrate a total lack of basic knowledge, I have more often e-mailed the individuals privately with gentle suggestions that they consider additional instruction, work toward building an appropriate library, and/or seek an appropriate mentor who can assist with difficult dictation by actually listening. In most cases, I get a response thanking me for my suggestions but stating a necessity for immediate employment and pleading lack of funds for additional resources prior to gaining that employment. (Would this be an acceptable reason for failing to pursue appropriate training in any other profession?)

Not surprisingly, continued perusal of the on-line forum in the following days or weeks reveals the same naive individual asking for assistance with unfamiliar terminology that "sounds like," followed by a collection of total nonsense words. One cannot help but know that when faced with the fact that the transcription being submitted is totally unacceptable to the employer or client, the discouraged beginners will bewail the fact that they are unable to find anyone willing to "take a chance" on them, and still more questions will be posed that demonstrate little or no understanding of what it takes to be successful (or even employed) in this difficult and challenging field.

While we can encourage employers to provide opportunities to well-prepared individuals entering the field of medical transcription, we must recognize that ***no employer has an obligation to spend valuable time in an attempt to educate and train people who have not first made sufficient efforts to obtain necessary education on their own*.**

Fishing Lessons

Perhaps the greatest favor we can do for the naive newcomers is to quit babying them and say it right out: *We care about you and want you to be a success in this profession. However, it is apparent that you do not have the necessary background in terminology, practice, and basic understanding to do this job. We strongly advise that you seek additional instruction and experience and be prepared to make the necessary investment in time and resource material. After all, these are patient medical records you are transcribing, and your lack of knowledge could easily create a life-or-death situation!*

Do I sound harsh and unfeeling? Does it appear that I don't believe in extending a helping hand to newcomers in the field of medical transcription? Well, nothing could be further from the truth. I love medical transcription and treasure medical transcriptionists, particularly those who are just entering the profession. If I could, I would gather "newbies" around

Is it any wonder that individuals who complete these [abbreviated] programs lack a basic understanding of the human body and the language that documents its care?

me like woolly lambs and share with them all the wonderful things I have been privileged to learn in my five decades of transcription.

I would take students slowly and carefully through the systems of the body, teaching them anatomy and helping them to understand how the body works. I would introduce them to the wonderful language of medicine, helping them to recognize and understand the words and phrases that are used by those who dictate the medical record. And, perhaps most important, I would help them to understand the *real world* of medical transcription, wherein dwell incredibly hard-working people with an immense knowledge.

Looking for Education

We must depend upon quality educational programs to provide students access to the knowledge and skills necessary to perform medical transcription. And we hope and pray that each person who wants to enter this fascinating profession will recognize the need for quality education and seek out a program that can provide it.

However, the world seems to be full of programs that *claim* to teach medical transcription but are totally inadequate when it comes to preparing students for actually performing the duties of a medical transcriptionist. Many so-called medical transcription courses are only incidental parts of programs directed at another profession (i.e., medical assistant, medical office specialist, court reporter, etc.) and do not include the essential elements for training of even an entry-level medical transcriptionist. Many other courses that *do* place major emphasis on medical transcription are so abbreviated that they cannot meet the students' needs within the time frame of their programs. Is it any wonder that individuals who complete these programs lack a basic understanding of the human body and the language that documents its care?

Prospective students are bombarded with ads from courses that promise the moon but provide little in the way of practical instruction. One school that produces dazzling information packets offers students a standard cassette player (with no headphones or foot pedal) and only a minimal number of professionally dictated (read *canned*) reports to transcribe, while assuring the unwary student that he or she will be prepared to step right into the hospital environment or even to (shudder!) work at home. Imagine the student's shock and surprise later when encountering not only unfamiliar and imperfect dictation, but also the expanding technology involved with transcription.

Perhaps the greatest injustice perpetrated on unsuspecting students is the promise of immediate readiness for an at-home transcription business. Armed with only minimal exposure to the medical language and no knowledge whatsoever of business practices, these trusting individuals throw themselves on the mercy of the computer bulletin boards, where they receive a melange of well-meaning advice that unfortunately does not take into account the newcomer's lack of basic skills. And there we are again, offering piecemeal solutions to those who are trying to build a career without a solid foundation.

Seeking a Resolution

Many excellent transcriptionists who have been practicing for 20 or more years received only on-the-job training, myself included. We persevered because there was no classroom study available, and we grew as the profession grew. Unfortunately, some of us are still finding areas in which we wish we had further training, but books are now available for us to correct our deficiencies.

That we were able to achieve success in this difficult and challenging profession is probably in large measure due to the fact that there were fewer medical specialties when we started out, and we were not faced with constantly changing technology, at least not until the 1980s. Few of us worked at home, and we thus had the opportunity to consult with each other and to grow together.

Times have changed, and it now appears that the best step we can take with an individual who wants to become an MT is *never* to suggest that he or she can learn transcription simply by working under the tutelage of another or by purchasing a few books and depending on a computer spellchecker.

We should urge aspiring MTs to carefully evaluate their own current skills. Is he a way-above-average speller? Is she able to quickly and accurately apply the rules of English grammar and punctuation? Does he love to study and learn and have an endless fascination with language? Does she have a basic understanding of computers and current word-processing software? If some of these individuals are considering the establishment of medical transcription businesses, have they first learned about developing business plans and explored pricing and marketing strategies? Are they familiar with the medical community in their locale?

A quick look into their motives is also in order. Do they have a real desire for a long-term career, or are they thinking of medical transcription as a part-time job or a way to earn a quick buck?

We owe it to aspiring MTs to tell them in no uncertain terms that they need to seek out appropriate educational programs (the key word here being *appropriate*) and not settle for any program that offers less than the absolute max, including instruction in anatomy, disease processes, pharmacology, transcription technology, and professional practices, fortified by hours and hours (and more hours) of transcribing **actual physician dictation** (*not* dictation that is prepared by a professional reader or simply narrated by an instructor), sequenced by body system. Programs that properly utilize material such as that provided in *The SUM Program for Medical Transcription* are able to offer these essential ingredients.

Prospective students should be urged to inquire carefully into the **quality of instruction** being offered, never settling for courses designed or taught by folks who may be business

English teachers or medical assisting instructors, no matter how well-versed these individuals may be in their own chosen fields. If the student elects to enroll in a home-study or self-directed study program, the same careful analysis of instructional materials and support personnel should be carried out. If the program does not use *SUM Program* materials, what type of materials do they use? What record does the program have for graduating employable students?

And, most importantly, we need to help the aspiring MT take a **realistic view** of the profession and what it can offer to one who approaches it with proper preparation, never sugar-coating the many difficulties that will be encountered. Medical transcription work is hard and can be incredibly taxing, both physically, mentally, and emotionally. A part of that realistic view should be acceptance of the fact that one who plans to document patient health records must **work for a time in a healthcare environment** before attempting to work alone.

There are, of course, those who would argue this point, reasoning that many transcription departments and physician offices are poorly supervised or staffed by unqualified individuals. And there are many individuals who have managed to be successful without this experience. Nevertheless, **exposure to the medical record** and all its complexities is essential. The aspiring MT needs to understand the importance of each entry he or she may contribute to that record, be it clinic note, letter, history and physical, operative report, or any of the myriad reports in the patient record. Even if the potential student's ultimate goal is to operate a home business, knowledge of the "big picture" will be essential to success.

Teach Them How to Fish

Don't be *too* kind, and don't assure unprepared MTs that they will "get it" if they just keep working at it. If we take that approach, we reinforce the widely held misconception that medical transcription is nothing but an easily learned keyboarding skill. (After all, don't you just *type* what you hear?) Encourage those interested in becoming MTs, as well as those who have entered the field unprepared, to take the same approach to education for medical transcription as they would to any other professional field.

If you are in a position to suggest appropriate training, do not be afraid to do so. Stress the advantages of programs you know of that include the necessary features for success. When met with protests regarding program cost, emphasize that the individual seeking a career must be prepared to make the necessary investment in time and money or else consider some other field of endeavor. *Education in medical transcription is truly a case of "pay now or pay later" in lost income, lost jobs, lost clients, and lost professional reputation*. We should also recognize the fact that the unprepared newcomer may well contribute negatively to the image and reputation of our entire profession.

Education in medical transcription is truly a case of "pay now or pay later" in lost income, lost jobs, lost clients, and lost professional reputation. We should also recognize the fact that the unprepared newcomer may well contribute negatively to the image and reputation of our entire profession.

Few medical transcriptionists of my acquaintance would ever turn away from the needy "newbie," but it is important that we provide our assistance in a way that emphasizes the essential nature of adequate preparation for a profession that provides a significant contribution to quality healthcare.

Be honest with those who seek to enter this profession. Provide a true picture of what is needed. Help them identify and use the quality tools that will last them a lifetime. Don't just toss them a fish!

Don't forget, when you encounter a newcomer to our profession who has taken the high road—completed a quality educational program, built a solid reference library, sought out appropriate mentors, researched necessary business practices—(in short, *prepared*), offer a well-deserved handshake along with your enthusiastic assistance. This is a person who has learned to fish!

This article is reprinted from *Perspectives on the Medical Transcription Profession*, Fall 1997.

Diane Heath has 50 years' experience as a medical transcriptionist. She is currently a mentor for DTS America Transcription Education Center in Carlsbad, NM, as a part of the New Mexico State Jobs Program. She formerly mentored MTs through the AAMT Help Desk and served as associate editor at Health Profession Institute. Her permanent home is in Dallas, TX. E-mail her at **healthcmt@yahoo.com**.

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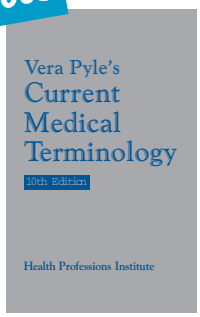

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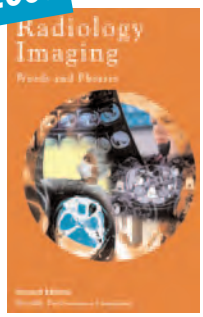

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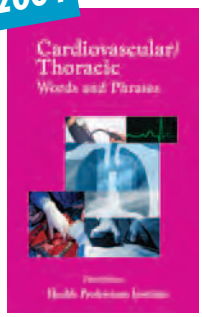

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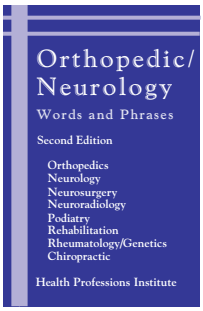

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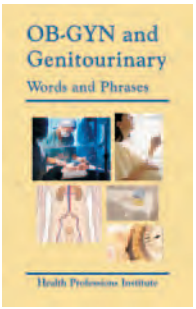

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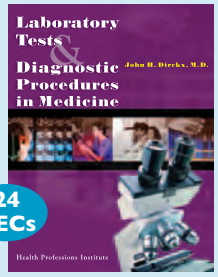

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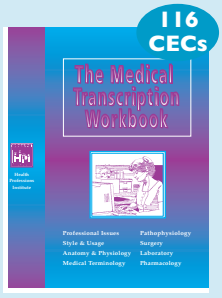

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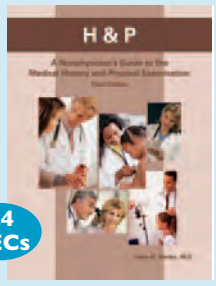

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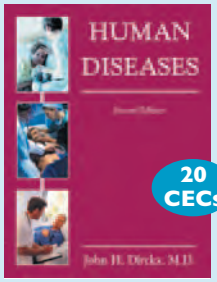

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Radiology Quick Quiz

by Linda C. Campbell, CMT

1. What is the plural form of *phalanx*? The adjectival form?

2. Which of the following phrases is NOT correct?
   A. small cell carcinoma
   B. right-sided paresthesias
   C. higher risk group
   D. left-arm fracture

3. Define the term *comminuted* as it relates to a fracture.

4. Circle the correct choice in the context of the following sentence:

   The (anterior superior, anterior-superior) iliac spine appears intact.

