Healthcare
ESSENTIALS

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A Glossary and Study Guide

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Contents

Healthcare
ESSENTIALS

Chapter 1

How to Use This Book to Get a Top Score

Are you thinking about how to get ready for an upcoming exam in one of the allied health fields? Do you need some help in putting all the pieces of test preparation together? If so, *Healthcare Essentials* will provide both the healthcare vocabulary and the test preparation tips that you will need—whether you are new to the field or have been an experienced healthcare professional for many years.

Perhaps you want to become certified as a healthcare professional, and you have yet to receive any medical training. You can use this book as a study guide and methodically work your way through it from cover to cover—from finding out new study strategies and memory tricks to using the glossary terms to create flash cards and study lists.

On the other hand, you may already have many years of experience as a home health aide or a physician's assistant, but you

want to gain advanced certification. If that's the case, you can use this book to brush up on basic study skills and to pick up some new ideas for different ways to remember healthcare terminology; further, you can use the glossary as a reference during your review of essential healthcare materials.

Or, you may be somewhere between these two extremes. You might reach for this guide on the job, to review medical jargon, or in a high-pressure situation. In any case, your copy of *Healthcare Essentials* should become well-used and dog-eared! Because this reference guide offers such a wealth of information, it is likely that you will return to it many times, for many years to come.

YOUR UPCOMING ALLIED HEALTH EXAM

Job prospects in the allied health fields are bright. You have probably noticed that allied health is a huge field, encompassing a wide range of career choices. These healthcare occupations are composed of professionals and paraprofessionals, assistants and aides, technologists and technicians, counselors and therapists. Your allied health exam may be preparing you for—or advancing you in—any one of these vital careers:

- **Health Aides**: including nursing home, home health, extended care, and assisted living
- **Technicians/Technologists**: including respiratory care, X-ray therapy, lab, EEG, surgery, medical record, orthotist, and radiology
- **Assistants**: nursing, medical, physician, physical, and corrective therapy

- **Therapists**: physical, occupational, respiratory, dance, speech/language pathologist, audiologist, and chiropractor

Let's take a closer look at the written allied health exam(s) that you may need to take to enter or further your career in healthcare.

Naturally, there is no single job description or set of professional standards that applies to each and every healthcare career. However, in order to get into many allied health programs, you have to pass one of these two exams: the Allied Health Professions Admission Test (AHPAT) or the Allied Health Aptitude Test (AHAT).

In addition, written certification exams are usually required within each healthcare specialty. Two examples, which we will describe later in this chapter, are the Nursing Assistant/Nurse Aide Exam and the Home Health Aide Exam.

While you can count on having to meet certain state or federal guidelines with regard to education and training, the amount of time you will need to invest to do so can extend from a few months to a few years. In many cases, these guidelines are set by professional associations in the field. State and/or federal agencies typically regulate the practice of these occupations, having the final say on whether you have the proper certification and credentials for the job. Most allied health fields require a period of practical training, during or following schooling.

Along with meeting any prerequisites for training, earning the right to practice in your field may require earning the extra credentials of certification, licensure, registration, or a combina-

tion thereof. Exactly *which* combination, however, again depends upon the healthcare occupation you choose and where you live.

Accredited allied health education programs across the nation often rely on the AHPAT or the AHAT for admission. At many schools, candidates for four-year or graduate degree programs for a range of allied health jobs must take the Allied Health Professions Admission Test. Similarly, the Allied Health Aptitude Test is often required for one- or two-year degree or certificate programs.

Input from educators and professionals in the field is used to determine the content of these exams. Both the AHPAT and the AHAT test for the basic level of knowledge, skills, and academic ability needed to succeed in a particular course of study within the allied health field.

WHAT IS THE AHPAT?

The AHPAT (once again, that's Allied Health Professions Admission Test) is required by many schools offering four-year baccalaureate or post-baccalaureate programs in allied health fields. Developed by the Psychological Corporation, whose website at www.tpcweb.com states, "The design and content of AHPAT reflects the types of abilities and aptitudes needed in allied health careers." The test is given four times a year, in January, April, September, and November, at over 70 sites nationwide.

You can obtain an application and registration information, called *The Candidate Information Booklet*, from the school you are applying to, at an AHPAT Test Center, or at the Psychological Corporation:

The Psychological Corporation
55 Academic Court
San Antonio, TX 78204-2498
800-622-3231
www.tpcweb.com

The AHPAT consists of approximately 300 multiple-choice questions. It takes about $3\frac{1}{2}$ hours (including a short break) to complete; its results are tallied within four weeks. The test has five content areas, each of which is timed separately. The exact number of questions can vary in each section; this table shows the average number per section.

Allied Health Professions Admission Test (AHPAT)	Average Number of Questions
Verbal Ability	75
Quantitative Ability	50
Biology	50
Chemistry	50
Reading Comprehension	45
TOTAL QUESTIONS, including experimental section	Approx. 300

As the tables indicate, with both the AHPAT and the AHAT, your test may include a "hidden experimental" section used by the testing agency to try out new questions. This additional section won't be scored, but you won't know which section it is when you take the test, so answer all the questions with serious intent.

WHAT IS THE AHAT?

The Allied Health Aptitude Test (AHAT) is also prepared and administered by The Psychological Corporation (www.tpcweb.com). This aptitude test is for applicants seeking admission to one- or two-year allied health education programs. You can obtain information and an application from the same address given for the AHPAT or by calling 800-622-3231.

Dental hygiene, respiratory therapy, radiologic technology, and medical lab technology are only four of the many healthcare fields that test with the AHAT. Allied health schools administer the test to groups or individuals periodically—check with the program you are considering. The test takes approximately $2\frac{1}{2}$ hours, with test results available within four to five weeks.

The AHAT consists of approximately 350 multiple-choice questions in four content areas (including the hidden experimental section, which does not count in your score). The table indicates the average number of questions per section.

Allied Health Aptitude Test (AHAT)	Average Number of Questions
Verbal Ability	90
Numerical Ability	60
Science	90
Reading Skill	40
TOTAL QUESTIONS, including experimental section	Approx. 350

You can also check career guides for more information about allied health fields, certification, and schooling. For practice tests, test preparation guides provide written test and practical skills (hands-on) exam information. See the last section of this chapter for a list of guides.

Websites such as LearnATest.com or internetexam.com also have information about certification and testing, as do the individual allied health schools that have their own websites.

THE NURSING ASSISTANT EXAM

The certification requirements for Certified Nursing Assistants (CNAs) currently vary from state to state, sometimes even within a state. If you already are licensed, certified, registered, or state approved in your own state and want to move to another state, you will need to request *reciprocity*. This means that you are asking the new state to recognize the approval you received from your home state. You may need additional training or testing.

Two excellent websites for resources on CNAs are:

www.nursingassistant.org
www.nursefriendly.com/nursing/jobs/certified.nursing.assistants.cnas.htm.

The Nursing Assistant/Nurse Aide Exam meets the national standards for CNAs; it contains approximately 100 multiple-choice questions covering the range of duties of a nursing assistant. The exam is not divided into sections; you may find questions on very different topics right next to each other. The test takes about $2\frac{1}{2}$ hours to complete.

Remember to check career manuals for more informa-

tion about CNA certification and schooling. For practice tests, test preparation guides provide written test and practical skills (hands-on) exam information. (See the last section of this chapter for a list.)

Once again, browse websites such as LearnATest.com or internetexam.com for information about CNA certification and testing. Individual nursing assistant programs and schools often have their own websites as well.

THE HOME HEALTH AIDE EXAM

Many states and local agencies require a written exam as part of the certification process for Home Health Aides (HHAs), though not all do. Contact your local or state health agency and get the certification requirements you need. Or visit www.bls.gov/oco/ocos173.htm for the U.S. Department of Labor's Occupational Outlook Handbook online. Another site for HHA resources is www.delmaralliedhealth.com/members/weblinks/homehealthweb.html.

The Home Health Aide Exam, which meets the new National Standards, contains approximately 100 multiple-choice questions covering the range of duties of a certified home health aide. The exam is not divided into sections; you may find questions on very different topics right next to each other. The test takes about $2\frac{1}{2}$ hours to complete.

Remember to check out career manuals for more information about HHA certification and schooling. A list of test preparation guides is in the last section of this chapter. Also, websites such as LearnATest.com or internetexam.com offer

information on certification and testing. Individual HHA programs and schools often have their own websites.

HOW THIS BOOK CAN HELP YOU

The entire process of preparing for an exam in the allied health fields—which can seem overwhelming at first glance—can actually be broken down into several manageable steps. *Healthcare Essentials* guides you through each of those steps. The first step is to finish orienting yourself with this introductory chapter. Then, move on to Chapter 2, which explains how to set up an individualized study plan and presents specific study strategies you can use during each study session. You will discover the steps to take to maximize your chances for scoring high on your upcoming exam. You will find out when to take sample tests, so you can check your scores and still have enough time to focus on the areas in which you need more work.

You will also increase your understanding and retention of the healthcare materials by using many different study strategies, not just one or two. You will learn how to avoid last-minute studying, and how to pace yourself.

While you are reading Chapter 2, take the time to create an individualized study plan that will fit your needs and schedule. This is a crucial step in the test preparation process. Also, be sure to take at least one practice exam from an allied health test preparation book or website, as recommended in the sample study plan. After you finish reading Chapter 2, spend some time trying out each different study strategy explained in that chapter.

Chapter 3 will show you how to create, use, organize, and review *mnemonic devices*, which are memory tricks that can help

you to overcome memory blocks during an exam. Mnemonics such as *acronyms* and *acrostics* can help you score extra points by teaching you how to remember lists and terms when you need to. As you will find out in Chapter 3, mnemonics are best used *after* you've become familiar with specific healthcare material. Mnemonics is not the best method for learning brand new material.

Finally, it's time to tackle the 900-term glossary section, which makes up the bulk of *Healthcare Essentials.* The glossary contains a wealth of essential healthcare terms that you will be either learning for the first time or reviewing. If you are new to the allied health field, this glossary may become the backbone of your study sessions. You will need to learn, or at least become familiar with, many of these important terms. Of course, both new-on-the-job and experienced healthcare professionals will appreciate having the glossary on hand in emergency and high-pressure situations, and as they encounter new medical jargon.

If you are an experienced healthcare provider who is seeking intermediate or advanced certification, *Healthcare Essentials* will be a valuable reference and review tool during your study sessions.

USE THIS BOOK WITH OTHER TEST PREPARATION MATERIAL

Healthcare Essentials fills an important gap left by many test preparation books because it contains a 900-word glossary. Additionally, most test prep books are only about questions and answers—they do not explain specific study strategies or show how mnemonic devices can help you remember difficult medical terminology.

That said, *Healthcare Essentials* is most powerful when used in conjunction with other test preparation material. If you are committed to becoming a healthcare worker, you should also invest the time and money in buying and using a test preparation book that includes several practice healthcare exams. See Chapter 2 for specific guidance on how to fit practice exams into your study schedule.

You will then have accessed the best of all worlds: reference material, practice tests, memory aids, and study tips. Put them together, and you have a winning combination.

You will find a variety of test preparation books at your local bookstore or library, or you can order them online. Here are suggested titles of test preparation books:

The Allied Health Entrance Exams (LearningExpress, New York, 1998)
Allied Health California (LearningExpress, New York, 1997)
Allied Health Florida (LearningExpress, New York, 1997)
Healthcare Career Starter, 2nd Edition (LearningExpress, New York, 2002)
Home Health Aide Exam (LearningExpress, New York, 1997)
Nursing Assistant/Nurse Aide Exam, 2nd Edition (Learning Express, New York, 2002)

In addition, the Internet also contains a wealth of test-prep resources for allied health exams. Some sites even offer online practice exams, complete with answer explanations, personalized scoring, and individual analysis. Many tests are now computer-based, meaning that when you go to take the exam, you will take it on the computer. Therefore, online practice tests are not

only a valuable learning tool, but they can also help you become familiar with and feel prepared for the official test, on test day.

You are now taking the necessary steps to earning a top score on your upcoming healthcare exam. Good luck as you enter or further your rewarding career in the allied health field!

Chapter 2

Studying for Success

Do you want to unlock the secrets of how to study for an allied health exam? If so, you have come to the right place. One key to successful test taking is to make your study process more *active*, and less *passive*. Active studying means you *do* something:

- Create and follow a study plan.
- Ask questions, answer questions.
- Brainstorm in creative ways.
- Think, write, summarize, and make connections.

And to help make your studying more active, this chapter of *Healthcare Essentials* explains how to create a study plan. You will learn specific strategies to make the most of each study session as you prepare for your upcoming exam.

The first step to successful studying is to set up a *study plan*. In other words, take a few minutes to create a study sched-

ule for yourself. This will allow you to get an overview of what you need to accomplish and when your deadlines are. As the saying goes, if you don't know where you're going, how are you ever going to get there? You will find the time you spend developing a study plan will serve you well.

Take a moment to think about your goal. Most likely, your goal is to pass a specific allied health entrance or certification exam. So let's work backward from the end result of passing your exam. How much time do you have? Can you plan out a leisurely schedule of study over several months or do you need to buckle down and get some serious studying done in a few weeks or less?

Making a study plan enables you to focus your efforts and make the most of your time. Note also that an important aspect of any study plan is flexibility. Your plan should help you, not hinder you, so be prepared to alter your study schedule as needed, as you work through your plan. It is likely that you will probably find some steps will take longer to complete than you had anticipated, while others will go more quickly.

CREATING YOUR STUDY PLAN

Take a look at the following sample study plan to help you create your own individualized study schedule. Each step of your plan should be adaptable, but you can use this timeline as a guide. If you have more time, you can expand the plan; if you have less time, you can compress it.

Sample Study Plan

This schedule is appropriate if you have approximately four to six months before your healthcare examination test date.

Four to Six Months Before the Test

- Read Chapters 1 to 3 of this book.
- Request all materials needed for your test.
- Buy a large calendar and mark the date of your test on it. Highlight or clearly emphasize the date with a bright color pen so it stands out every time you glance at the calendar. You can also use your computer's calendar.
- Purchase or borrow the appropriate allied health test preparation book that will help you to prepare for the examination. Titles of suggested books and online resources are listed throughout Chapter 1.
- Take a practice test, either online or from your test preparation book and carefully check your score. Note how you performed on the different topics appearing on the test. Create a graph or chart that has ample room to record several test scores, listing individual scores for each section as well. Save this chart to record and monitor your progress every time you take a practice test.
- Get in the habit of studying your healthcare materials every day. It's better to study 20 minutes every day of the week than to save up all those minutes and cram several hours of study into one day on the weekend.
- Experiment with using different study strategies discussed in this chapter and in Chapter 3. Perhaps you want to try a different one each week. Then,

when you find out what works the best for you, use that method for the rest of your studies.

Two to Three Months Before the Test

- Set aside a specific amount of time each day to review test areas you need to concentrate on to improve your score. Even if you can only squeeze in 15–20 minutes a day, those minutes add up over the course of a week and can dramatically improve your knowledge. Continue using a variety of study strategies during your study sessions.
- Take another practice test either online or from your allied health test preparation book. Record your scores on the graph or chart you created. Are your scores steadily going up or are they uneven? Determine which type of questions you got wrong so you can review those areas.
- Try to enlist the help of a friend or relative who will quiz you on important words and concepts you are studying. Your friend can use the glossary in this book to quiz you on healthcare terms and their definitions.

One Month Before the Test

- Verify the date and location of your exam.
- Confirm that your application to take the exam has been received and that you have been sent all the necessary materials.
- Make sure you know where the test will be held, what your transportation will be, and the directions to the test site.

- Continue to spend at least 15 minutes every day studying and reviewing healthcare material. If you can manage to spend more time in review sessions each day, that is even better. However, if you have been reviewing regularly for a couple of months, the reviews should take you less time since you are so familiar with the material. This is the most important part of studying for tests. The more familiar you are with the information that will be on the test, the better you will perform under testing conditions.
- Seek support and encouragement from those closest to you. If you live with others, remind them that you have a big test coming up and you need quiet time to study.

One Week Before the Test

- Take two more practice tests either online or from your allied health test-prep book. See how your scores compare with the tests you took at the beginning of your study plan. Try not to become anxious if your score is lower than you think it should be at this point. The reality is that you *do* know more than when you started studying, and it will show when you actually take the test.
- Concentrate on being well rested and relaxed about taking the test. Avoid stress and anxiety as much as possible. Each time you find yourself worrying about the test, repeat this mantra, "I am very prepared and I will do well on this test." Remember, you have

been studying hard for the past several months, using this book and other allied health test-prep material; if you have been keeping to your study plan, you should be well-prepared for your test. Thinking positive thoughts and visualizing a successful outcome helps prepare you mentally for doing well on the test.

- Continue your daily study sessions. Even if you feel that you already understand all of the material, spend time reviewing and creating mnemonics (you will learn more about mnemonics in the next chapter.)

The Day of the Test

- Get enough sleep the night before and eat what you consider a normal breakfast.
- Dress comfortably and in layers to adapt to the temperature of the testing room—it may be hotter or colder than you expect.
- Make sure you have all necessary items—pencils, glasses, watch, a sweater, and so on.
- Allow plenty of time to get to the test site.

WHAT WILL YOUR EXAM BE LIKE?

Find out as much as you can about how the test is organized. Possible places to research your exam are these: a test-prep or reference books for your healthcare field, allied health websites, and materials from the testing center or the test developers.

Stay Out of the Cram Trap

By creating a study plan, you can avoid the panic of cramming. Trying frantically to learn all the material you need to know the night before your big exam can frazzle your nerves and leave you too exhausted to do your best on test day. Besides, studies show that cramming does not lead to long-term retention of knowledge.

Every exam is different, but chances are the exam you take will be timed and will contain mostly, if not all, multiple-choice questions. Learn as many answers to these questions as you can:

1. What skills are tested?
2. How many sections does the test have?
3. How many questions does each section have?
4. Are the questions ordered from easy to hard or is the sequence random?
5. How much time is allotted for each section? Are there breaks between sections?
6. What is the passing score? How many questions do I have to get right to get that score?
7. Will a higher score give me any advantages, like a higher salary or a better rank on the eligibility list? If so, what score would be ideal, yet within reason for me?
8. How is the test scored? Is there a penalty for wrong answers? If so, what is it?

9. If I finish a section early, can I return to a previous section or move ahead to the next section?
10. Can I write in the test booklet, or will I be given scrap a paper for my work?
11. What should I bring to the test with me? Pencils? Calculator? Ticket of admission? Photo identification? Proof of citizenship?

SUCCESSFUL STUDY STRATEGIES TO USE

After you develop a study plan, the next step to successful studying is to decide what specific things you want to do during your study sessions. Using a variety of study strategies rather than simply reading and re-reading your textbook can help you make the material come alive so that you can thoroughly understand it and, therefore, retain it. You will avoid boredom during your study sessions by using the entire palette of study methods. Perhaps you want to use a different study strategy each time you sit down to study, or you could use a range of strategies throughout the day. For example, you could rewrite some notes in the morning, carry flash cards along with you during the day for those times when you find a few free minutes, and create some sample study questions during your evening study session.

Some study strategies will appeal to you more than others. However, give each strategy a chance by trying it at least once, because even if it doesn't look appealing at first glance, you might eventually enjoy it or find it effective. The remainder of this chapter discusses specific study strategies to choose from. Each strategy can help you understand and remember the material you need to know to ace that upcoming healthcare exam.

Asking Questions

The philosopher Socrates recommended it to his students: Ask questions. Asking questions is a powerful study strategy because it forces you to get actively involved in the material you want to learn. Getting actively involved will help you to better understand and remember that material when test time comes around. Another benefit of asking questions is that you will likely be asking (and then answering) some of the very same questions that appear on your exam.

Here are some sample questions you can ask yourself as you move through your healthcare materials:

1. What is the main idea in this section?
2. How does the information in this section relate to other information I already know?
3. What are the key terms in this section that I should memorize?
4. What are the facts from this section that I need to know for the exam?
5. How can I turn these facts into questions?

Of course, not all of the questions you ask about the material you are studying will appear on an exam; however, you will find that many of your questions will at least be related to information tested on the exam. It is much better to ask and answer specific questions than to aimlessly read and reread the text, without any goal in mind.

If you're having trouble coming up with questions based on the material you are studying, get out an allied health test preparation book that contains sample exams, and read through sev-

eral of the questions. The more practice tests you take, the more familiar you will become with the types of questions you can form from your own materials.

To give you an idea of how to create specific questions regarding material you are reading, take a look at the sample questions that follow this paragraph about burns:

> Because the body responds differently to different allergens, allergic reactions have been divided into four categories. Type I allergies, the most common, are characterized by the production of immunoglobulin E (IgE), a type of antibody the immune system releases when it thinks a substance is a threat to the body. IgE releases chemicals called mediators, like histamine, which causes blood vessels to dilate and release fluid into the surrounding tissues, usually resulting in a runny nose and sneezing. Type I allergies include allergic asthma and hay fever as well as reactions to insect stings and dust. Type II allergies, far more rare, are usually reactions to medications and can cause liver and kidney damage or anemia. The body sends immunoglobulin M (IgM) and immunoglobulin G (IgG) to the site to fight the infection. Type III allergies are usually caused by reactions to drugs like penicillin. The body releases IgM and IgG, but these allergens cause IgM and IgG to bind away from cell surfaces. This creates clumps of allergens and antibodies that get caught in the tissues and cause swelling, which can affect the kidneys, joints, and skin. Type IV allergies cause the release of mediators that create swelling as well as itchy rashes. These are usually skin reactions to irri-

tants like poison ivy, soaps, cosmetics, and other contact allergens.