5. Circle the word with the correct spelling in the context of this sentence:

   The ankle (mortis, mortise, mortice) is intact.

6. Explain the meaning of this sentence:

   Please correlate these radiographic findings clinically.

7. What is the difference between *hemithorax* and *hemothorax*?

8. Define the term *occult*.

9. Circle the preferred choice within the context of the following sentence:

   The mass measured out at approximately 3 (cubic millimeters, mm3, cu mm) in size.

10. What is the meaning of the abbreviation *L5-S1*?

11. Circle the correct word based on the context of the following sentence:

    An attempted ERCP was aborted because of failure of (canaliculization, canalization, cannulation).

12. Define the phrase *scout film* and explain why it is used.

13. Which of the following is the preferred way to transcribe "microcuries"?

    A. microcuries
    B. mCi
    C. uCi
    D. µCi
    E. µCi's

14. What is the plural form of the word *prosthesis*? The adjectival form?

15. Circle the correct choice in the context of the following sentence:

    An (azygos, azygous) lobe was apparent on AP and lateral chest radiographs.

16. What is wrong with the following sentence?

    On skull radiographs, the calvarium appears to be intact.

17. Of the following sentences, which one of the italicized words or phrases is correct?

    A. There was no sign of *metacarpal-phalangeal* joint injury.
    B. A *soft tissue mass* measuring 3 x 6 mm was noted in the anterior aspect of the left breast.
    C. The intravenous pyelogram was positive for *renolithiasis*.
    D. The *sternal-cleidomastoid* appeared to be intact.

18. The prefixes *peri* and *para* are frequently confused. Circle the correct choice in the following sentence and explain the rationale behind your selection.

    The right and left (parapharyngeal, peripharyngeal) spaces were free of mass or adenopathy.

ANSWERS

1. The plural form of *phalanx* is *phalanges*; the adjectival form is *phalangeal*.

2. D. The correct phrase is *left arm fracture*; no hyphen is used. *Small cell carcinoma* is one entity. A *risk group* is one entity, so no hyphen is used after *higher*. *Right-sided* is a permanently hyphenated phrase (compare *right-handed*).

3. The term *comminuted* refers to a type of fracture in which the broken ends of the bone are crushed into smaller fragments.

4. *Anterior superior* is the correct choice. While a hyphen is ordinarily used to join two contrasting directions, the *anterior superior iliac spine* is one anatomical entity and is read as one unit. Hyphens are seldom used with anatomical entities.

5. The correct choice is *mortise*. *Mortis* is a Latin word meaning *of death*. It is combined to form *rigor mortis* and *livor mortis*. *Mortice* is an alternative English spelling for *mortise* when referring to carpentry. It is not used in orthopedics.

6. To correlate the radiographic findings clinically is a request from the radiologist to the patient's attending physician to review the x-ray findings and relate or match them to the patient's clinical symptoms.

7. *Hemithorax* refers to one side of the chest. *Hemothorax* means blood in the chest.

8. The term *occult* comes from the Latin word *occultus* and means *hidden from sight*; having a concealed existence or meaning.

9. The correct answer is *cu mm*. *Cubic millimeters* is very long to write out, and mm^3 uses the dreaded superscript, which some computers cannot produce and which also may not transmit electronically.

10. *L5-S1* stands for the fifth lumbar vertebra and the first sacral vertebra.

11. The correct choice is *cannulation*, which means the insertion of a cannula or tube into a body structure. *Canaliculization* refers to the formation of extremely narrow passages. *Canalization* is the formation of a canal or pathway for drainage. The latter two do not imply the insertion of a tube or cannula, however.

12. A scout film is a preliminary x-ray obtained prior to performing the major portion of a particular study. There may be one or more reasons to get a scout view: to make sure the region of interest is included in the field of view, to check the exposure technique, or as a baseline prior to administration of contrast material.

13. A. microcuries. Choice B is the abbreviation for millicuries. Choice C uses the letter *u*. Choice D is the correct abbreviation for "microcuries," but it takes a special character (the Greek letter μ), which may not transmit properly electronically. Choice E is incorrect because the possessive apostrophe "s" is not used with units of measure.

14. The plural form of *prosthesis* is *prostheses*; the adjectival form is *prosthetic*.

15. Azygos lobe. *Azygos* means single, not paired, and *azygos lobe* is one anatomical entity—a compound noun read as one unit. *Azygos lobe* and *azygos vein* appear in most medical dictionaries.

16. The word *calvarium*, although frequently dictated by radiologists, is an incorrect term. The proper word is *calvaria*.

17. Selection B is correct. The phrase *soft tissue mass* is not hyphenated because *soft tissue* is an anatomical entity (a compound noun). Hyphens are not used with most anatomic compound nouns. Selection A is incorrect; the correct phrase is *metacarpophalangeal joint*. Selection C is incorrect; *renolithiasis* is an incorrect form. Selection D is incorrect; the proper spelling is *sternocleidomastoid*.

18. The correct choice is *parapharyngeal*. *Peri* means *around*, and *para* means on the *side*. The doctor said *left and right*, which would indicate two sides (parapharyngeal).

Linda C. Campbell, CMT, FAAMT, served as both Director of Education and Director of Product Development for Health Professions Institute for over 20 years. During that time she helped to develop *The SUM Program* and many references and texts (in particular *The Medical Transcription Workbook*) and participated in numerous teacher training workshops throughout the country. She is currently a freelance writer, editor, and curriculum consultant. Contact her at **Pacifica10@gmail.com**.

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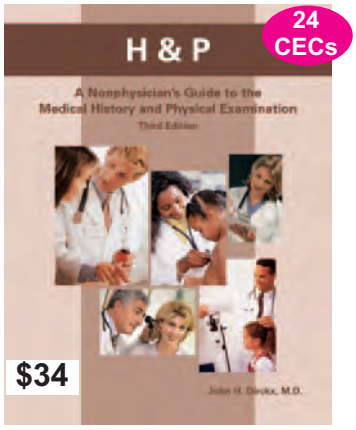
The third edition of ***H & P: A Nonphysician's Guide to the Medical History and Physical Examination***, written by John H. Dirckx, M.D., explains the history and physical report step by step. It aids both novice and experienced transcriptionists in deciphering difficult dictation and can be used as a study aid for credentialing exams.



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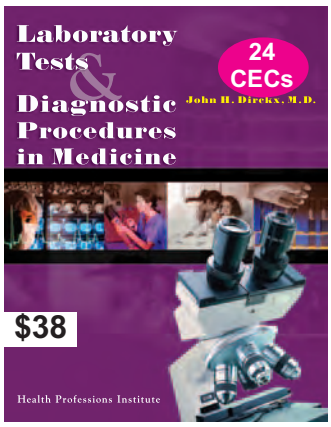
Laboratory Tests and Diagnostic Procedures in Medicine, by John H. Dirckx, M.D., is in workbook format and was written especially for medical transcriptionists.

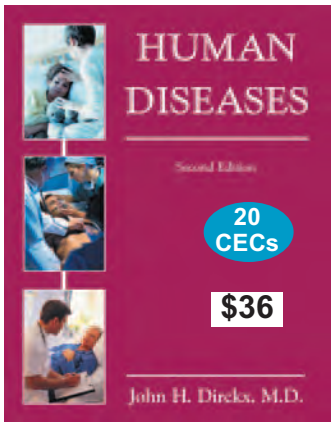
It covers diagnostic studies, including imaging (MRI, CT, PET, ultrasound), EEG, EMG, endoscopy, electrophysiology, genetic testing, and more. It also includes the usual lab and path studies that are important to MTs for understanding what's going on in the report and editing, and for risk management, coding, and chart analysis.



Other features include more extensive illustrations, historical sidelights, a glossary, an index, and lab values.

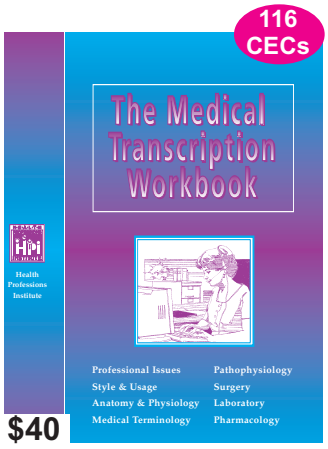
Human Diseases, 2nd edition, in a workbook format, contains the latest information on the diseases most commonly encountered in dictation, including causes, symptoms, diagnostic tests, diagnoses, and treatment regimens. Dr. John H. Dirckx's clear writing style and systematic, self-contained topical organization make *Human Diseases* an ideal and easy-to-use desk reference on disease processes. Students, teachers, and anyone preparing for credentialing exams will appreciate the enhanced exercise section, including review questions and learning activities:

- Chapter outlines
- Learning objectives
- Labeled illustrations
- Word origins
- Glossary
- Comprehensive index
- "Case Study: You're the Doctor" where readers are challenged to make medical and ethical judgments from the doctor's perspective.



The Medical Transcription Workbook is valuable for MTs and students. This 476-page book comes with a separate answer key booklet and contains review challenges and worksheets on these essential topics:

- Professional Issues
- Style & Usage
- Anatomy & Physiology
- Medical Terminology
- Surgery
- Pathophysiology
- Laboratory
- Pharmacology



Looking at Language

Conan the Grammarian

by Richard Lederer, Ph.D.

Call me Conan the Grammarian: Undangler of Participles, Destroyer of Gratuitous Apostrophes, Protector of Pronoun Case. I know that I am not alone in this reaction. Riding this planet are millions of us for whom atrocities of standard usage squeak like chalk across the blackboard of our sensibilities.

I am not Conan the Unsplitter of Split Infinitives, the Terminator of Terminal Prepositions. The injunctions against cleft infinitives and terminal prepositions are completely bogus. Such proclamations exist as sheer rumor and gossip. They are never enshrined in reputable usage manuals.

I own a Ph.D. in linguistics, the scientific study of language, so I'm supposed to see language change as neither good nor bad but natural evolution. I am aware that English is a living language. Like a tree, language sheds its leaves and grows new ones so that it may live on. But to recognize the reality of and the need for change does not mean that we must accept the mindless permissiveness that pervades the use of English in our society.