Sample Questions

1. What would be a good title for this paragraph?
2. Which type(s) of allergic reactions result in swelling?
3. IgE, IgG, and IgM can be classified as what?
4. What is the main idea of this paragraph?

By asking questions about the material you read, you help cement into your mind the facts and ideas contained in that material. You can even go a step further and actually come up with multiple-choice questions. Your multiple-choice questions can be adapted from questions you have already asked yourself about the material, or they can cover new topics.

Creating multiple-choice questions gives you the chance to step into the role of a teacher (or test developer) and actually practice coming up with a correct answer in the face of several *distractors* (the other answer choices that are incorrect). Here's an example of the type of multiple-choice questions you could create based on the allergy reaction questions asked above:

1. Which of the following would be the best title for this passage?
   - **a.** Preventing Allergic Reactions
   - **b.** Determining the Causes of Allergies
   - **c.** Allergens and the Human Body
   - **d.** Four Types of Allergic Reactions

2. Which type(s) of allergic reactions result in swelling?
   a. Types I and III
   b. Types III and IV
   c. Type III only
   d. Types II and IV

3. IgE, IgG, and IgM can be classified as
   a. allergens
   b. mediators
   c. antibodies
   d. medications

4. Which of the following best expresses the main idea of the paragraph?
   a. Allergies cause different responses in the body.
   b. People should avoid things that may cause allergic reactions.
   c. Type I allergies affect the most people.
   d. Mediators play an important role in allergic reactions.

Now comes the fun part: answering the questions! (The answers for the above questions are **1. d**, **2. b**, **3. c**, **4. a.**) By the time you have gone through the process of developing questions based on a section of material you want to learn, you will probably already have a good idea of what the answers are. However, it's always a good idea to read through your questions to see if you can answer them without having to look back at the material. You can use your list of questions each time you want to review the material. If time permits, you can create additional questions during your review of the material.

You may want to keep all your written questions in a sep-

arate place (such as a notebook, three-ring binder, or folder), or insert them as pages among your notes in a notebook that you use in class or while studying your texts. One format for organizing your questions is to write down your questions and answers on sheets of paper that you can fold in half lengthwise. Then, write your questions on the left side and brief answers on the right side. That way, you can fold the paper with the answers underneath when quizzing yourself.

After studying your questions and answers, set them aside for a few days. Then, without looking at the answers, ask yourself the same questions again and see how many you can answer correctly. Jot down additional questions as they come to mind during your review. Often, your search for the answers to your questions will lead to more questions. The good news is the more questions you ask, the more answers you will find, and the more material you will know on exam day, and the more knowledge you will have of your profession.

Taking Notes

Taking notes in class (or on what you read) will help you to understand and remember the information you need to know on exam day. Proper note taking develops your thinking skills. It helps you to listen better and organize material—to later recall, digest, and interpret information.

The secret to taking good notes is knowing what is important enough to write down—and what is not. Four things that are important enough to record are:

1. main ideas and secondary ideas
2. authorities

3. opinions and facts
4. key terms

When you are sitting in class, listen closely for *main ideas*, or points. Learn to separate them from *secondary*, or supporting, points. A good instructor will identify main points for you, but sometimes you have to do this on your own. Here are some verbal clues that point toward a main or essential idea:

the reason is . . .
an important factor . . .
there are four things to consider . . .
the thing to remember . . .
the best (or worse, biggest, smallest, last, only, etc.) . . .

Secondary ideas are often buried within examples, so be alert to this fact when an instructor offers up an example, especially one that follows something you have identified as a main point.

Other details worth recording in your notes are authorities. *Authorities* are experts, research studies, journals, and other sources that lend weight to concepts and facts. A careful student writes down the ideas brought to light, but also notes if this material comes from an authority. Take the time to identify the authority in your notes.

You should also note or highlight opinions and facts. *Facts* are bits of information that are real or true. Mainly they are provable, demonstrable pieces of information. In contrast, *opinions* are beliefs or conclusions held by someone; they may not be objective or proven yet. It may be your opinion that facts are more important than opinions, but this is not necessarily so. An opinion on the future of genetic coding coming from the mouth of

the world's most prominent genetic scientist, for example, would have great value. As a note-taker, be sure you identify and separate what is opinion and what is fact. And any time you don't understand or don't accept a fact or opinion, be sure to put a question mark in your notes, so you can follow up on this point later.

Finally, you will probably hear *key terms*—words, names, or phrases—that are unfamiliar. Write new vocabulary down with their definitions, if given. Some terms may be defined for you by the instructor and some you may guess from context. *Context* is how a term is used in a sentence, how it works with the other words and ideas that surround it. If you do not have a definition for a term, be sure to ask about it or put a star next to it in your notes, to be looked up later. You will find over 900 healthcare terms and definitions in this book's glossary.

Translating What You Hear into Useful Notes

Taking notes is not simply a matter of recording everything you hear. It is a process of absorbing information, assessing it, analyzing it, and then, finally, writing it down so that your notes reflect this process. To do this, begin to outline what you are hearing in your mind as you hear it, and before you write it down.

Depending on the teaching skills of your instructor, you may need to work harder at understanding what he or she has to say and translating this into useful notes. Here are three strategies that instructors use to organize their lectures—use the same strategies to help you organize your notes:

1. beginning—middle—end
2. relevant—irrelevant
3. theme—subtheme

Most lectures have a beginning, a middle, and an end. This is something you can listen for and then structure your notes around. Try to divide what you hear, and also what you write down, into these three categories. If you are lucky, a lecture's beginning, middle, and end will reflect a subject's beginning, middle, and end; for example, a lesson on the trimesters of pregnancy.

Some instructors throw in a lot of stories, jokes, tangents, or irrelevant material to their lectures. Much of this does not belong in your notes and is a waste of time to write down. Learn to weed out irrelevant material or learn to use it to your advantage, when possible. This is easier said than done because irrelevant material is not always obvious.

Some teachers use anecdotes to illustrate important points, which can be either annoying or helpful. You may have to listen for a few minutes to separate the wheat (valuable information) from the chaff (extraneous material). On the other hand, you might jot down a few key words from the anecdote that will help you remember the underlying point. For example: "Organic compounds always contain carbon (pasta carbonera story)." You will see more on memory tricks in Chapter 3.

Asking for Help

If you need to ask a teacher for clarification, try to prepare specific questions first. You are more likely to get clear, specific answers. It's best not to wait until the last minute to get help; your teacher may not be available to you.

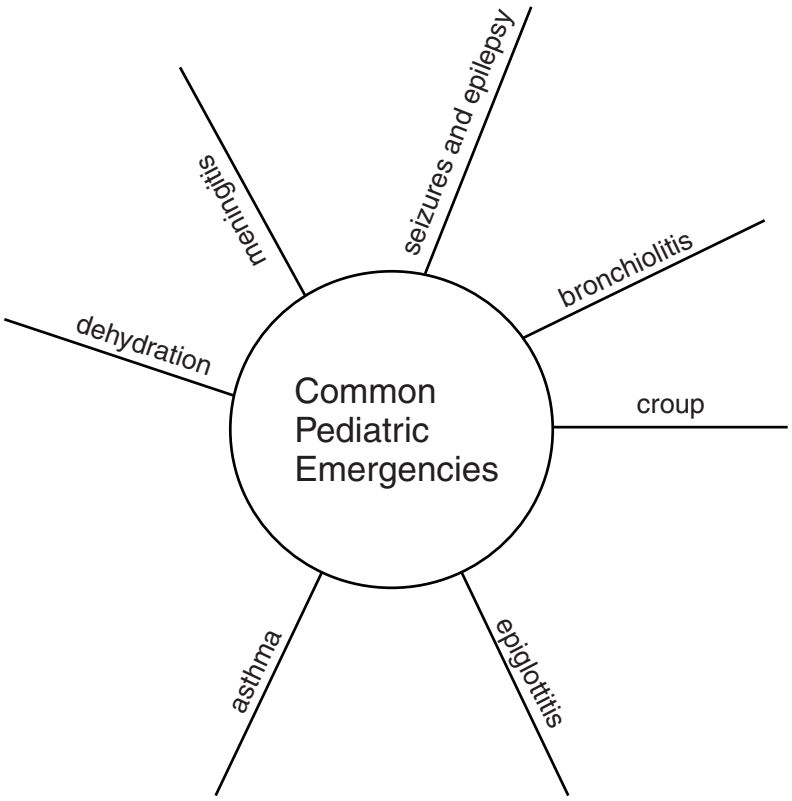
Other instructors organize their lectures around themes and subthemes. If your instructor is organized, the difference between themes and subthemes will be obvious. If your instructor is disorganized, however, you will have to write all the themes down and then go back over them after the lecture to identify which points are main themes and which are subthemes.

With any of these lecture styles, an excellent strategy for note taking is to write notes in a "draft" notebook during class. Then, after class, review, reorganize, and transfer your notes into a "final" notebook.

Mapping Information

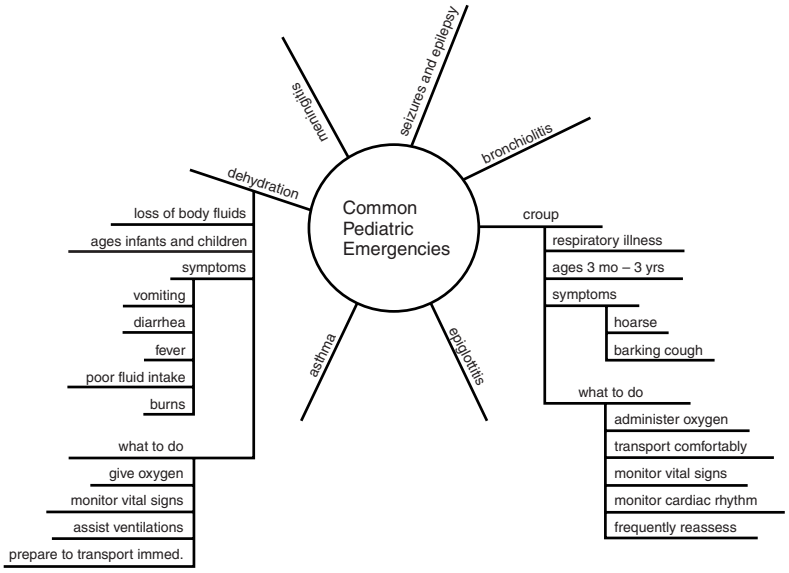
A map is a visual way of recording information you hear or read. Indeed, you can map information about anything you are studying, whether you are in a classroom listening to a lecture or are sitting in the library reading a textbook. If you enjoy visualizing, this is a good study strategy for you because when you draw a map of information, the relationships between topics become clearly visible.