I consider myself to be a compassionate prescriptivist. I understand that just as one never steps into the same river twice, one cannot step into the same language twice. Even as one enters, words are swept downstream into the past, forever making a different river. But—and please allow me to employ yet a third metaphor—standard usage is written on the sand. That sand may one day erode or blow away, but at any moment in history, the rules of usage are written in the collective consciousness of caring and careful users of our language. One day "Me and Mary have a ball with language" and "The book is laying on the table" may be Standard English, but not now.

I truly believe that to reap the full fruits of American civilization (hmmm, a fourth metaphor), one must be in control of the dialect we call standard English, the dialect that most books and business reports are written in and most broadcasts are broadcast in.

There are those who contend, "Who cares how you say or write something, as long as people understand you?" This is like saying, "Who cares what clothing you wear, as long as it keeps you warm and covers your nakedness?" But clothing does more than provide warmth and cover, just as language does more than transfer ideas. The sensible man and woman know when to wear a business suit and when to wear a T-shirt and shorts, when to wear a tuxedo and when to wear a flannel shirt and dungarees. So that's my fifth metaphor/analogy: Both clothing and language make statements about the wearer and the user.

Thus, in an effort to make the world a better place, I cleave to Conan the Grammarian's Three Rules of Correcting Others:

1. Are you right?
2. Will it make a difference?
3. If conditions (1) and (2) are met, do the correcting in private.

I visit my doctor, and his nurse instructs me to "lay down on the table." I am excruciatingly aware that millions of Americans seem unable to distinguish between *lie*, an intransitive verb that means "repose," and *lay*, a transitive verb that means "put." They do not grasp that once they're done laying a book on the table, it lies—not lays—there. Pardon the fowl language, but a hen on its back is lying; a hen on its stomach may be laying—an egg.

But enough (please don't ask me to quantify when enough is "enough") of us standard English speakers and writers adhere to that distinction that I feel that I'm right about enforcing it in reasonably formal situations. And in the case of the nurse, who's probably misusing *lay* many times each day and could lose the doctor business, I feel that my interposition will make a difference. So, with a smile, not a sneer, I correct her in the privacy of the examining room and hope that she won't seek revenge on me by ordering up three successive prostate probes.

I'm speaking before a group, and the master of ceremonies asks me if I want to place my notes "on the podium." I think to myself, "How could I stoop so low?" but I do not correct my host. It's true that etymologically a lectern (from the Latin *lectura*, "to read") is the slant-topped desk, while a podium (from the Greek *podia*, "foot") is the small base on which the speaker stands, but my personal polls show that more than 90% of the U.S. population (and this includes my surveys of English teachers) uses podium to stand for either item of furniture. So I hold my tongue.

I know that anxious and eager have both been used for centuries to mean "characterized by anxiety." But enough of

us Standard English users distinguish between "I'm eager to meet you" (happy anticipation) and "I'm anxious about meeting you" (evincing anxiety) that I feel urges to correct those who say or write, "I'm anxious to meet you." On the other hand, so few of us cleave to the belief that something that encourages health is healthful and makes us healthy that I do not don my Conan the Grammarian cape for that battle. In fact, I congratulate the folks who came up with the name Healthy Choice for the frozen food line. They're selling a lot more packages than if they'd named the product Healthful Choice.

Should we feel badly about "I feel badly"? Although "I feel badly that I let you down" represents an admirable attempt to differentiate physical ill being ("I feel bad") from emotional ill being ("I feel badly"), much in the manner of "I feel good" vs. "I feel well," "feel badly" has been criticized for about a century.

When I ask the offended why they object, their voices slip into the tonal groove that the century-old explanation has worn for itself: "If you feel badly, your finger tips must be sandpapered or Novocained, or you're wearing thick gloves." Har har—but for a great number of people this disapproval is very real.

When I attempt to explain to the finger waggers that the *badly* in *feel badly* is not an adverb but an adjective, in the manner of costly, elderly, friendly, kindly, sickly, and more than a hundred other adjectives that wag *–ly* tails, they still feel strongly (ahem!) that *feel badly* is somehow wrong headed. So at this juncture in our history, to avoid the disapproval of others, I recommend that you feel *bad*, not *badly*.

Do students graduate from an institution, or do they graduate that institution? Well, an institution graduates its students. Therefore, the most logical way to say and write about an awarding of diplomas is "I was graduated from Bilgewater State in 1968," and that passive construction was the traditional idiom from the 16th century into the 19th century.

Gradually "I graduated from" came in and supplanted "I was graduated from," except in highly formal statements, such as wedding announcements: "Born and raised in Philadelphia, the groom was graduated from the University of Pennsylvania." Nowadays many Americans, especially younger ones, like to drop prepositions and particle verbs and say, "Let's hang," "Can you deal?" "Don't cave." Thus, there is pressure to say and write, "I graduated Bilgewater State in 1968." Nonetheless, "I graduated from" remains the standard idiom—for now—and I, Conan the Grammarian, stoutly defend it.

Part of being a compassionate corrector is knowing when not to correct even a blatant boo-boo. Almost thirty years ago, my 13-year-old son brought home a sign he had lovingly crafted in junior high school wood shop. It read THE LEDERER'S. You see this apostrophe catastrophe in front of houses and on mail boxes everywhere: "The Smith's, "The Gump's." These "prespostrophes" are distressing signs of our times. Which Smith? Which Gump? Here we have an atrocity of both case and number in one felonious swoop.

Who lives in the house? The Smiths. The Gumps. The Lederers. That's what the signs should say. It's really nobody else's business whether the Smiths, the Gumps, or the Lederers own their domiciles. All we need know is that the Smiths, the Gumps, and the Lederers reside there. If you must announce possession, place the apostrophe after the plural: The Smiths'. The Gumps'. The Lederers'.

At that time, I didn't tell my son that he was a victim of a nationwide conspiracy of junior high school shop teachers dedicated to spreading apostrophe catastrophe throughout our land. You see, I'm a compassionate corrector.

The sign still sits in front of our home and I still haven't told my son, who's now 42. Why? I love my boy, and he still comes to visit.

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. His new title, *Comma Sense: A Fun-damental Guide to Punctuation*, with John Shore, is now available from St. Martin's Press. E-mail: **richard.lederer@pobox.com**

Consider the Alternatives: Perspectives on Complementary and Alternative Medicine

by John H. Dirckx, M.D.

On many issues, the American medical profession and the United States government do not see eye to eye. One subject that both have agreed to take seriously is the growing importance of alternative medicine in our culture.

Alternative medicine can be defined as a diverse group of healthcare systems, techniques, and products that are not currently part of conventional Western medicine as practiced by holders of medical degrees (M.D. or D.O.) and by their colleagues in the allied health professions. (Some physicians, particularly primary care physicians, have incorporated alternative methods such as acupuncture and hypnosis into their practices.) Recent surveys show that a large segment of the general public makes use of alternative medicine at least occasionally, and that a major slice of Americans' healthcare spending goes to alternative practitioners, including distributors of health foods and herbal medicines.

Although the benefits of many alternative therapies remain in doubt, their capacity to do harm is only too obvious. Practices such as herbal medicine and megavitamin therapy can interact adversely with more orthodox forms of treatment. Some herbal products and other unconventional modes of treatment (coffee enemas, acupuncture with unsterile needles) can be lethal. Any alternative therapy may be harmful if it prevents a patient from receiving appropriate diagnosis and treatment.

Some alternative practitioners are overtly hostile to scientific medicine, make a practice of condemning physicians and hospitals for incompetence and dishonesty, and try to dissuade their clients from consulting legitimate healthcare providers. Often they claim that there is a conspiracy among health professionals to suppress alternative methods of healing or disease prevention so as to stifle competition and to make sure the public stays sick enough to require their continuing services.

In 1992 Congress established the Office of Alternative Medicine (OAM) within the Office of the Director, National Institutes of Health (NIH), to promote the scientific evaluation of alternative therapies and support training in fields not typically included in the curriculum of mainstream medical education.

In 1998 OAM was renamed the National Center for Complementary and Alternative Medicine (NCCAM). Whereas alternative medicine refers to a method or practice that is used instead of more conventional measures, complementary medicine implies something that augments or enhances the effectiveness of standard therapy when used along with it. This somewhat artificial distinction was evidently contrived as a sop to advocates of unconventional health practices who perceived *alternative* as a pejorative term. Apparently no one has thought of substituting a more appropriate word for *medicine* in these phrases, which by definition refer to theories and practices outside the field of modern scientific medicine.

Alternative medicine is also often referred to as *holistic medicine*. Such usage stretches the meaning of that term beyond its primary sense (discussed below). Yet another term often used is *integrative medicine*. This too can be ambiguous. (Both Greek *holos* and Latin *integer* mean 'whole' in the sense of 'sound, intact', but both can also imply breadth of vision or ecumenism.) For the sake of simplicity, I will use the abbreviation *CAM* throughout this article to refer to complementary and/or alternative medicine practices.

The most recent statistics available on the use of CAM in the U.S. were released in May 2004 by NCCAM and the National Center for Health Statistics, a branch of the Centers for Disease Control and Prevention. These data were derived from a survey completed during 2002 by more than 30,000 adults in this country. Of those questioned, 36% reported using some form of CAM during the preceding year. When megavitamin therapy and prayer offered specifically for health reasons are included in the definition of CAM, the number rises to 62%. In fact, prayer for health reasons was the most commonly used CAM therapy.

The economics of CAM in the U.S. involves some staggering numbers. The survey quoted above did not include questions about healthcare spending, but the report included figures from national surveys conducted in 1997. In that year, the public spent between $36 billion and $47 billion on CAM therapies. Of that amount, between $12 billion and $20 billion was paid out of pocket—that is, not by insurance, HMO, or governmental third parties—for the services of CAM practitioners. (Many insurance plans do provide coverage for certain alternative therapies, such as acupuncture, biofeedback, and massage therapy.) Most people who use CAM use it to treat themselves; only about 12% of the survey respondents sought care from CAM practitioners.

Most definitions of CAM are negative in form or intent: methods of treatment not taught in medical schools; systems of healing offered by unlicensed practitioners; health systems not in accord with Western scientific medicine; health care not covered by insurance; therapy unavailable in U.S. hospitals.

Currently CAM encompasses a motley assortment of hygienic, diagnostic, and therapeutic ideologies and methods with just one thing in common: they have thus far failed to gain acceptance as part of mainstream scientific medicine because they lack both a valid scientific basis and adequately documented evidence of clinical efficacy. (Scientific medicine employs many methods that theoretically ought to work but usually don't, and many others that work even though nobody knows why.)

Some forms of alternative medicine differ from traditional medicine only in preferring natural or hygienic methods to drug treatment and surgery, and many share a holistic view of human health, emphasizing integration of body, mind, and spirit. But many alternative health systems are based on false or inconsistent ideas about human anatomy, physiology, pathology, and pharmacology, or are rooted in ancient or modern philosophical or religious systems. Still others are simply criminal impostures designed to exploit unsophisticated healthcare consumers and those whose needs scientific medicine has failed to meet.

A classification used in the report of the 2004 survey breaks down CAM into five domains:

1. Biologically based practices use substances found in nature, such as herbs, vitamins in high dosage, and special diets.

2. Energy medicine is based on the belief that fields of energy surround and penetrate the human body.

3. Manipulative and body-based practices involve posture, touch, massage, and other manipulations of one or more parts of the body.