The good news is that you don't have to be an artist to draw an effective map. The process is really quite straightforward. The first step is to get out a clean sheet of paper. Then, in the middle of that piece of paper, write down the main point, idea, or topic under consideration. Draw a circle around this main topic. Next, draw branches out from that center circle on which to record subtopics and details. Create as many branches as you need—or as many as will fit on your sheet of paper. Here is an example of a simple map; it has only one level of subheadings.



The level of detail you will include on each map depends on what you want to remember. Perhaps you already know part of a subject thoroughly but can't seem to remember any details about one or two particular subtopics. In that case, you can tailor the map to fit your needs. For example, consider a student who has studied seven common pediatric emergencies. He is very familiar with five of them: bronchiolitis, asthma, seizures and epilepsy, meningitis, and epiglottitis. However, he is having trouble remembering two of them: croup and dehydration. This stu-

dent may want to draw a map that includes all of the pediatric emergencies; in addition, the map should include specific details about the two subtopics that he has trouble recalling. Here's an example of this type of map:



Mapping information forces you to organize the information you are studying, whether that information is from your class notes, a special healthcare lecture, field visit, or an allied health textbook. Sometimes you will find that you need to spend considerable time coming up with an appropriate phrase, word, or sentence to write in the center circle of a map. Then you may need to spend even more time considering which topics are related to that main topic for the next level of branches. This is a process of making decisions and bridging connections between ideas and facts. That thought process alone makes drawing maps an effective study strategy.

Another benefit of mapping information is that after you complete a map, you have an excellent review aid. Because the material on a map is organized in a visual way, you will be able to recall that information more readily each time you review it. It gives the material you are studying a definite structure, a visual language.

One way to use a map as a review aid is to take one out and study it carefully for five to ten minutes. Then put it out of sight and attempt to recreate the entire map from memory. By forcing yourself to recall the items on the map, you ensure that those items are learned. You may find that you come up with additional information to add to the map while searching through your memory for the actual data you saw on the map.

Another way you can use a map you created is to review it several days or weeks later. At that time, add more details to the map. You can look through a textbook or your notes to find additional information about the topic on your map, and pull out fresh information to add to the map that you didn't include originally.

Rewriting Notes

Taking the time to reorganize and rewrite the notes that you took in class can help you remember essential material for your healthcare exam. Rewriting your notes not only gives you a chance to review the material, it also enables you to highlight the most significant points. During the time pressure of putting your notes down on paper in class, you may not always notice which points are the most important. But in a review of your notes, the crucial ideas and facts are more likely to surface because you have already heard the material once before.

When you rewrite your notes, you are employing the strategy of repetition, helping you cement key concepts from your notes into your brain. By getting actively involved during your review of your notes by rewriting them, you log much more information into your memory than if you merely read through your notes.

Another benefit of rewriting your notes is that you can write them more legibly since you will have more time to write in a study session than in class. This is especially helpful if you find that you are rushing in class to get your notes written down.

One way to rewrite your notes is to take your handwritten notebook pages to a computer to type them up in an organized format. Just follow these steps:

1. While you're at the keyboard, take a few moments to think about your notes and compose your thoughts before you begin to type.
2. Come up with a title for the topic or topics your notes cover, and type this at the top of the page.
3. Continue reading through your notes, and each time you see an important point, key that point into the computer. It helps if you change the wording slightly. Paraphrasing your notes will help you better understand and remember the material.
4. Add headings to separate topics.
5. Use **bold** or ALL CAPS to emphasize key points.
6. Change information from straight text into bulleted points or numbered lists when possible. This speeds your review when you come back to look at your typed-up notes.

7. When you are finished, print out the notes and save them in a file, folder, or three-ring binder.
8. Review your typewritten notes regularly.

Creating Flash Cards

Creating flash cards to use as a study aid is a simple yet highly effective way to learn or review information. You may want to get creative when you sit down to create flash cards. For instance, you

How to SCORE When Rewriting Your Notes!

Select	Choose the most important information from your notes when you are in the process of rewriting them. Don't copy your notes verbatim.
Condense	Shorten long paragraphs or lists by writing a brief summary of the material covered in them.
Organize	Create headings and sub-headings, and rearrange the material in your notes to make it more logical.
Rephrase	Use your own words as much as possible—especially if you tend to take notes without rephrasing the instructor's words.
Evaluate	As you rewrite your notes, take time to check their effectiveness. If they seem lacking on a particular topic, ask a classmate if you can see his or her notes, too.

can use different-sized cards for different subjects, such as 4×6 for biology topics and 3×5 cards for chemistry topics. Or, you can use different colored index cards to organize your study material.

The beauty of index cards is that you can carry them with you throughout the day, especially the small cards that will fit into your backpack or purse. You may want to rotate the cards that you carry with you, so you can get through them all without having to carry a thick pile of cards every day. The number of flash cards you create is limited only by your time and inclination. You could conceivably create a flash card for every term in the glossary in this book!

Here are two examples of flash cards:

Front of Card	**Back of Card**
Mutualism is	when both symbionts benefit

Front of Card	**Back of Card**
The four basic types of chemical reactions	combination decomposition single-displacement (single-replacement) double-displacement (double-replacement)

Making Outlines

Creating outlines of the material you want to review can help you to organize that material in an orderly way. Plus, outlining gives you another tactic for studying and reviewing your allied health material. The outlining strategy is similar to the rewriting-your-notes strategy. The main difference is that outlines are more formal and more structured than notes. That is, there is a certain way outlines should be organized. By organizing information the way they do, outlines help you remember ideas and data and see the relationships between those ideas. In an outline, you can see exactly how supporting material is related to main ideas.

The basic structure for an outline is this:

I. Topic
   A. Main Idea
      1. Major supporting idea
         a. Minor supporting idea

Outlines can have many layers and many variations, but this is essentially how they work: you start with the topic, move to the main idea, add the major supporting idea, and then list minor supporting ideas (if they seem important enough to write down). When you're working with complex or long text, the overall main idea (topic) should be at the top. Here's an example of a partially completed outline, based on material in the map:

I. Common Pediatric Medical Emergencies
   A. Croup
      1. Respiratory illness occurring in children ages three months to three years old

2. Symptoms
    a. hoarse
    b. barking cough
3. What to do
    a. administer oxygen
    b. transport patient in a comfortable position
    c. monitor vital sighs and cardiac rhythm
    d. reassess patient frequently

B. Dehydration
1. Loss of body fluids that can occur in both infants and children
2. Symptoms
    a. vomiting
    b. diarrhea
    c. fever
    d. burns
    e. poor fluid intake
3. What to do
    a. administer oxygen
    b. monitor vital signs
    c. assist ventilations
    d. prepare to transport patient immediately

C. Epiglottitis
1. Inflammation of the epiglottis that can occur in children ages three to seven
2. Symptoms
    a. appear to be critically ill
    b. sitting upright, leaning forward in a tripod position
    c. mouth is open with a protruding tongue

d. drooling
e. respiratory distress or hypoxia

3. What to do
   a. keep child comfortable and calm
   b. administer oxygen
   c. monitor vital signs and cardiac rhythm
   d. may need to ventilate using positive pressure

D. Asthma
E. Bronchiolitis
F. Seizures and Epilepsy
G. Meningitis

Outlining a text or your notes is a visual tool that enables you to see the different layers of information and how they work together to support the overall main idea. Knowing and remembering the organization of facts can aid you greatly in your test preparation.

Using Highlighters

Another study strategy is to use highlighters to mark up your textbook, test preparation books, and notes. Marking the material you want to remember can help you focus on the most important aspects and skip over the material you know well or don't need to know for the exam. Highlighting words, phrases, and facts will help you see and retain them.

The key to effective highlighting is to be selective. If you highlight every other word or sentence, you defeat your purpose. Too many words will be highlighted and nothing will stand out.

So how do you know what's important enough to highlight? Look for **boldfaced** and *italicized* terms and definitions.

Consider outlines, bulleted and numbered items, and sidebars. Part of the process is to simply rely on your judgment. Which facts seem to be emphasized? Which facts are repeated in the text? Another way to find the essential facts in a text is to compare those facts with the material that is found in the practice tests in your allied health test-prep books or online tests. If you find that a topic is addressed on several practice tests, you can be sure that the topic warrants highlighting.

You may want to create an intricate system of using different color highlighters for different topics. Or perhaps you want to use one color to highlight key terms and definitions and another color to highlight procedures. Some people find that using too many colors is cumbersome, but others prefer a variety of colors.

Benefits of Highlighting

1. It requires you to make decisions about what is important.
2. It focuses your attention on important material.
3. It encourages you to spend more time with that material.
4. It improves your recall of the highlighted material.

Here is an example of how you can use highlighting to draw attention to the important information in a paragraph. Of course, there will be variations in what each person thinks is most significant, but here's one way to highlight the following passage:

> Because **the body responds differently to different allergens, allergic reactions have been divided into**

four categories. **Type I** allergies, the most **common**, are characterized by **the production of immunoglobulin E (IgE)**, a type of **antibody the immune system releases** when it thinks a substance is a threat to the body. **IgE releases chemicals called mediators**, like **histamine**, **which causes blood vessels to dilate and release fluid** into the surrounding tissues, usually resulting in a **runny nose and sneezing**. Type I allergies include allergic asthma and hay fever as well as reactions to insect stings and dust. **Type II** allergies, far more **rare**, are usually **reactions to medications** and can **cause liver and kidney damage or anemia**. The body sends **immunoglobulin M (IgM) and immunoglobulin G (IgG)** to the site to fight the infection. **Type III** allergies are usually **caused by reactions to drugs like penicillin**. The body releases IgM and IgG, but these allergens cause IgM and IgG to bind away from cell surfaces. This creates **clumps of allergens and antibodies that get caught in the tissues and cause swelling, which can affect the kidneys, joints, and skin**. **Type IV** allergies cause the release of mediators that create **swelling** as well as **itchy rashes**. These are usually skin **reactions to irritants like poison ivy, soaps, cosmetics, and other contact allergens**.

Creating Audio Tapes

To help you learn and review important information, you can use a recording device. Perhaps you want to read aloud unfamiliar information from a textbook into a tape. Or, you could simply talk about the new information while the tape player records

your observations and connections. The level of formality you use when talking into a tape player is up to you. Some people want to include asides and observations on their audiotapes, while others want to read aloud their texts word for word with no elaboration or extraneous comments. You could experiment with using tapes to remember several of the terms in the glossary of this book by reading aloud several terms and their definitions into a tape recorder.

One of the advantages of using audiotapes for studying and reviewing material is that you can listen to the tapes throughout the day while you are driving in your car or going for a jog or waiting in a dentist's office (if you have a Walkman®). This way, tapes facilitate your reviewing throughout the day. This helps you to solidify the material in your mind and gives you greater flexibility and variety in your study plan.

If you find that you really like to use audiotapes, you can set up a system of using different tapes for different topics. Then you can color-code tape labels to keep the categories separate (Biology is green; Chemistry is red). Or you may want to listen to a tape and then record new material over it when you feel you know that old material. However you decide to use audiotapes, remember to play back the tapes frequently since repetition is one of the best methods for learning complex information.

Making Connections

You will understand and retain new information more readily if you connect the new, unfamiliar material to something that is already familiar to you. Think of these connections as individual strings tying each new fact or idea down in your brain. When you

make several connections to a fact or idea, you create several strings to tie it down in your mind. Since one string can be easily broken, the more connections you make, the better. You want to create enough strings to the material to firmly anchor it in your memory.

One way to make a strong connection is to visualize it. For example, if you want to remember the four ways that poisons can enter the body, you could try mental images of each of the four paths: absorption, injection, inhalation, and ingestion. Perhaps you can recall an incident from your childhood when your neighbor accidentally swallowed some perfume (ingestion). Then, scan your mind for a reference to inhalation of a poison and you picture one time when you became dizzy from being in a closed room with a strong household cleaner (inhalation). Do you know of someone who got poison ivy from running in the woods (absorption)? And lastly, you might envision a news report you saw on TV of an incident involving a deadly spider (injection).

The key to making strong connections is to create vivid mental pictures of each specific incident that relates to each term you want to recall. Spend a few minutes, eyes closed, thinking about each term, to create a strong mental image. Go ahead and fill in the details in your mind's eye. Try to involve your other senses as well by focusing on the smell of a particular poison or how it stung your skin or how foul something poisonous tasted. You will want to involve as many senses as possible to create truly memorable connections.

You may find that this strategy works better when you use it to study and recall main ideas, rather than smaller details about a topic. That's because the more detailed the information you want

to recall, the less likely you are to know of a specific case you can connect it to in your own experience. In the examples above, you can see how creating mental images of past events with which you are familiar could help you to remember the four ways that poisons enter the body. However, to recall more detailed information about poisons, you may want to employ another study strategy. For instance, you could use flash cards to learn how to reduce absorption across the small intestine of a poison (induce vomiting using syrup of ipecac, pump the stomach, or administer activated charcoal). In other words, you can mix strategies—whatever works for you works!

The last study strategy covered in *Healthcare Essentials* is the use of *mnemonics* (also known as memory tricks). It is such a crucial and distinct study strategy that it has its own chapter.

Chapter 3

Mnemonics

As a child, did you learn "*i* before *e*, except after *c*?" If you did, you have probably never forgotten how to spell "brief" or "receive." *Mnemonics* are memory tricks that can help you to remember what you need to know. Rhyming is one kind of mnemonic device. This chapter demonstrates specific mnemonic devices to help you "file and retrieve" important healthcare information for your upcoming exam.

Besides rhyming, two popular mnemonic devices that you may have already tried are *acronyms* and *acrostics*. Two additional mnemonic devices that are not quite as well known as acronyms and acrostics, but can be just as powerful, are the *place* and *peg* methods. As introduced in Chapter 2, you can also use the technique of *visualization* to help you recall vital information.

Mnemonics should probably not be used for memorizing theories and concepts because they are designed to sidestep

the deep meaning of a subject. For this reason, mnemonics are excellent for remembering essentials lists and facts.

The best time to create mnemonics is after you have spent considerable time studying a particular allied health list or set of facts. That's because mnemonics help you file and recall information with which you are already familiar. They are not suited to helping you understand *new* material. Now, let's take a closer look at some mnemonic tricks.

ACRONYMS

The most common type of mnemonic is the *acronym*. An acronym is a word created from the first letters in a series of words. One acronym you may already know is HOMES, which is a word formed by the first letter from each of the names of the Great Lakes:

Huron
Ontario
Michigan
Erie
Superior

"Homes" is a real word; however, you can also make up a silly word to help you remember a list of terms. A common acronym for reviewing the colors of the visible spectrum is the nonsense word 'roygbiv.' You can turn this into an imaginary person's name if that helps you remember the letters: "Roy G. Biv."

Red
Orange
Yellow

Green
Blue
Indigo
Violet

Note that, in this case—and in contrast with the Great Lakes example—the *order* of the items to be remembered (colors) is essential because this is their order in the spectrum. Now consider the acronym NIMBY, often heard in city council and planning board meetings. NIMBY refers to people who protest the construction of, say, a power plant in their neighborhood. This acronym stands for an entire phrase: "**N**ot **I**n **M**y **B**ack **Y**ard!" As you see, some acronyms stand for words that have to be in a certain order, and some do not.

Within the allied health world, an interesting twist on acronyms is one named for a real person, Dr. Virginia Apgar, the American anesthesiologist who designed the index for rating newborn babies. Healthcare professionals often remember the assessment for newborns this way:

Appearance (color)
Pulse
Grimace (response to stimuli)
Activity (muscle tone)
Respiration

CREATING ACRONYMS

Since you can create an acronym for just about anything you want to remember, you can use acronyms to help you recall the material you are studying for an allied health exam. Even though it

will take you a few minutes to create an acronym, the extra effort pays off during exam time when you are able to retrieve crucial information. There is no limit to how many acronyms you can create; it's up to you.

To begin, just try to create one acronym. See how long it takes you and how comfortable you are with the process. You may then want to experiment with some of the other mnemonic devices too, so you can get a sense of which ones work best for you.

Follow these steps to create your own acronyms:

1. Decide on a particular list of terms you want to memorize or a certain number of steps in a healthcare process you want to be able to recall.
2. Write down those terms or steps on a sheet of paper.
3. Take a close look at the letters that begin each word on your paper. Spend a few minutes thinking about those letters.
4. If the order of the terms or steps is not essential, consider the possibility of rearranging the terms.
5. Get creative and brainstorm to find one or more words that consists of the first letters of the terms in your original list.
6. Pick the acronym from your brainstorming list that you are most likely to remember based on your own experience, memory, and knowledge. *Link what you know to what you need to remember.*
7. Arrange the terms you want to recall in the order of your chosen acronym. Highlight or bold the first letter of each term so when you review, it will be easier to see the acronym.

Below are two examples of how one student used the seven steps to create an acronym.

Sample One

1. I want to memorize the major types of shock.
2. cardiogenic, hemorrhagic, neurogenic, psychogenic, septic, anaphylactic
3. c, h, n, p, s, a
4. The order of terms is not essential: hemorrhagic, cardiogenic, septic, neurogenic, anaphylactic, psychogenic.
5. I could use H.C. SNAP, which stands for a person's first two initials and last name.
6. I can remember H.C. SNAP because I have a friend, Holly Collins, who likes to snap her fingers when we listen to music, and she likes to *shock* people by wearing wild outfits.
7. The major causes of shock: H.C. SNAP
   Hemorrhagic
   Cardiogenic
   Septic
   Neurogenic
   Anaphylactic
   Psychogenic

Sample Two

1. I want to memorize the signs and symptoms of severe hypothermia.

2. hypotension, undetectable pulse and respiration, stupor or coma, rigidity, eventual ventricular fibrillation
3. H, U, S, R, E
4. The order of terms is not essential: RUSH E; H, U, C, R, E; H CURE; CURE H
5. I could use RUSH E or CURE H.
6. I think I'd be able to memorize RUSH E in relation to hypothermia because when I was a young boy, I was out in a blizzard rushing to my friend Eric's (E's) house. I was rushing because I was afraid I would get hypothermia.
7. The signs and symptoms of severe hypothermia: RUSH E
   Rigidity
   Undetectable pulse and respiration
   Stupor or coma
   Hypotension
   Eventual ventricular fibrillation

Review over the Long Stretch

Your success depends upon your reviewing the materials you are memorizing. Review them often and over long stretches of time. Information memorized within a single block of time does not usually "stick" in your mind.

Here are two more examples of healthcare acronyms:

To help you remember the basic steps for resuscitation, you can think of the first five letters of the alphabet, ABCDE, which stand for:

Airway
Breathing
Circulation
Drugs
Environment

To recall the checklist of possible causes for a coma, you can write out the vowels, A, E, I, O, U, and then the word "tips":

AEIOU TIPS:
Acidosis/alcohol
Epilepsy
Infection
Overdosed
Uremia
Trauma to head
Insulin: too little or too much
Pyschosis episode
Stroke occurred

Once you invest the time in creating several acronyms, review them on a consistent basis. You can rewrite them or read them aloud during your scheduled study sessions. You can also reread them whenever you find a free moment during your day. The key to memorizing mnemonics is repetition, so study your acronyms over and over until they become familiar friends.

CREATING ACROSTICS

Another type of mnemonic is a silly sentence or phrase, known as an *acrostic*, which is made of words that each begin with the letter or letters that start each item in a series that you want to remember. For example, "Please Excuse My Dear Aunt Sally" is a nonsensical acrostic that math students use to remember the order of operations:

Please **E**xcuse **M**y **D**ear **A**unt **S**ally

Parentheses
Exponents
Multiply
Divide
Add
Subtract

Here's another example of an acrostic. To recall the letters of the notes on the lines of the treble cleff (E, G, B, D, and F), music students often recite this acrostic:

Every **G**ood **B**oy **D**oes **F**ine

If you know the first letter (or letters) of a word you cannot remember, your chances of recalling that word are much higher than if you did not know the first letter of it. Therefore, using an acrostic can help you to recall a forgotten word after a few moments of thinking about the letter that word starts with. This can help you to overcome memory block during an allied health exam.

The steps for creating acrostics are similar to the steps for creating acronyms. The steps are shown below:

1. Decide which terms you want to memorize.
2. Write down those terms on a sheet of paper.
3. Take a close look at the letters that begin each word on your paper. Spend a few minutes thinking about those letters.
4. If the order of the terms is not essential, try rearranging the terms in a few different patterns.
5. Spend time brainstorming to create a phrase or silly sentence in which each word begins with the same letter of the terms in your original list.
6. Pick the acrostic that you are most likely to remember based on your own experience, memory, and knowledge.
7. Arrange the terms you want to recall in the order of your chosen acrostic. Highlight the first letter of each term, so when you review it will be easier to recall the acrostic.

Here is an example of how to create an acrostic by using the seven steps above. Because it is a long list of terms, a rhyming acrostic works even better.