4. Mind-body medicine endeavors, by a variety of techniques, to enhance and fine-tune the resonance between the mind and bodily function and well-being.

5. Whole medical systems are built upon complete systems of theory and practice.

This is by no means a perfect taxonomy of CAM, in that some practices fit into more than one domain, while others don't seem to fit into any of them.

Who uses alternative medicine? According to the study conducted in 1997 and published in 1998, people who resort to alternative therapies tend to be in poorer general health than others and to suffer from certain chronic conditions, including anxiety, depression, headache, and backache. They also tend to be more highly educated, more sensitive to the role of mental and spiritual influences on health, and more likely to adopt unorthodox philosophical systems. Dissatisfaction with conventional medicine seems to play less of a role in their choice than a preference for a healing system that is congruent with their personal beliefs and values.

The 2004 survey found that CAM is used by more women than men and is more likely to be used by people who have been hospitalized in the past year and by former smokers, as compared with current smokers or those who have never smoked. According to the survey, CAM is most often used to treat or prevent chronic or recurring pain involving the back, neck, head, or joints. Other frequent indications are colds, anxiety or depression, gastrointestinal disorders, and sleep problems.

People who have no health insurance because they are unemployed, or because they can't afford it, also can't afford full-scale medical treatment when they need it. Alternative therapies typically cost less than standard ones.

The increasing availability of alternative therapies in the U.S., the appeal of alternative medicine to the general public, and the growing interest of government agencies and clinical researchers in exploring its possibilities can be traced to numerous factors. Here are some of the more cogent and obvious ones.

1. "A drowning man clutches at a straw." Our country is full of miserable, maladjusted people whom the legitimate medical establishment has failed utterly to help. In desperation even a skeptic will reach for an unconventional solution to a problem.

2. "There's a sucker born every minute." A large segment of the population is unequipped by nature, education, or experience to analyze critically the claims of health practitioners, including legitimate ones. Uneducated and unsophisticated persons are vulnerable to exploitation by con artists in every walk of life, including healthcare.

3. "*Omne ignotum pro magnifico*." Anything surrounded by an air of mystery tends to be held in awe. Proponents of sham therapies exploit this fundamental human weakness by burying their senseless rituals in a cloud of pseudoscientific mumbo-jumbo.

4. "Buddy, can you spare a million?" The costs of traditional scientific medicine are skyrocketing. People who have no health insurance because they are unemployed, or because they can't afford it, also can't afford full-scale medical treatment when they need it. Alternative therapies typically cost less than standard ones.

5. "Hands on." Long before there was a medical profession, primitive human beings must have discovered that touch, massage, and TLC have a beneficial effect on the course and outcome of many illnesses and injuries. Touch and manipulation have been part of medical practice since its beginnings. Physicians' hands were once their most important diagnostic and therapeutic tools. Today many medical and health practitioners tend to retreat from physical contact with the patient, distanced by high-tech gadgetry, the involvement of technicians and subspecialists, legal and time constraints, and a disinclination to become personally involved. In contrast, expressions of personal warmth and care for the patient, and physical contact with the practitioner, are features of many alternative practices.

6. "Let's find what's wrong with you and fix it." Traditional medicine is disease-oriented. In constrast, many alternative health systems appeal to patients by being proactive, positive, constructive, energy-oriented: "Live life to the fullest." "Realize your potentials." "A sound mind in a sound body." "Get into harmony with nature."

Traditional medicine is disease-oriented. In constrast, many alternative health systems appeal to patients by being proactive, positive, constructive, energy-oriented . . .

7. "The operation was a success but the patient died." Prescription medicines often cause severe side effects, and surgery may have an unsatisfactory or fatal outcome. In contrast, most alternative therapies are relatively innocuous, provided that they don't prevent the patient from receiving appropriate or standard therapy for serious illness.

8. "Certified quacks." Legislation imposing restrictions on fringe practitioners, establishing measures for their surveillance and control, and exacting licensure fees from them has often been perceived by the public as a stamp of legitimacy.

9. "If you can't beat them, join them." Many physicians and clinics have added alternative practices to their repertoire for the same reason that hamburger chains start selling fried chicken, and fried chicken chains start selling pizza: they can increase revenues and beat the competition by diversifying.

A crucial concept in 21st-century medical theory and practice is that of evidence-based medicine, which has been defined as the conscientious, explicit, and judicious use of the best available evidence in making decisions about the care of the individual patient. A major ingredient in such decision-making is the review of outcomes of clinical research as reported in the medical literature. Federally sponsored research on alternative therapies can be expected to supply a wealth of valuable documentation, positive or negative, and provide grounds for rational decisions by both sophisticated patients and conscientious physicians.

Here are capsule reviews of more than 20 types of alternative medicine, any one of which you may hear about in the next dictation you transcribe. Not all of the methods and systems described below have been taken seriously enough by NCCAM to become the subject of clinical trials. (One hopes that taxpayers' money is not being wasted on assessments of Christian Science and homeopathy, which are in effect denials of disease and treatment, respectively, or of nonsense like iridology and rolfing.)

acupuncture A family of therapeutic techniques involving manipulation of fine, solid, metallic needles inserted into specific points on the skin surface. In a broader sense, acupuncture includes application of heat, pressure, magnetism, electricity, or lasers at the same points. Acupuncture has been a component of Chinese traditional medicine for more than 2500 years. Its theoretical basis is that vital energy (called qi or chi) runs in fixed channels or meridians through the body and over its surface. These meridians are like rivers flowing through the body to irrigate and nourish the tissues. An obstruction in the movement of these energy rivers is like a dam that backs up the flow in one part of the body and restricts it in others; such an obstruction can lead to disease. Acupuncture needles supposedly restore health by unblocking these obstructions and reestablishing the regular flow through the meridians. The Standard International Acupuncture Nomenclature proposed by the World Health Organization includes more than 400 acupuncture points and 20 meridians.

Despite the difficulty of conducting clinical trials in which control subjects receive only sham acupuncture, there is clear evidence that needle acupuncture effectively reduces adult postoperative and chemotherapy nausea and vomiting, dysmenorrhea, postoperative dental pain, and some other kinds of pain. Animal and human experimentation has shown that acupuncture elicits both local and systemic neural and hormonal responses. The analgesic effect of acupuncture may be due to the release of opioid peptides (endorphins); this analgesia can be blocked by administration of the opioid antagonist naloxone.

Neither the meridian system nor the concept of qi can be reconciled with our current knowledge of anatomy, physiology, and pathology. Moreover, practitioners of different systems of acupuncture disagree on the location and use of acupuncture points. Many of the therapeutic effects of acupuncture can be achieved by applying stimuli other than needle puncture; these include lasers, heat, and mechanical and electrical stimulation. Acupressure is a variant in which manual pressure is applied at acupuncture points instead of needles being inserted. The term capitalizes on the interest in and popularity of acupuncture but involves a contradiction, since Latin *acu* means 'with a needle'.

A majority of states provide licensure or registration for practitioners of acupuncture. It has been reported that more than 1 million Americans receive acupuncture treatments yearly. The U.S. Food and Drug Administration regulates the manufacture and use of acupuncture needles as it does other medical and surgical devices. Needles are used once and discarded.

aromatherapy The use of aromatic oils extracted from plants for therapeutic purposes. Essential oils are obtained from plant sources (flower, leaf, resin, bark, root, twig, seed, berry, rind, and rhizome) by steam distillation, infusion, or extraction with an inert or carrier oil such as grapeseed, jojoba, or sweet almond oil. They are used therapeutically in various ways: in cosmetics (facial, skin, body, and hair care products), in massage lotions, by direct inhalation, and by use of a diffuser or candle that disperses scents into the atmosphere.

The ancient Egyptians used aromatic plants in preparing massage oils, medicines, embalming preparations, skin care products, and perfumes. Plant aromatics were also used in India as part of the practice of ayurveda. Oils from chamomile, geranium, lavender, marigold, patchouli, peppermint, tea tree, rosemary, sage, sweet marjoram, and many other plants are in current favor. Aromatic essential oils can be purchased by mail order and from many health food outlets and pharmacies.

Aromatherapy is seen by most of its advocates as a complement to, not a replacement for, medical treatment. Pleasurable scents can unlock memories, trigger positive emotions, and relieve stress. Aromatherapy is a widely accepted and generally innocuous form of alternative medicine. A few oils

(lemon, bergamot, angelica) sensitize the skin to ultraviolet light and may induce dermatitis after sun exposure.

art therapy A form of psychotherapy that uses both psychological theory and the creative process to help clients overcome mental and emotional disorders. Art therapy works with the human ability to create images in the mind and to translate these images outward with the help of materials such as crayons, chalk, paint, modeling clay, and computers. Using art in therapy can both reconcile emotional conflicts and foster self-awareness and personal growth through the creative process. In addition to its use in treatment, art therapy is a means of assessment and evaluation of individuals, families, and groups.

Art therapy combines traditional verbal therapy with nonverbal communication through art work. It allows for the reflection of dream, fantasy, and memory images in visual form, helps clients identify and express negative feelings that are too difficult to talk about, and can increase self-esteem and confidence. The art work also offers a permanent visual record for the client and therapist. It remains constant through time and is not subject to the distortions of memory. It acts as a direct statement by the client, avoiding the filtering of information by others.

Art therapists provide individual, group, and family therapy. They work in a wide variety of settings, including hospitals, schools, social service agencies, shelters, prisons, substance abuse treatment centers, and psychiatric care facilities, as well as in private practice. A professional art therapist must have a master's degree in counseling, including specialized training in art therapy, and must serve a supervised clinical internship. To receive certification by the American Art Therapy Association (AATA), therapists must satisfy basic requirements and pass an examination.

ayurveda (Sanskrit *ayu* 'life' + *veda* 'knowledge') One of the oldest complete medical systems in the world, an intricate program of healing that originated in India thousands of years ago. Its aim is to maintain or restore health by enabling one to understand one's own constitution and modify one's diet and lifestyle accordingly. Ayurveda emphasizes the mind-body relationship, and also postulates the existence within nature and the human body of forces or types of energy called tridoshas.

The basic theory of ayurveda is similar to the humoral doctrines of Hippocrates and Galen, and just as simplistic, naïve, and irreconcilable with modern science. Each individual is viewed as a unique blend of five elements (earth, air, fire, water, and ether or empty space). Imbalances in the constitution caused by faulty diet, weather changes, lack of exercise, failure to live in harmony with nature, and other factors can induce illness.

Corrective action depends on the individual's constitution and hence varies from person to person. Practitioners of ayurveda generally recommend lifestyle changes, diet, nutritional supplements, massage, meditation, and other measures to treat illness.

A crucial concept in 21st-century medical theory and practice is that of evidence-based medicine, which has been defined as the conscientious, explicit, and judicious use of the best available evidence in making decisions about the care of the individual patient.

biofeedback A therapeutic technique in which signals from the subject's own body are used to improve health or enhance performance. The term was coined in the 1960s to denote procedures in which subjects learned to alter or control blood pressure, pulse rate, muscle tension, and other functions that can be monitored physically or electronically. Subjects can use hand-held devices that flash or beep when blood pressure or pulse rate exceeds a certain limit.