1. I want to memorize the twelve cranial nerves.
2. Vagus, Accessory, Hypoglossal, Olfactory, Optic, Oculormotor, Trochlear, Trigeminal, Abduceans, Facial, Auditory, Glosspharyngeal
3. V, A, H, O, O, O, T, T, A, F, A, G

4. The order of terms is not essential. O, O, O, T, T, A, F, A, G, V, A, H
5. "On Old Olympus Towering Tops, A Friendly Austrian Grew Vines And Hops."
6. I created this acrostic because I am of Austrian lineage and the two lines rhyme. Also, I can picture a giant grinning man with a large *cranium*, growing vines and hops.
7. The twelve cranial nerves:

On **O**ld **O**lympus **T**owering **T**ops,
A **F**riendly **A**ustrian **G**rew **V**ines **A**nd **H**ops.

Olifactory
Optic
Oculormotor
Trochlear
Trigeminal
Abduceans
Facial
Accessory
Glossopharyngeal
Vagus
Auditory
Hypoglossal

Remember that you will have an easier time memorizing an acrostic phrase or sentence that you can identify with, are interested in, or that you find humorous. So when you get to step six, take the time you need to come up with an interesting phrase or sentence. For instance, if you love to eat sweets, you might want

to use words associated with those foods when creating an acrostic. Here is an example of an acrostic for remembering the order of the superior thyroid artery:

More **I**cing **S**hould **S**lowly **C**reate **G**ladness

Muscular
Infrahyoid
Superior laryngeal
Sternomastoid
Cricothyroid
Glandular

Repetition! Repetition!

Mnemonic devices require active participation and constant repetition of the material to be memorized. This repetition is not passively repeating words, but instead it's meaningful practice: look at the list, learn the terms, attach a mnemonic device to them, memorize, duplicate, and check your work. This process acts as a holding pattern while memory links are formed in your brain.

Whatever theme you decide to use, don't be afraid to branch out and try others. Creating acrostics is a creative process, so once you get started, you may find it hard to stop!

Here's an example of an acrostic to recall a specific list of drugs:

Every **L**ittle **B**oy **M**ust **P**lay

Epinephrine
Lidocaine

Bretylium
Magsulfate
Procainamide

To help you remember the five phases of mitosis in biology (metaphase, prophase, prometaphase, anaphase, telophase), you might creatively use the first three or four letters of each term:

METAman **PRO**posed **PRO**fusely
to **ANA** on the **TELO**phone!

METAphase
PROphase
PROmetaphase
ANAphase
TELOphase

Creating acrostics can help you to make study sessions fun and fascinating. To review your acrostics, you may want to rewrite them over and over again (using repetition to help you memorize them). Or you may want to read them aloud during your scheduled study sessions, or to yourself on the bus. You can also write them on index cards and carry them with you to read whenever you find a free moment during your day.

Remember, the best way to memorize mnemonics is through repetition, so spend time reviewing your acrostics until you know them inside and out.

ORGANIZING ACRONYMS AND ACROSTICS

Since you will have many terms and definitions to remember for your healthcare exam, consider creating a system to help you organize the acronyms and acrostics that you plan to use during your

study sessions. An excellent method is to put the terms you want to memorize into categories by subject. For instance, put together in one group all the terms relating to occupational therapy and, in another, all those relating to physical therapy. This will help you keep track of the mnemonics that you've created during the exam.

You can go a step further in organizing your acronyms and acrostics by using a color-coding system. Use different colored sheets of paper or index cards, choosing a different color paper or card for each subject. For example, you can write out all the mnemonics you've developed for occupational therapy on blue pieces of paper and all those for physical therapy on yellow ones. When you casually glance at your paper, you will know immediately which mnemonics are related to which subject just by noticing the color the mnemonic is written on.

Keep in mind that each student's categories may be somewhat different from another student's, even in the same allied health field. And that's okay. One person may put the term *atrophy* under the subject of physical therapy, while another person may put it under occupational therapy. The exact placement of a term in a subject category is not as important as your knowledge of the relationship of that term to other terms in its group. Going through the process of selecting subject categories for your acronyms and acrostics is a good way to get an overview of your healthcare study material.

Your lists will also vary from student to student because everyone comes to their healthcare studies with a unique background. And, there are dozens of allied health fields to pursue, each with its own special terms and lists. Some people have nursing experience or other healthcare experience in which they have already learned several medical terms, but need to concentrate

on others. So each person studying for an allied health exam can focus on the subject categories in which he or she needs the most practice.

Practice your acronyms and acrostics with repetition *in your best learning style*. For kinesthetic or tactile learners, those who learn by touching, or doing, writing out each mnemonic several times will help to seal it in your memory. Or pacing the room while you chant. Auditory learners, those who learn best by listening, might remember the information best if they repeat the acronym or acrostic out loud or into a tape recorder, over and over. Visual learners, those who learn best by looking, might need to look only at the acronym or acrostic or to write it on a whiteboard until it is fixed in their mind.

However, you should try to keep several sheets of colored paper or index cards on hand, so you will have an ample supply that will last throughout your entire study plan. You don't want to run out of blue paper just when you come up with a truly terrific acronym or acrostic for those few extra obstetric terms you didn't notice at the beginning of your study schedule. Once you develop a color-coding system, stick to it so that you don't get confused about which terms go with each color.

One of the benefits of the color-coding system is that even if you forget one of the acronyms or acrostics you create, you may likely see in your mind's eye the color of the paper it was written on. On exam day, or in the field, this visualization could help you at least recall the subject that a term is related to. Believe it or not, you could get an extra point or two just from this knowledge. Here's an example:

As a physician's assistant, in which of these situations should you wear protective gloves?

a. A 55-year-old man is suspected of having a myocardial infarction.
b. The victim of a fall has no obvious wounds but is still unresponsive.
c. A full-term pregnant woman is experiencing crowning with contractions.
d. A 72-year-old woman is experiencing dizziness and difficulty breathing.

Let's say that after you read the question and all the possible answers, you are able to narrow the answer choices down to either **a** or **c**. However, you can't remember what *myocardial infarction* means. If it has something to do with the discharge of blood or body fluids, then you would have a difficult time deciding between choice **a** and **c**. A great thing about using a color-coding system is that it can help you recall the subject a term is related to. So, even though you don't remember the definition of *myocardial infarction*, you do recall that the term was a part of a mnemonic that was written on purple paper. You know that all the mnemonics on purple paper are related to the heart muscle—and the heart muscle is not likely to have a problem that will expose you to outpourings of blood or body fluids. Therefore, you can confidently pick **c** as the correct answer, through the process of elimination.

USING THE PLACE METHOD

Mnemonics are linking what you're learning to what you already know. One of the oldest mnemonics that is still in use today is called the method of *loci*, which was first recorded over 2,500 years ago. Today it is often called the *place method*. The first step in using

the place method is to think about a place you know very well: perhaps your living room or bedroom. You need to think of a place that has several items (pieces of furniture or other large items) that always remain in the same place. These items become your landmarks or anchors in the place method mnemonic. You need to remember where each landmark is in the room and when you visualize walking around this room, you must always walk in the same direction (an easy way to be consistent is to always move around the room in a clockwise direction). The next step is to assign an item that you want to memorize to each landmark in your room. An effective technique is to visualize each word literally attached to each landmark. Here's an example of how one student uses the place method to remember the structure of the heart. This example uses landmarks in the student's bedroom.

Landmark		Heart Term
1. Doorway of room	→	**1.** Aorta
2. Small chair	→	**2.** Left pulmonary arteries
3. TV stand	→	**3.** Left pulmonary veins
4. Large vase with flowers	→	**4.** Left atrium
5. Nightstand	→	**5.** Left ventricle
6. Bed	→	**6.** Right ventricle
7. Closet	→	**7.** Right atrium
8. Bookcase	→	**8.** Right pulmonary veins
9. Round table with skirt	→	**9.** Right pulmonary arteries

In this example, the student imagines each part of the heart as being separate from the others and put into or onto each landmark. For example, the aorta is placed in the middle of the doorway to his bedroom. The left pulmonary arteries sit on the small

chair, and the left pulmonary veins are shown on the TV that sits on the TV stand, and so on for each item on the list.

To make the place method work, you must first study and understand each term you want to remember, so you can visualize each word and directly link it to each landmark in your chosen place. The more vivid your visualization is, the stronger the connection will be between the terms you want to recall and the landmarks that are already entrenched in your memory.

How to USE the Place Method

Understand the information you want to memorize.
Select the landmarks you want to attach the information to.
Encode the landmarks by attaching the information you want to memorize.

As you can imagine, it takes some time to create the connections from the landmarks in your special place to the terms you want to remember, but that time will be well spent if it helps you during your healthcare exam. And the amount of time you spend on creating mnemonics using the place method is up to you—you can spend many hours creating several elaborate place method scenarios, or you can spend a few minutes devising just one.

If you have never heard of the place method before, you may want to start asking waiters and waitresses who don't write

down their customer's orders how they remember who gets what. You may find that they rely on the place method to keep track of people's orders because it works so well!

USING THE PEG METHOD

The *peg method* is similar to the place method, but it uses numbers and a rhyme instead of a location as a way to remember important information. An advantage the peg method has over the place method is that you can recall items in any order, instead of having to go through the entire sequence to find out one of the items in the middle of the list.

The first step in using the peg method is to memorize the simple rhyme that appears below. You will need to know this rhyme by heart, so you can use the numbers in it as the landmarks for anchoring the new information. Here is the rhyme:

One is a bun.
Two is a shoe.
Three is a tree.
Four is a door.
Five is a hive.
Six is sticks.
Seven is heaven.
Eight is a gate.
Nine is wine.
Ten is a hen.

Realize that, to make the peg method work, you must commit this rhyme to memory. Once you memorize the rhyme, you can use it any time you need to remember things, not just

for recalling information for a healthcare exam. After you memorize the rhyme, the next step is to compile a list of terms you want to remember. Then simply picture the first new term you want to learn with the first word in the rhyme (*bun*). Then picture the second word you want to learn with the second word in the rhyme (*shoe*). Here's an example of how one student used the peg method to recall the names of the lower extremities.

Word in rhyme		Lower Extremity Term
1. bun	→	**1.** ilium
2. shoe	→	**2.** acetabulum
3. tree	→	**3.** pubis
4. door	→	**4.** greater trochanter
5. hive	→	**5.** ischium
6. sticks	→	**6.** femur
7. heaven	→	**7.** patella
8. gate	→	**8.** fibula
9. wine	→	**9.** tibia
10. hen	→	**10.** lateral and medial malleolus

In this example, a student ties together in her mind each lower extremity with a word in the rhyme. The student has already studied a diagram of a lower extremity, so she knows what the terms in the example mean and look like. She imagines the ilium inside of a hamburger bun and the acetabulum sitting inside a shoe. She envisions the pubis in the shape of a tree and the greater trochanter on the front of a door, and so on for each item on the list.