Biofeedback has produced modest improvement in certain conditions, particularly those involving the autonomic nervous system or having a strong psychosomatic component, such as migraine and tension headache, urge incontinence, premenstrual syndrome, attention-deficit disorder, and panic attacks. Claims that subjects can control mental function through electroencephalographic monitoring (EEG neurofeedback) have not been substantiated.

biofield therapy A therapeutic laying on of hands with roots in ancient Chinese medicine. The theoretical basis is that a field of physical energy or life force—the biofield—permeates and surrounds the body, and that the practitioner can direct, modify, or amplify this field by touch. The healing force is believed to come from a source other than the practitioner—God, the cosmos, or some other undefined supernatural entity.

During biofield treatment, the practitioner places hands directly on or near the patient's body to improve general health or treat a specific dysfunction. Treatment sessions may take from 20 minutes to an hour or more; a series of sessions is often needed to treat some disorders. About 50,000 practitioners provide 18 million sessions annually in the United States.

chelation therapy Intravenous administration of ethylenediamine tetraacetic acid (EDTA) for the prevention and treatment of atherosclerosis. This agent, which binds metals chemically and facilitates their renal excretion, has been used for decades in the treatment of lead and other heavy metal poisoning. Norman E. Clarke, Sr., who developed the technique in the 1950s, observed that some patients treated for lead poisoning also seemed to show improvement in cardiovascular health, and speculated that binding and removal of calcium from atherosclerotic plaques by EDTA was responsible for the improvement.

On his recommendation and those of others, chelation therapy has been used for many years by some physicians to treat coronary artery disease, intermittent claudication, and other

Federally sponsored research on alternative therapies can be expected to supply a wealth of valuable documentation, positive or negative, and provide grounds for rational decisions by both sophisticated patients and conscientious physicians.

clinical syndromes due to atherosclerosis. Many patients have opted for chelation therapy rather than undergo bypass surgery or angioplasty. Although a course of treatment may cost several thousand dollars (not covered by Medicare or most other insurance plans), it is much less expensive than surgery.

The American Heart Association, after reviewing the available literature on the use of chelation in treating arteriosclerotic heart disease, has concluded that there have been no adequately controlled scientific studies using currently approved methodology to support this therapy. The United States Food and Drug Administration (FDA), the National Institutes of Health (NIH), and the American College of Cardiology concur. A recent study of chelation therapy, using rigorous methodology, determined that EDTA chelation therapy was no more effective than placebo in intermittent claudication due to peripheral vascular disease of the lower extremity.

Cardiovascular disease authorities point out that calcium is just one component of an atherosclerotic plaque. Atherosclerosis is a complex process involving cholesterol and other lipids, fibrous tissue, and calcium. Removal of calcium alone probably cannot relieve vascular occlusion. Moreover, using this form of unproven treatment may deprive patients of the well-established benefits of other methods of treatment.

chiropractic A method of healing employing spinal manipulation and other mechanical techniques, and based on the notion that the principal cause of human disease is misalignment of vertebrae with compression of nerves. Chiropractic was founded in 1895 by Daniel D. Palmer, a grocer of Davenport, Iowa, after he allegedly cured a longstanding case of deafness by manipulating the patient's neck. (It is perhaps unnecessary to observe here that no part of the vestibulocochlear nerve lies outside the skull.)

Palmer probably borrowed his theories and practices wholesale from Andrew Taylor Still, who founded osteopathy around 1874. While osteopathy has now repudiated its nonscientific origins and undergone a gradual rapprochement with medicine, chiropractic still clings to its invalid theoretical basis. In the early decades of this century, state legislatures were persuaded to license chiropractors in order to maintain surveillance and control of their activities. But the result of licensure was to lend an air of legitimacy to a groundless and fraudulent system of healing.

In 1993 more than 45,000 licensed chiropractors were practicing in the United States. Chiropractic "physicians" use manipulation but not drug therapy or surgery. Manual healing methods are based on the notion, common to many forms of quackery including iridology and reflexology, that dysfunction of one part of the body often affects secondarily the function of other discreet, not necessarily directly connected, body parts. Chiropractic "medicine" claims to restore and preserve health and correct dysfunctions by manipulating soft tissues or realigning body parts. The emphasis in diagnosis and treatment is on spinal misalignment allegedly causing disease and requiring adjustment. The diagnosis of spinal misalignment is often based on a trifling disparity of leg lengths or on narrowed intervertebral spaces supposedly visible on a single posteroanterior radiograph of the entire spine.

Chiropractic treatment that includes standard physical therapy modalities (heat, cold, massage, active and passive exercise, diathermy) can provide relief of some musculoskeletal pain problems. But in their aggressive marketing strategies, their adherence to the concept of spinal "adjustment," and their involvement in many other dubious forms of diagnosis and therapy, the majority of chiropractors remain outside the realm of legitimate, evidence-based healing. Chiropractors who cause the death of their patients are not sued for malpractice but tried for and convicted of manslaughter.

For decades, organized medicine endeavored to suppress chiropractic as a threat to the public welfare. Educational efforts were undertaken to awaken the public to the danger of using chiropractic manipulation for diabetes mellitus, cancer, and infectious diseases. Collaboration of physicians in the training and practice of chiropractors was pronounced unethical. But as a consequence of powerful lobbying by chiropractors for enhanced legal status and broadened scope of practice, and court actions against the medical profession for "restraint of trade,"organized American medicine has given up the struggle.

Christian Science The Christian Science Church was founded in 1879 by Mary Baker Eddy as a sect of Christianity based on Mrs. Eddy's interpretation of the Bible. Adherents of this religion are taught that disease, as well as the pain and other symptoms it causes, is an illusion, and can be cured only through heartfelt, disciplined prayer. Christian Science rejects not only medical and surgical treatment but even home remedies such as ice packs and massage.

The course of training for a Christian Science practitioner lasts two weeks. Practitioners are not licensed in any state and need not meet any legal standards. They often render prayer treatment by telephone without even seeing their patients. However, not only do they bill their patients like physicians and other legitimate health practitioners, but the U.S. Internal Revenue Service allows such bills to be deducted as medical expenses on income tax returns, and Medicare, Medicaid, and private and governmental insurance programs pay for such services.

Despite the claims of Christian Scientists that persons diagnosed with cancer, diabetes mellitus, and numerous other life-threatening disorders have been healed by the type of prayer advocated by the church, no scientific evidence supports such healing powers. Adherents of Christian Science who have withheld necessary medical treatment from their children with seri-

ous or fatal consequences have on several occasions been convicted of criminal negligence.

hair analysis A diagnostic procedure based on quantitative analysis of the mineral content of a sample of hair, usually taken from the back of the subject's neck. Proponents of hair analysis claim that it is useful for evaluating the subject's general state of nutrition and health and in detecting predisposition to disease. They also claim that hair analysis can determine whether mineral deficiency, mineral imbalance, or heavy metal pollutants in the body may be the cause of symptoms. Laboratory reports typically contain lengthy computer-generated interpretations, often including diagnoses of several potentially serious diseases, and generally recommending supplements of vitamins, minerals, nonessential food substances, enzymes, and extracts of animal organs to correct deficiencies.

Although hair analysis has limited value as a screening device for chronic heavy metal exposure, the consensus of legitimate medical authorities is that it is of no use in evaluating nutritional status or general health. Being nonliving, hair is perhaps the least sensitive indicator in the body of current biochemical status and equilibrium. Normal ranges of mineral concentrations in hair have not been defined. For most elements, no correlation has been established between hair level and other known indicators of nutrition status. Commercial hair analysis laboratories are not subject to independent proficiency testing or supervision or to compliance with reference standards. Hair mineral content can be affected by exposure to various substances such as shampoos, bleaches, and hair dyes, and no available technique can distinguish between bodily and environmental sources of mineral content. The level of certain minerals can be affected by the color, diameter, and rate of growth of an individual's hair, the season of the year, the geographic location, and the age and gender of the individual.

During the 1980s, several hair analysis laboratories were shut down by legal authorities and their operators prosecuted for health fraud or practicing medicine without a license. Hair analysis is still being used by chiropractors, "nutritional consultants," physicians who perform chelation therapy, and other dubious practitioners, who claim that hair analyses can help them diagnose a wide variety of diseases and can be used as the basis for prescribing supplements.

herbal medicine Use of various parts of plants to treat symptoms and promote health. Drugs of vegetable origin have been used in medicine for thousands of years, but many herbs that have long been recognized as effective have now been replaced by safer and more predictable synthetic compounds. The continuing popularity of herbal remedies with unlicensed and irregular practitioners as well as with the self-medicating public arises in part from their anomalous legal status.

The Dietary Supplement Health and Education Act of 1994 (DSHEA) classified vitamins, minerals, amino acids, enzymes, botanicals (herbal medicines), and certain components or derivatives of animal foods (organ and glandular tissues) as dietary supplements. This federal law exempts these drug entities, often called nutraceuticals, from the safety and efficacy requirements

No federal agency supervises or controls the potency or purity of herbal products. Random studies suggest that these products vary widely in potency (sometimes containing none at all of the labeled ingredient) and may often be adulterated with other agents or contaminated with pesticides.

and regulations that manufacturers and marketers of prescription and over-the-counter drugs must observe (e.g., preclinical animal studies, premarketing controlled clinical trials, postmarketing surveillance).

DSHEA allows product labeling to list nutritional benefits without preauthorization by FDA. A label can even make health claims ("may promote regularity," "helps maintain cardiovascular health") provided that it also bears a disclaimer stating that the product is not sold for the prevention, diagnosis, treatment, or cure of any disease. For many nutraceuticals, virtually no experimental data are available on efficacy, side effects, or drug interactions. Because an herbal remedy cannot be patented, a pharmaceutical manufacturer has little incentive to conduct research on its properties, beneficial or harmful.

Before the FDA can remove a nutraceutical from the market, it must show that the substance is unsafe. But because federal legislation has established no regular procedure for observing or reporting adverse events such as hypersensitivity, hepatic or renal toxicity, bone marrow suppression, fetal damage, or drug interactions, nutraceuticals are largely immune to federal ban.

No federal agency supervises or controls the potency or purity of herbal products. Random studies suggest that these products vary widely in potency (sometimes containing none at all of the labeled ingredient) and may often be adulterated with other agents or contaminated with pesticides. About one-third of the U.S. population uses herbal remedies at least occasionally, but more than 50% of these fail to disclose that fact during routine medical history-taking (e.g., before surgery). Among the more popular herbals are echinacea, ginseng, ginkgo, garlic, kava, St. John's wort, peppermint, valerian, and soy supplements.

holistic medicine A broad and imprecise term encompassing various theories and methods of healing that seek to integrate psychological, spiritual, and social elements of the causation, prevention, and treatment of disease with the more traditional and widely accepted biological elements of Western medicine. Systems and practitioners that identify themselves as holistic typically consider the "whole" patient and focus on prevention and wellness. Sometimes they seek to promote self-actualization, enlightenment, or attainment of a state of high-level healthiness in the manner of some Eastern religions.

But the term *holistic* (sometimes misspelled *wholistic*) medicine is often used synonymously with alternative or integrative medicine, particularly by physicians who have chosen to incor-

Today many medical and health practitioners tend to retreat from physical contact with the patient, distanced by high-tech gadgetry, the involvement of technicians and subspecialists, legal and time constraints, and a disinclination to become personally involved. In contrast, expressions of personal warmth and care for the patient, and physical contact with the practitioner, are features of many alternative practices.

porate alternative methods such as acupuncture and hypnosis into their practices.

homeopathy (Greek *homoios* 'similar, like' + *patheia* 'disease, suffering') A healing method invented by Samuel Hahnemann (1755-1843), a German physician who taught that *similia similibus curantur*—"likes are cured by likes." The basis of his theory was the observation that drugs given in excessive dosage sometimes reproduce or aggravate the very symptoms that, when given in standard dosage, they suppress. From this Hahnemann inferred that medicinal agents administered in minute quantities could somehow trigger a healing response and counter the symptoms (nausea, tachycardia, diarrhea) that larger doses of the same agents induced. Moreover, he declared that the smaller the dose, the more effective the agent would be in stimulating the natural healing forces of the body. Standard homeopathic preparations contain plant, animal, or mineral substances in such infinitesimally small concentrations—sometimes in a dilution of $1{:}10^{24}$—that they cannot be detected by chemical analysis.

Hahnemann also recommended exercise, a nourishing diet, and fresh air. In the early 19th century his doctrines, particularly his use of drugs with no side effects, appealed to many members of both the public and the medical profession, who were dissatisfied with the drastic and largely ineffectual methods of "scientific" medicine, which included bloodletting with lancet or leeches, blistering, and induction of violent vomiting and purging.

Schools of homeopathy survived into the 1920s, when reforms in medical education, and a widespread realization that the theoretical basis of homeopathic pharmacology is irrational, led to their collapse. Homeopathic remedies are still sold by mail-order houses and health food stores and are dispensed by some alternative practitioners.

hypnotherapy The use of hypnosis in various clinical applications, including pain control in minor surgery and dentistry, breaking unwanted habits (smoking, overeating), relief of psychiatric disorders (insomnia, anxiety, phobias), and symptomatic improvement in certain illnesses that are induced or aggravated by psychosomatic factors (asthma, migraine, sexual dysfunction).

Hypnosis is a natural trancelike state of altered consciousness, somewhat like daydreaming, that lies between sleeping and waking. Most of us fall into such a state at least occasionally. It is estimated that about 85% of the population can be deliberately placed in such a state by a professional hypnotist, and most people can be trained to induce the state in themselves. A person in a hypnotic trance displays alterations in perception, attention, and memory, and heightened responsiveness to suggestions and commands.

What we now call hypnosis has been offered as an explanation of many paranormal phenomena recorded in the Bible and secular history. It may be the basis of some forms of healing, including that practiced by the Asclepiads in the "sleep temples" of ancient Greece and some apparently miraculous cures associated with religious shrines or faith healers in modern times.

In the 18th century Franz Anton Mesmer discovered that he could induce a trancelike state in some persons, and concluded that he possessed a special power or gift, which he termed "animal magnetism." Although he was a charlatan at heart and his theories were preposterous, Mesmer drew the attention of impartial scientific observers to the phenomenon renamed "hypnosis" in the 19th century by James Braid. The observations of Sigmund Freud on hypnosis in hysteria and other psychiatric disorders were of seminal importance in his development of psychoanalysis.

But for many decades hypnosis was the almost exclusive province of stage entertainers, who brought the technique into disrepute. Only during the latter half of the 20th century has hypnosis been seriously studied and introduced as an adjunct to scientific medicine. In hypnotherapy, the trance state can be used to induce physical relaxation and emotional tranquillity, distract the subject from unwanted perceptions (pain, anxiety), and reprogram harmful patterns of response or behavior. It has also been claimed to improve self-confidence, memory, concentration, and performance in work or sports.

In treating psychiatric problems, the hypnotherapist can help the client recall and reinterpret suppressed memories. However, hypnotherapy is just a part of such treatment, which also includes cognitive (insight-oriented) and behavioral techniques.

iridology A diagnostic method that claims to identify acute and chronic illness by studying the color, texture, and brightness of the iris, as set forth in detail by charts. This pseudoscience was founded during the latter part of the 19th century in Europe by Ignatz von Peczely, Emil Schlegel, Nils Liljequist, and others. Practitioners claim to believe that the iris reveals, through changes in pigment and structure, abnormal conditions throughout the body; that the anterior portion of the iris "reflexly" corresponds in its topography to the major tissue structures of the body, each organ, gland and tissue being represented in a specific location in the left or right iris, or both; that the iris undergoes specific changes corresponding to pathological alterations in specific organs and tissues in the body; and that inherent weaknesses and strengths and the degree of nervous system sensitivity are shown in the iris by the crypts and

separations in the trabeculae, by trabecular spacing, and by parallel, curved "cramp rings" concentric with the outer perimeter of the iris.

macrobiotics (Greek *makros* 'long' + *bios* 'life') A way of life emphasizing healthful diet and lifestyle, with avoidance of foods, beverages, clothing, body-care products, and practices that are viewed as toxic, out of harmony with nature or the environment, or otherwise objectionable. The macrobiotic way of life takes into account all aspects of human life and acknowledges the interrelation of body, mind, and spirit.

The macrobiotic diet emphasizes "organically" grown foods, whole grains, and tofu, and avoids meat and animal fat, eggs, poultry, dairy products, hot spices and condiments, refined sugars, refined and polished grains, chocolate, coffee, tea, carbonated beverages, canned, frozen, or irradiated foods, and those that have been artificially colored, preserved, sprayed, or chemically treated.

The macrobiotic lifestyle also includes exercise, spending time outdoors, eating and drinking only to satisfy hunger and thirst, getting adequate sleep, and avoiding long baths, toxic cleaning products, synthetic fabrics, scented cosmetics, metallic ornaments and accessories, electric or microwave ovens, aluminum or Teflon-coated pots, and prolonged exposure to the electromagnetic fields generated by television sets and computer monitors.

massage therapy Massage therapy, one of the oldest methods in healthcare practice, is the scientific manipulation of the soft body tissues to return those tissues to their normal state. Massage consists of a group of manual techniques that include applying fixed or movable pressure and holding and causing the body to move. The hands are principally used, but sometimes forearms, elbows, and feet are employed as well. These techniques can affect the musculoskeletal, circulatory, and nervous systems. Massage therapy embraces the concept of a healing power in nature, and seeks to help the body heal itself and achieve or enhance health and well-being.

Massage therapists are licensed by 25 states and the District of Columbia. Most states require 500 or more hours of education from a recognized school program and a licensing examination. Massage therapy techniques include Swedish massage, deep-tissue massage, sports massage, neuromuscular massage, and manual lymph drainage.

naturopathy A system of healthcare using education, counseling, naturopathic modalities (nonmanipulative bodywork and exercise), and natural substances and forces including foods, food extracts, vitamins, minerals, enzymes, digestive aids, botanicals, air, water, heat, cold, sound, and light.

Naturopathy began in Europe during the 19th century with the work of various nonphysicians who proposed regimens based on diet, exercise, air, water, and sunlight to maintain and restore health. Central to all naturopathy is belief in a healing force in nature (*vis medicatrix naturae*) that can be stimulated and directed by a proper choice of diet and lifestyle.

Currently CAM encompasses a motley assortment of hygienic, diagnostic, and therapeutic ideologies and methods with just one thing in common: they have thus far failed to gain acceptance as part of mainstream scientific medicine because they lack both a valid scientific basis and adequately documented evidence of clinical efficacy.

orthomolecular therapy (megavitamin therapy) Orthomolecular therapy is defined by its advocates as the treatment of disease by varying the concentrations of substances normally present in the human body. The underlying presumption is that many diseases are caused by molecular imbalances that are correctable by administration of the right nutrient molecules at the right time.

In the 1950s some psychiatrists experimented with massive doses of nicotinic acid and other nutrients in the treatment of severe mental problems. Initially termed "megavitamin therapy," this mode of treatment was renamed "orthomolecular medicine" as the regimen was expanded to include other vitamins, minerals, hormones, and diet, as well as conventional drug therapy and electroshock. It is now used by a number of physicians for the treatment of both mental and physical illness, including particularly hyperactivity in children, mental retardation due to Down syndrome and other conditions, autism, schizophrenia, dementia, and cancer.

Dosages of vitamins and minerals administered in an orthomolecular regimen are typically 20 to 600 times the recommended daily allowances. All agents prescribed can be obtained without prescription. However, in the dosages administered, most of them can have toxic effects, particularly in children and during pregnancy.

A task force of the American Psychiatric Association that investigated the claims of psychiatrists espousing orthomolecular medicine noted that these practitioners used unconventional methods not only in treatment but also for diagnosis. Its conclusion was that the credibility of the megavitamin proponents was low, and that it was further diminished by their consistent refusal to perform controlled experiments and report results in a scientifically acceptable fashion.

osteopathy A system of therapy developed by Andrew Taylor Still (1828-1917), an American physician who believed that disease is caused by mechanical interference with nerve and blood supply and can be cured by manipulation of deranged or displaced bones, nerves, and muscles, particularly in the spine. In his autobiography, he claimed that he could "shake a child and stop scarlet fever, croup, diphtheria, and cure whooping cough in three days by a wring of its neck."

Still was antagonistic toward contemporary medicine and particularly surgery. Rejected as a cultist by organized medicine, he founded the first osteopathic medical school in

Osteopathic medicine has gradually repudiated its cultist roots and incorporated the theories and practices of scientific medicine. Except for additional emphasis on musculoskeletal diagnosis and treatment, the scope of osteopathy is essentially that of medicine.

Kirksville, Missouri, in 1892. The basic principles of osteopathy are that the human body is an integrated organism in which no part functions independently; that abnormal structure or function in one part of the body exerts unfavorable influences on the other parts and, therefore, on the body as a whole; that through a complex system of internal checks and balances it tends to be self-regulating and self-healing in the face of stress and disease; and that adequate function of all body organs and systems depends on the integrating forces of the nervous and circulatory systems.

Today there are 19 accredited colleges of osteopathic medicine, granting the degree of Doctor of Osteopathy (D.O.), and about 40,000 osteopathic practitioners in the United States. The American Osteopathic Association (AOA) recognizes more than 60 specialties and subspecialties, but a majority of osteopaths enter family practice. Osteopathic physicians are licensed to practice in all states.

Osteopathic medicine has gradually repudiated its cultist roots and incorporated the theories and practices of scientific medicine. Except for additional emphasis on musculoskeletal diagnosis and treatment, the scope of osteopathy is essentially that of medicine. The percentage of practitioners who use osteopathic manipulative treatment (OMT), and the extent to which they use it, decline yearly. Since 1985, osteopathic physicians have been able to obtain residency training at medical hospitals, and the majority have done so. Since 1993, DOs who completed osteopathic residencies have also been eligible to join the American Academy of Family Practice, which had previously been restricted to MDs or DOs with training in accredited medical residencies.

Despite the close assimilation of osteopathy to medicine, osteopathic organizations prefer to retain a separate identity and continue to exaggerate the minor differences between the two fields. They also claim that osteopathy is the only branch of mainstream medicine that follows the Hippocratic approach, and cling to the doctrine that the musculoskeletal system is central to the human health and well-being.