To make the peg method work, you must first study and understand each term you have to know, so you can visualize each

term and directly link it to each word in the rhyme. The more vivid your visualization, the stronger the connection will be between the terms and the words in the rhyme that you've already memorized.

USING THE POWER OF VISUALIZATION

Another mnemonic device, one mentioned previously, is the technique of visualization. Visualizing places, people, and scenarios while you are studying assists in retention of essential information. While visualization plays an important role in the previous two mnemonics, the place and peg methods, it can also be used on its own.

Harnessing the power of visualization helps you be creative when thinking about your study material. Perhaps you like the place method but want to adapt it to fit your own style or needs. Here's one example of adaptation using visualization. In this example, a student visualized specific items in her living room as the landmarks for learning about the heart. She adapted the place method to fit her needs.

The heart has four chambers.

I am visualizing four items in my living room: gold sofa, brown entertainment center, Oriental rug, and gray carpet (not in the clockwise order that I used for the place method).

The two upper chambers of the heart are called atria (right atrium and left atrium).

When I walk in the door to my living room, to the right is a gold sofa (the right atrium), to the left is a brown entertainment center (the left atrium).

The two lower chambers of the heart are called ventricles (right ventricle and left ventricle).

Underneath the gold sofa is an oriental rug (the right ventricle), and underneath the entertainment center is gray carpeting (the left ventricle).

The ventricles are much larger than the atria, just as the rug and carpet are much larger than the sofa and entertainment center.

As you reflect on the example above, you will notice how it differs from the place method. The landmarks in the room do not follow a clockwise pattern, and there are only four landmarks as opposed to the nine that were used in the place method sample. However, you can see how the student adapted the place method by visualizing key terms she wanted to know and linking them to landmarks in her living room. She adapted the place method in this way because she had difficulty remembering which two chambers of the heart are on top and which two are on the bottom. By linking the chambers with her furniture and the carpet and rug underneath that furniture, she was able to quickly remind herself of the correct terms for the upper and lower chambers of the heart.

When you adapt mnemonic devices with the technique of visualization, you interact with your study material in a positive and creative way, using several learning styles. That interaction fuels your mind and creates familiarity with the material.

Thanks to your superior study skills, and with the aid of mnemonics and this handy glossary, before you know it, you will be an expert in your allied health field. Good luck, and if you continue solid study habits throughout your healthcare career, you will be able to pass each new or recertification exam with ease and confidence. You will have earned it.

Chapter 4

Healthcare Glossary

HOW TO USE THE GLOSSARY

This glossary contains over 900 terms that will help you not only as you study for your healthcare exam, but also after you pass your exam and are practicing in the field. The terms are listed in alphabetical order for easy reference.

A

a.c. before meals

AICD (automatic implantable cardioverter defibrillator) a device that automatically delivers a shock to the heart during ventricular fibrillation or ventricular tachycardia to convert the heart back to a normal rhythm

abduct to move a limb away from the middle of the body

aberrant abnormal

ABG arterial blood gases

abortion miscarriage; termination of pregnancy, either spontaneously with no known cause or induced

abrasion a scrape or scratch of the skin

abscess a collection of pus surrounded by a membranous wall

accessary muscles of respiration muscles that aid the diaphragm in breathing, especially when breathing is difficult. These include the intercostal muscles, abdominal muscles and neck muscles.

acclimatization the body's physical adaptation to a different climate or elevation

acetabulum the hip bone socket that holds the head of the femur

acetaminophen a drug that relieves pain and fever. A common trade name of this drug is Tylenol.

acoustic nerves cranial nerves that control hearing and balance

acquired immune deficiency syndrome (AIDS) the infectious disease that suppresses the body's immune system allowing infections to flourish

acute severe or sharp; opposite of chronic

acute glaucoma acute rise in eye pressure that can cause permanent blindness if left untreated

acute myocardial infarction (AMI) death of a portion of the heart muscle due to lack of blood and oxygen; a heart attack

ADA (Americans with Disability Act) a law passed to protect disabled persons

adduct to move a limb into the body

adhesions a band or structure that holds parts together that are not normally together

ADL (activities of daily living) typical tasks one performs to provide self care

adrenal glands endocrine glands that secrete cortisol, aldosterone, epinephrine, and norepinephrine

advanced cardiac life support (ACLS) part of the chain of survival in cardiac care consisting of early access, early CPR, early defibrillation, and early advanced care. Advanced cardiac care includes airway control and intravenous drugs.

advanced directive a written living will or durable power of attorney that directs treatment after the patient is unable to make decisions about medical affairs. The directive can specify what, if any, procedures or treatments are authorized.

adventitious sounds abnormal breath sounds

aerobic requiring oxygen

afebrile without fever

affect feelings, mood, emotions

afterbirth placenta

agitation restlessness

agonal usually referring to respirations that are gasping, infrequent, and irregular, typical of a dying patient

airway obstruction blockage of the airway by either a foreign object such as food or by severe swelling of airway tissues

albuterol a bronchodilator medication to help during acute asthma attacks and other respiratory problems

alignment straighten or place in correct anatomical position

alimentary canal mouth, esophagus, stomach, and organs of digestion

allergen an agent that causes an allergic reaction. Common allergens are insect stings, food, medications such as penicillin, pollen, and some plants such as poison ivy.

allergic reaction a hypersensitive reaction to an allergen, typically characterized by itching, skin rash, swelling, wheezing and even hypoperfusion (shock) or respiratory arrest

alveoli the air sacs of the lungs where oxygen and carbon dioxide exchange occurs

Alzheimer's disease a type of dementia whereby the patient has progressive loss of mental ability and memory; patients deteriorate to the point of being incapable of taking care of personal needs and eventually may be bedridden and totally dependent upon others

ambient surrounding

Ambu bag commonly used manufacturer's name for a bag valve mask that is used to breathe for a non-breathing person (artificial ventilation)

ambulate to walk

amenorrhea absence of menstruation

amnesia loss of memory

amniocentesis drawing amniotic fluid from the amniotic sac to study and detect genetic disease and other possible fetal problems

amniotic fluid the fluid that surrounds the baby in the amniotic sac prior to birth

amphetamines the central nervous system (CNS) stimulant category of drugs that cause general mood elevation, suppress appetite, and prevent sleepiness. This category of drugs is sometimes abused because they can produce euphoria.

ANA (American Nurses Association) the national professional organization for nurses

anaerobic not requiring oxygen

analgesic a term for the category of pain killer medications

anaphylaxis, anaphylactic shock a severe life threatening allergic reaction causing hypoperfusion (shock) and typically respiratory distress

anemia low amount of red blood cells in the blood, typically rendering the patient weak

aneurysm a ballooning or dilation of a blood vessel (usually an artery) that is weakened for some reason such as atherosclerosis, hypertension, infection, or trauma

angina pectoris chest pain or discomfort caused by inadequate blood and oxygen to the heart muscle; this condition may be a precursor to AMI

angioplasty a procedure that opens up narrowed blood vessels, usually coronary arteries

angulated deformed; at an angle

anorexia refusal to maintain body weight at or above a minimally normal weight for age and height. Symptoms include an intense fear of gaining weight.

anterior the front surface of the body or a body part

anticoagulant a drug that inhibits clotting, a "clot buster"

antidote a substance that will counteract or neutralize a poisonous substance or the poison's effects

antidysrhythmic a category of drugs that manage and prevent ECG rhythm disturbances

antiemetic a category of drugs that reduce or eliminate nausea and vomiting

antihypertensive a category of drugs that manage high blood pressure

anti-inflammatory a medication to decrease inflammation

antitussive a category of drugs that suppress the cough reflex

anuria failure of the kidneys to make urine

aorta largest artery in the body. The aorta receives blood from the left ventricle and delivers it to all other arteries.

APGAR a standardized assessment for newborns taken at one minute and five minutes after birth; the areas of assessment are **A**ppearance, **P**ulse, **G**rimace or irritability, **A**ctivity or muscle tone, and **R**espirations. The scale allows 0–2 points for each area making the total score 0–10.

aphasia absence or disability to communicate due to brain dysfunction such as a stroke

apnea the absence of breathing

apneustic center the respiratory center in the mid-brain

appendectomy surgical removal of the appendix

appendicitis inflammation of the appendix

appendix an anatomical part in the right lower quadrant of the abdomen

aqueous pertaining to water

arrhythmia a disturbance in the heart rhythm or rate

arteriogram an X-ray of an artery after being injected with a substance that enables one to see the vessels

arteriole a very small artery

arteriosclerosis an arterial disorder that decreases the arteries' ability to effectively carry blood to the body. The vessels become thickened and lose their elasticity.

artery a blood vessel that carries oxygenated blood away from the heart

arth- a prefix meaning pertaining to a joint

arthritis joint inflammation

artificial ventilation breathing for someone by forcing air into the lungs

asepsis absence of disease-producing organisms

asphyxiation suffocation due to lack of oxygen

aspiration inhaling foreign substance, such as food or vomitus, into the airway or lungs; or pulling back on a syringe to create suction

asthma a respiratory disorder in which spasm of the small air passages and mucus production occurs resulting in labored breathing and wheezing

asymptomatic without symptoms

asystole no electrical impulses in the heart resulting in no pumping and a straight-line ECG reading

atelectasis collapse of lung tissue

atherosclerosis a thickened, diseased condition of the arteries that prevents the arteries from efficiently carrying blood. The arteries become hardened due to cholesterol buildup.

atrium one of the two upper chambers of the heart (right or left)

atrophy a decrease in the size of an organ or muscle usually due to diminished use

atypical unusual, not typical

auscultation to listen for sounds from the body such as breath sounds or bowel sounds; usually done with a stethoscope

autoimmunity a pathological condition whereby an individual has an immune response to one's own tissues

automated external defibrillator (AED) a portable device that identifies ventricular fibrillation (vf) and either automatically sends a shock or advises that a shock is necessary

autonomic nervous system (ANS) the portion of the nervous system that controls involuntary functions such as cardiac muscle and glands. The sympathetic nervous system and the parasympathetic nervous system are the two divisions.

autopsy the examination of body tissues and organs after death

avulsion a torn away or torn off piece or flap of skin or other soft tissue

axilla armpit

B

b.i.d. twice a day

bacteria a microscopic organism that may cause disease

bag-valve-mask (BVM) device a device to provide artificial ventilation to a patient

bandage a material used to keep a dressing in its place on a wound

barbiturates the category of drugs that depress the central nervous system. They are used therapeutically to cause sleep and are sometimes abused as they can create a calm, peaceful state

barium enema an X-ray that uses barium as contrast material to study the colon and rectum

belching elimination of gas from the stomach through the mouth

benign not malignant

bilateral both sides

bile fluid secreted by the liver and stored in the gallbladder to help digest fats

biopsy removal of a tissue sample to examine microscopically and identify a diagnosis

birth canal the vagina during delivery

bladder (urinary) the receptacle for urine

blood pressure the pressure (measured in millimeters of mercury, mmHg) of the blood against the blood vessel wall. The measurement is most commonly taken against an artery.