An exception to the rapprochement of osteopathy and scientific medicine is cranial osteopathy, also called craniosacral therapy, founded in the 1930s and currently practiced by some osteopaths, massage therapists, chiropractors, dentists, and physical therapists.

Practitioners of this method claim that the skull bones can be manipulated to relieve headache, neck and back pain, TMJ dysfunction, chronic fatigue, disorders of motor coordination, ocular problems, clinical depression, hyperactivity, attention deficit disorder, and many other conditions. They also claim that a rhythm exists in the flow of the fluid that surrounds the brain and spinal cord and that diseases can be diagnosed by detecting aberrations in this rhythm and corrected by manipulating the skull.

reflexology A method of therapeutic massage in which the practitioner applies pressure to the subject's feet with specific thumb, finger, and hand techniques. Reflexology is based on the theory that there are "reflex" points along ten longitudinal zones of the feet corresponding to other parts of the body, and the further premise that stimulation of these points can promote or restore health by balancing and normalizing the corresponding organ or structure. No official organization sets standards of training or professional practice or certifies practitioners.

rolfing A method of healing founded by Ida R. Rolf, an American biochemist, and based on the notion that the energy that radiates through the body produces injury and disease if the body is not aligned vertically with the pull of the earth's gravitational forces. Rolfers seek to remodel or realign the posture of sick persons toward the vertical ideal.

shiatsu (Japanese *shi* 'finger' + *atsu* 'pressure') A Japanese system of therapeutic massage based on traditional Chinese medicine, shiatsu is alleged to strengthen the immune system, mitigate pain, improve posture and breathing, and promote or restore health by correcting imbalances in the flow of energy and by enabling the subject to attain deeper self-awareness and inner harmony.

The subject lies fully clothed on a massage table, futon, or floor mat. The practitioner applies various forms of therapeutic touch (pressing, hooking, sweeping, shaking, rotating, grasping, vibrating, patting, plucking, lifting, pinching, rolling, brushing, and walking barefoot on the subject's back, legs, and feet) to some of the same points and energy channels, or meridians, used in acupuncture. The practitioner's fingers, hands, knees, or elbows may cover several of these points simultaneously. Advocates emphasize the importance of "touch communication" between practitioner and client. A session is sometimes referred to as a dance or duet performed by practitioner and client together.

tai chi (Mandarin *tai* 'highest' + *ji* 'reach') A Chinese system combining meditation and movement, designed to foster mental tranquillity and physical health and vitality. The movements of tai chi, many of which are derived from martial exercises, are supposed to favor the circulation and distribution of the life force, besides developing balance, coordination, and fine-scale motor control. Tai chi has historical connections with Taoism, a Chinese philosophical system founded by Lao Tsu in the 6th century B.C., which espouses a calm, reflective, and mystical view of the world steeped in the beauty and tranquillity of nature.

yoga (Sanskrit *yogah* 'union, joining') A Hindu discipline intended to train the subject to unite body, mind, and spirit in an attempt to enhance health and overall fitness and well-being. Yoga is thousands of years old and an essential part of the practice of ayurveda. It is not a religious system; spiritual reflection is encouraged but not required. Many ancient texts mention yoga, including the Rig-Veda (written approximately 2000 B.C.), the Upanishads (scriptures of ancient Hindu philosophy), and the Bhagavad Gita.

Yoga was introduced to the U.S. at the 1893 Chicago World's Fair. Of the many different forms of yoga, the one most commonly taught in this country, hatha yoga, uses postures, breathing exercises, and meditation. Postures (asanas) are designed to increase flexibility and to induce both physical and mental relaxation. Breathing exercises (pranayamas) emphasize deep, diaphragmatic breathing, which is seen as vital to the maintenance of health. Concentration on breathing is also central to meditation.

Yoga therapy is not generally considered disease-specific. It can alleviate anxiety, depression, and other emotional disorders, and in controlled studies has shown beneficial effects on some physical illnesses such as asthma. Improvement in symptoms is probably due to stress reduction, physical relaxation, and improvement in respiratory mechanics.

Yoga therapy is not generally considered disease-specific. It can alleviate anxiety, depression, and other emotional disorders, and in controlled studies has shown beneficial effects on some physical illnesses such as asthma. Improvement in symptoms is probably due to stress reduction, physical relaxation, and improvement in respiratory mechanics.

Yoga is taught in individual or group classes. No national standard for teacher certification exists. Persons beginning yoga therapy are advised to avoid pushing themselves beyond the limits of comfort and to take into account age, physical condition, and the presence of disease or disability.

John H. Dirckx, M.D., is the author of *Laboratory Tests and Diagnostic Procedures in Medicine* (2004), *Human Diseases*, 2nd ed. (2003), *H&P: A Nonphysician's Guide to the Medical History and Physical Examination*, 3rd ed. (2001), published by Health Professions Institute. He serves as a consultant to the publishers of the Stedman's medical reference works and as medical editor of HPI publications. He is a frequent contributor to the *Journal of the American Association for Medical Transcription*.

Update

What's New in Medicine

ACE (American Council on Exercise).

ACTOplus met (pioglitazone HCl and metformin)—drug for the treatment of type 2 diabetes.

Acuvue Advance—soft contact lenses for the treatment of astigmatism.

Advance knee system—components used in knee replacement surgery. Several models are available including medial pivot cruciate-sacrificing, double-high cruciate-preserving, and posterior stabilized knees. A feature of the system is that it makes use of a proprietary single reference point (SRP) technique in fitting and alignment.

Advia Centaur HAV IgM—a diagnostic immunoassay for IgM antibodies to the hepatitis A virus.

Advia Centaur HBc Total—a diagnostic immunoassay for IgG and IgM antibodies to hepatitis B virus core antigens.

Aldecount progenitor cell enumeration kit—an in vitro test that enumerates for diagnostic purposes functional aldehyde dehydrogenase bright, side scatter low cells, which have been shown to possess properties of hematopoietic stem cells. The enumeration process is based on an enzymatic reaction that is limited to metabolically active cells, eliminating the need for a viability marker. It is intended for use with fresh or frozen clinical samples from normal donors, donors mobilized with granulocyte–colony stimulating factor or some other mobilizing agent, or patients that have been mobilized or treated with chemotherapeutic agents.

altruistic donor—a person who donates an organ to a stranger.

AmpliChip Cytochrome P450 genotyping test—the first microarray DNA test to determine individual patient variations in the gene for the cytochrome P450 2D6 enzyme. The enzyme plays a key role in the metabolism of commonly prescribed drugs, including antidepressants, antipsychotics, beta-blockers, and some chemotherapy drugs. The test is intended for use in conjunction with clinical evaluation and other diagnostic tools to assist physicians in selecting optimal drugs and dosing regimens for each patient while avoiding common drug interactions.

andrologist—a doctor who specializes in men's health, especially the health of the male reproductive system.

andropause—coined term meaning the period in a man's life during which the production of testosterone begins to decline. (Cf. *menopause*.)

AnemiaPro—a self-administered anemia screening test for patients at significant risk for anemia from chronic kidney disease and HIV infection. The device provides a numeric reading of the patient's hemoglobin level, which is derived from a single drop of blood within 20 minutes. The reading is similar in accuracy to one obtained in a complete blood count.

Ant-Cer—a dynamic cervical plate in the SC-AcuFix system.

ape diet—a vegetarian diet that emphasizes soy protein, soluble fiber, nuts, and leafy green vegetables.

area under the curve (AUC)—a method of reducing the data plotted in a graph to a single figure by determining the area of the space bounded by the curve or slope and the horizontal or x axis. If the graph shows the concentration of a drug in the blood at various intervals after its administration, the area under the curve theoretically represents the average or overall rate of absorption. This area is calculated by whatever mathematical method works best. With a straight line it may simply be a matter of applying the formula for the area of a triangle. More complex figures may require the use of calculus. Chemotherapy dosing regimens use this method to minimize toxicity.

Aurora hair removal system—a proprietary electro-optical synergy platform, along with the derivative systems Galaxy and Pitanga, that combines electrical energy (bipolar radiofrequency) with optical energy to remove unwanted hair from skin types I to VI and for hair reduction.

Baraclude (entecavir) **tablets and oral solution**—drug for the treatment of chronic hepatitis B in adults.

BioBlanket surgical mesh—a soft tissue repair patch. The expanded indications specifically allow the product to be used for the repair of hernias and reinforcement of soft tissue in rotator cuff repair surgery. It also allows the product to be used in a wide variety of other surgical procedures, including repair of defects in the thoracic wall and rectal and pelvic floor reconstruction procedures, among others.

bitter blocker—a biochemical compound that reduces a patient's ability to taste.

Cancion cardiac recovery system (CRS) **procedure**—percutaneous catheter-based therapy for congestive heart failure, based on continuous aortic blood flow augmentation to the descending aorta. It creates an environment that allows the heart to rest while it recovers from an acute decompensation event. This procedure has been used at 40 research centers nationwide, and FDA approval is anticipated soon.

Champion drug-eluting stent—a stent coated with the immunosuppressant drug everolimus.

"crazy-paving" pattern—a common finding at thin-section computed tomography of the lungs. It consists

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of scattered or diffuse ground-glass attenuation with superimposed interlobular septal thickening and intralobular lines.

cross-trigonal tunnel—the radiologic appearance of a transversely lying distal ureter after nephroureterectomy and cross-trigonal reimplantation.

CRS (cardiac recovery system)—see *Cancion cardiac recovery system*.

David-Chausse classification—a means of grading inflammatory response in bone (such as that from tuberculosis); grades I-IV are used.

dedifferentiated—having undergone anaplastic change. Do not confuse with *undifferentiated* and *nondifferentiated*.

DuraSeal sealant system—a blue-colored synthetic absorbable hydrogel for use as a surgical sealant during elective pulmonary resection. When sprayed on the pleura of the lung, it forms a strong adherent hydrogel that effectively seals the suture or staple line within seconds and provides an airtight seal, preventing postoperative complications associated with alveolar air leaks.

Ellipse 12PL pulsed light system—a hand-held device used to administer pulses of visible light into the epidermis to reduce pigment and vascular disturbances in sun-damaged skin and improve its texture. The light is absorbed by melanin and converted into heat that destroys the cell areas in which it is stored (selective photothermolysis). Pulse length and energy are controlled to avoid damage to surrounding tissue. The system has been approved in other countries for hair removal and for the treatment of vascular lesions, pigmented lesions, and acne.

Emboshield filter—designed to capture emboli that can break off during a carotid stenting procedure. It is used in combination with the Xact stent. See *Xact carotid artery stent*.

Flextome Cutting Balloon dilatation device—used for the treatment of coronary artery blockages often resistant to conventional balloon angioplasty. It consists of a new balloon with three to four microsurgical blades (atherotomes) mounted lengthwise on its outer surface. When the device is inflated, the atherotomes score the plaque by severing the elastic and fibrotic continuity of the vessel with tiny incisions. The process allows expansion of the target lesion with less pressure on the vessel wall and may result in less trauma than with standard balloon angioplasty.

Fluarix—trivalent inactivated split influenza vaccine to prevent influenza types A and B in adults.

Freestyle Connect blood glucose monitoring device.

Freezor MAX—surgical cardiac cryoablation catheter.

Galaxy hair removal system—see *Aurora hair removal system*.

GE Discovery LS CT/PET scanner.

Genesis and Genesis XP (Advanced Neuromodulation Systems)—nonrechargeable implantable pulse generator neurostimulation systems to aid in the management of chronic intractable pain of the trunk and/or limbs.

Genesis RC and Genesis RC Dual—rechargeable implantable pulse generator neurostimulation systems to aid in the management of chronic intractable pain of the trunk and/or limbs, including unilateral or bilateral pain associated with failed back surgery syndrome, intractable low back pain, and leg pain.

golden hour—the hour immediately after a serious injury, when caring for the injury is critical to the victim's survival.

heliotrope—a variable color averaging a moderate purple that is bluer, lighter, and stronger than cobalt violet, manganese violet, or average amethyst, bluer and deeper than average lilac, and redder, stronger, and slightly lighter than mignon.

heliotrope rash—a periorbital, confluent, violaceous erythema with or without associated eyelid edema.

Hemoccult ICT—an immunoassay fecal occult blood test used for detecting fecal occult blood as an aid in colorectal cancer screening. It reportedly offers higher clinical sensitivity than traditional guaiac-based tests, without compromising specificity for lower GI tract bleeding. The test requires no drug or dietary restrictions.

HydroCoil Embolic System (HES)—for use in the embolization of intracranial aneurysms, and currently being studied for use in other parts of the body.

iFOBT (immunoassay fecal occult blood test).

InCompass screw—a thoracolumbar spinal fixation system designed to provide superior fixation with the benefits of reduced implant volume, lower profile and easier construct assembly.

Increlex (mecasermin injection)—drug for the treatment of short stature in children.

InhibiZone—a rifampin and minocycline hydrochloride coating for the AMS 700 CX and AMS 700 CMX penile prostheses.

InteDerm allograft dermal matrix.

IntePro polypropylene mesh—a mesh used in the repair of hernias and pelvic floor defects in women.

InteXen porcine dermal matrix.

irritable male syndrome (IMS)—anger and irritableness in men caused by a sudden drop in testosterone levels, particularly when brought on by stress.

Janus twins—characterized by the presence of two opposite faces which are composite structures, half of which belong to one twin and half to the other.

Update

LGV (lymphogranuloma venereum).

limited retinal translocation—a surgical procedure for the treatment of wet age-related macular degeneration. In the procedure, the eye wall is shortened and the macula is moved away from the abnormal blood vessel under it. Then laser surgery can be performed to destroy the abnormal blood vessels without harming the macula.

liposculpture—cosmetic surgery that attempts to shape the body by removing fat cells in areas where there is excess fat and, optionally, by adding fat cells to areas where padding is required.

Maroteaux-Lamy syndrome—see *MPS VI*.

marijuana patch—a medical patch worn on the skin and designed to release chemicals from marijuana that alleviate side effects caused by chemotherapy. Also known as a *pot patch* or a *doobie derm*.

milk of calcium sign—(1) On mammography, the content of microcysts and microcystic adenosis is often referred to as "milk of calcium." (2) The radiologic appearance of layering of calcific densities within a cyst in an organ such as the kidney or gallbladder.

Mityvac vacuum extractor cups—vacuum extractors used in vacuum-assisted deliveries. Models include "M" Select Mushroom, "M" Style Mushroom, MitySoft bell vacuum extractor cups.

MPS VI—abbreviation for mucopolysaccharidosis VI (Roman numeral 6), a debilitating, life-threatening genetic disease caused by a deficiency of the enzyme N-acetylgalactosamine 4-sulfatase. This gives rise to progressive cellular, tissue, and organ system dysfunction. The majority of individuals with MPS VI die from disease-related complications between childhood and early adulthood. Also called *Maroteaux-Lamy syndrome*.

Naglazyme (galsulfase)—orphan drug for the treatment of mucopolysaccharidosis VI (Maroteaux-Lamy syndrome, also known as MPS VI). See *MPS VI*.

open-ring sign—in magnetic resonance imaging, the appearance of an "open-ring sign" in the brain is indicative of a demyelinating brain disease, such as multiple sclerosis, as opposed to a tumor or neoplasm.

panitumumab—monoclonal antibody chemotherapy drug for the treatment of metastatic colorectal cancer. It works by inhibiting the epidermal growth factor receptor (EGFr) and is given in conjunction with other chemotherapy drugs.

PBC (primary biliary cirrhosis).

phage therapy—medical therapy that uses bacteriophage viruses to kill the bacteria that are causing an illness or infection.

Picolax (sodium picosulphate and magnesium citrate)—a bowel prep used in England prior to endoscopic procedures of the colon.

PillCam ESO video camera—a capsule equipped with miniature cameras on both ends, about the size of a multivitamin which can be swallowed easily, used in video esophagoscopy. The patient swallows the capsule lying down, and is then raised in a series of inclinations over a total of 5 minutes. The PillCam ESO travels through the esophagus by normal peristaltic waves, flashing 14 times per second, each time capturing images of the inner lining of the esophagus.

Pitanga hair removal system—see *Aurora hair removal system*.

prehypertension—a slightly elevated blood pressure level that, without treatment, could lead to hypertension.

Procedur-10 and Procedur-SF—syringes that allow healthcare providers to inject and aspirate fluids or tissues with one hand, reducing procedure time and patient pain. According to the manufacturer, the syringes have been used successfully in several applications, including arthrocentesis, local anesthesia, and joint injections. Use of the device is anticipated in interventional radiology, gynecology, prenatal diagnosis, anesthesiology, and surgical procedures. Note the spelling.

ProGuide chronic dialysis catheter—a catheter for use in the needleless connection of patients with end-stage renal disease to the dialysis machine. The over-the-wire catheter does not require a sheath, thereby facilitating its placement and potentially lowering the risk of air embolism.

retrogenesis—the loss of mental abilities in old age in the opposite order in which they are gained in childhood, especially as exhibited by Alzheimer patients.

SC-AcuFix anterior cervical plate system.

Scheuer staging—used to determine the degree of inflammatory response of liver biopsy tissue in chronic hepatitis, cirrhosis, and liver tumors.

selective photothermolysis—see *Ellipse 12PL pulsed light system*.

shawl sign—presents as intensely pruritic, symmetrical, confluent, violaceous erythematous macules which are photodistributed on the forehead, scalp, cheeks, neck, and upper chest. Sparing may occur in photoprotected areas.

sinistral portal hypertension—a rare and localized form of portal hypertension, the result of splenic vein thrombosis or obstruction.

sleep inertia—the grogginess and disorientation that a person feels for a few minutes after a sleep or long nap.

Sonablate 500—high-intensity focused ultrasound for treatment of prostate cancer.

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spur sign—in radiology, indicative of fracture in both the anterior and posterior acetabular columns (both-column fracture).

Stendhal syndrome—used to describe dizziness, panic, or paranoia caused by viewing certain artistic or historical artifacts or by trying to see too many such artifacts in too short a time. Named for the 19th-century French novelist, who is said to have been the first to write about the dizzying disorientation some tourists experience.

Stratis ST ACL reconstruction system—a device that allows arthroscopic reconstruction of a torn anterior cruciate ligament (ACL), with a reduced number of required steps in a procedure that eliminates complicated, time-consuming measurements.

stroke belt—an area in the southeastern U.S., particularly the states of South Carolina, Arkansas, Tennessee, North Carolina, and Georgia, that has an unusually high rate of strokes and other forms of heart disease.

subanular ventilation tube (SVT)—an alternative treatment for eustachian tube dysfunction in which the tube is inserted into a drilled groove under the posteroinferior part of the osseous anulus extending from the middle ear cavity to 5-8 mm into the bony ear canal.

Sykes Endobrowlift instrument set—endoscopic brow and forehead lift instrumentation.

tailgut cyst—a subcutaneous tumor at the coccygeal area, believed to be a vestigial remnant of the tailgut.

TheriLok bone void filler—a synthetic substance that creates a precise, controlled three-dimensional product conducive to new bone ingrowth. It comes in a variety of forms, including granules (TheriFil EXT), cylinders (TheriMatrix), struts (TheriLink), wedges (TheriWedge), wafers and small and large cross forms (TheriLok I and II). The manufacturer is Therics, and the product may be referred to as *Therics bone void filler*.

thread and streak sign—in radiology, it represents blood spaces and vessels (both veins and arteries) located in and around a tumor cast that is growing in a large branch and trunk of the portal vein.

thriver—an HIV-positive person who remains healthy.

TLC 55 stapling device.

t-ray—terahertz ray; electromagnetic radiation produced at terahertz (trillion cycles per second) frequencies that, like an x-ray, can penetrate solids, but that also enables the identification of certain molecules and substances.

type T personality—a personality type that regularly seeks out thrilling or dangerous experiences.

umbilicoplasty—plastic surgery performed on the navel, usually for cosmetic reasons.

uncanny valley—feelings of unease, fear, or revulsion created by a robotic device that appears to be, but is not quite, humanlike.

vanishing bile duct syndrome (VBDS)—term used to describe progressive loss of small intrahepatic ducts in a variety of diseases.

video pill—a camera approximately the size of a vitamin pill that, when ingested, transmits images from a person's stomach and intestinal tract.

Vitrase (ovine hyaluronidase)—for the management of vitreous hemorrhage, a serious condition affecting the back of the eye, for which there is currently no drug treatment.

voice lift—cosmetic vocal cord surgery designed to make a person's voice sound younger.

Vysis AutoVysion—automated scanning system for use with Abbott's fluorescence in situ hybridization (FISH) test (Vysis PathVysion HER-2 DNA Probe Kit) to assess HER-2 overexpression in breast cancer biopsy tissue. The PathVysion test is indicated for use as an adjunct to existing clinical and pathologic information currently used as prognostic factors in stage 2, node-positive breast cancer patients; and as an aid in predicting disease-free and overall survival with adjuvant cyclophosphamide, doxorubicin, and 5-fluorouracil chemotherapy in these patients. It is also indicated as an aid in assessing the eligibility of patients with metastatic breast cancer for treatment with trastuzumab (Herceptin, made by Genentech, Inc.), which is indicated for the treatment of HER-2–positive tumors.

Vysis PathVysion HER-2 DNA probe kit—see *Vysis AutoVysion*.

white-coat effect—the elevation of a patient's blood pressure readings caused by being in a doctor's office or clinic, or by being in the presence of a physician.

windmill artifacts—spiral artifacts presenting as hyperdense and hypodense structures around osseous edges on CT scanning.

Xact carotid artery stent—for use in patients who prefer a minimally invasive procedure or who are not good candidates for carotid endarterectomy. The stent is self-expanding and is intended to help restore the inner diameter of a carotid artery, promote a smooth inner vessel surface, and potentially reduce the release of fatty debris from a diseased vessel when it is treated, which can lead to stroke. It is designed for use in combination with the fully retractable Emboshield filter. See *Emboshield*.

z-flying focal spot (zFFS)—a periodic motion of the focal spot in a longitudinal direction on multidetector-row computed tomography.