body substance isolation (BSI) the concept of infection control in which all body fluids or substances are assumed to carry infection

brachial pulse the pulse point found on the inside of the upper arm; recommended site to check a pulse in infant CPR

brady prefix meaning slowed

bradycardia a slow heart rate, below 60 beats per minute

bradypnea slowed respiratory rate

brainstem the portion of the brain consisting of the medulla, the pons, and the midbrain

bronchi the two main airway tubes that come off the trachea and go to the lungs

bronchioles the smaller airway branches that carry air to and from the air sacs

bronchitis inflammation and irritation of the bronchi, usually chronic in nature. A chronic obstructive pulmonary disease (COPD).

bronchoconstriction narrowing or constriction of the bronchi

bronchodilator a medication to open the airways and ease difficulty breathing

bronchoscopy an exam of the trachea an bronchi with a special scope

buccal administration medication placement between the cheek and gum

bursa a sac containing synovial fluid that minimizes friction between bone and tendon

bursitis inflammation of a bursa

C

c.c. cubic centimeter

cannula a tube

capillary refill a simple test to evaluate for hypoperfusion in an infant or child. The examiner presses firmly on the patient's skin to blanch (whiten) the area. In the patient that is perfusing normally, the skin turns pink again in less than 2 seconds. With hypoperfusion, the skin may take two seconds or more to pink up.

capillary the smallest blood vessels where oxygen and carbon dioxide are exchanged

carbon dioxide (CO_2) the gas formed by respiration and exhaled

carbon monoxide (CO) a poisonous gas created during combustion. It is colorless and odorless.

carcinogen a cancer producing substance

carcinoma a malignant tumor that can affect any part of the body

cardiac arrest the heart stops beating or pumping

cardiac compromise a general term referring to a heart related problem

cardiac standstill cardiac arrest; cessation of the heart

cardiopulmonary resuscitation (CPR) basic life support including call for help, initial assessment, opening the airway, artificial breathing, and manual external cardiac compressions

carotid pulse the pulse point on each side of the neck; the pulse point checked during adult and child CPR

cataract a cloudy condition of the lens of the eye

catheter a tube inserted into the body to drain fluid or insert fluid or medication. A urinary catheter goes into the urinary bladder to drain urine.

catheterize to insert a catheter or tube into the body, usually into the urinary bladder to drain urine

cbc complete blood count, the analysis of blood, identifying the number of WBC's, RBC's, and other components

cell the smallest living functional unit in the body

central nervous system (CNS) the brain and the spinal cord

cerebrospinal fluid (CSF) the fluid that surrounds the brain and spinal cord and their coverings. This fluid is normally clear and watery.

cerebrovascular accident (CVA) a stroke; lack of blood to a region of the brain, caused by thrombus, embolism, or hemor-

rhage and resulting in acute symptoms that vary depending on which area of the brain is affected

cerebrum the largest part of the brain that includes the right and left hemispheres and controls functions of movement, memory, sensation, learning, and others

cervical pertaining to the neck

Cesarean section delivery of the fetus by an incision through the abdominal wall into the uterus

chemotherapy special drugs used to treat cancers and some infections and other serious conditions. These drugs are typically poisons and have significant side effects.

Cheyne-Stokes respiration an abnormal breathing pattern sometimes seen with central nervous system problems. The pattern has progressively deepening then shallow respirations with periods of apnea.

chronic obstructive pulmonary (or lung) disease (COPD or COLD) a disease of the respiratory system that results in narrowed airways, commonly chronic bronchitis or emphysema or both

chronic of long duration

circulatory system the heart, blood, and blood vessels

cirrhosis a chronic liver disease accompanied by decreased liver function

clavicle collar bone

closed fracture a break in a bone that is not open to the skin

closed head injury trauma to the head that results in swelling and/or bleeding within the skull

CNA Certified Nursing Assistant

CO_2 carbon dioxide

coagulation a process that thickens a substance

coccyx tail bone; the lowest bones of the spinal column

colitis inflammation of the colon

colonic irrigation a washing out of the large intestine

colonoscopy visual exam of the inside of the colon with a special scope

colostomy the establishment of a surgical opening between the colon and the surface of the abdomen to drain colon contents

coma a state of total unresponsiveness

comatose in a coma

communicable disease a disease which can be transmitted from one person to another

conception the beginning of pregnancy; the implantation of a fertilized egg in the uterine wall

congestive heart failure (CHF) failure of the heart to effectively pump, causing back up of blood and fluid into the lungs or the body or both. The primary symptom is shortness of breath.

conjunctiva the membrane of the inner surfaces of the eye and eyelid

conjunctivitis inflammation of the conjunctiva, often from allergy or infection

constrict become smaller or narrower

contaminate to make something unsterile or unclean

contraception prevention of conception

contracture rigidity, lack of flexibility, and shortening of a muscle

contraindication when NOT to do a specific procedure or give a medication

convulsion seizure

coronary arteries the blood vessels that supply blood to the heart muscle

coronary artery disease the narrowing of the coronary arteries in one or more places. Narrowing can lead to complete blockage which may cause damage to the heart muscle (AMI).

CPR cardiopulmonary resuscitation

CRNA Certified Registered Nurse Anesthetist

croup a common infant and childhood infection characterized by spasm of the larynx, or a barking type of cough

crutch an aid to walking with arm and hand supports

CSF cerebrospinal fluid

CXR chest X-ray

cyanosis a bluish or gray color of the mucous membranes and skin, usually around the mouth, fingertips, or earlobes, which indicates severe lack of oxygenation to body tissues

cyst a sac filled with fluid or other material

cyst or cysto prefix pertaining to urinary bladder or a cyst

cystitis inflammation of the urinary bladder

cystoscopy visual exam of the inside of the urinary bladder with a special scope

D

D & C (dilation and curettage) a procedure that opens the cervix to allow the uterine wall to be scraped

D.O. Doctor of Osteopathy

debridement removal of dead tissue

decontamination the removal of dangerous chemicals or infectious agents

decubitus ulcer also called pressure sore, bed sore, or skin ulcer; the breakdown and erosion of tissue from friction and lack of blood flow to that area, commonly on the tailbone or hip

defecation removal of feces from the rectum

defibrillation electrical shock through a patient's heart to correct ventricular fibrillation

deformity unnatural form in a body part

dehiscence the separation of layers of a wound

dehydration loss of body water

delirium an acute confusional state

delirium tremens (DT's) the most severe complication of alcohol withdrawal; symptoms include restlessness, agitation, hallucinations, trembling hands, and possibly seizures. DT's can be life threatening.

delusion a false belief

dementia mental confusion and deterioration over a period of time

denture artificial teeth

depression feelings of sadness

dermis the second layer of the skin, found right below the epidermis

dextrose a sugar, also called glucose

diabetes (diabetes mellitus) a deficiency or absence of insulin production by the pancreas rendering the body unable to use sugar

diabetic coma severe diabetic ketoacidosis; severe hyperglycemia due to inadequate insulin, causing unresponsiveness and possibly death

diaphoresis perspiration

diaphragm the major muscle of respiration that separates the chest from the abdomen

diarrhea defecation of watery stool or frequent stool

diastole ventricular relaxation

diastolic (blood) pressure the arterial pressure when the heart is relaxed

digital performed with a finger

dilation to open, enlarge, or expand in diameter

diplopia double vision

direct pressure a method of stopping bleeding that involves putting a firm hold on the bleeding site

disinfect process of eliminating pathogens by using chemicals

dislocation disruption of a joint

disorientation unable to discern one's name, location, time, or circumstances

distal an anatomical term describing nearer to the end of an extremity, or further away from the body; opposite of proximal

distended swollen, stretched

diuretic "water pill"; a medication used to increase excretion of water from the body

diverticula pockets of weakened areas of the colon wall

diverticulitis inflammation of diverticula

DNR (do not resuscitate) a physician's order to refrain from attempting resuscitative measures

DOA dead on arrival at the hospital

dorsal an anatomical term referring to the back or posterior side of the body

dorsalis pedis (pedal pulse) a pulse in the top of the foot

"downer" a slang expression for a group of medications (depressants) that will depress the central nervous system and cause relaxation and slowing of the body

Down syndrome a congenital chromosome abnormality which results in varying degrees of mental retardation and some physical abnormalities

dressing protective covering for a wound to help stop bleeding and prevent contamination

drowning death from submersion (in water)

duct a channel to carry secretions from glands

duodenum the first portion of the small intestine

dys- a prefix meaning difficult or painful

dysfunction abnormal or disturbed function

dysmenorrhea painful menstruation

dyspepsia indigestion

dysphagia difficult or painful swallowing

dysphasia difficulty speaking

dyspnea difficulty or labored breathing

dysrhythmia disturbed cardiac rhythm

dysuria painful or difficult urination

E

ecchymosis bruising

ECG electrocardiogram

eclampsia "toxemia of pregnancy"; a severe complication of pregnancy characterized by seizures and preceded by headaches, swelling (edema), and high blood pressure, and associated with the presence of toxic substances in the blood

-ectomy a suffix meaning surgical removal

ectopic pregnancy a pregnancy or implanted fertilized egg outside the uterus, most commonly in the Fallopian tube and then called a "tubal pregnancy"

edema swelling of tissues from extra fluid

EEG (electroencephalogram) a graphic record of electrical activity in the brain

effacement the thinning of the cervix in preparation for delivery

efficacy a drug's ability to produce an expected result

effusion fluid leakage into a cavity such as a joint or pleural space

electrocardiogram (ECG or EKG) a graphic representation of the electrical activity of the heart produced by the depolarization and repolarization of the atria and ventricles.

electrode a wire or patch that connects the patient to an electrocardiogram (ECG) machine and measures the electrical activity of the heart

emaciation very thin

embolis blood clot, or fat particle, or air bubble in the blood stream

embolism movement of a blood clot, or fat particle, or air bubble in a blood vessel

emesis vomit

EMG (electromylegram) a graphic record of electrical impulses of skeletal muscle

-emia a suffix meaning blood

emphysema a chronic obstructive pulmonary disease (COPD) consisting of the loss of elasticity of the lungs

EMS Emergency Medical Services; prehospital or out of hospital emergency care for sick and injured

EMT Emergency Medical Technician; a prehospital care provider of basic life support

EMT-P EMT-Paramedic or advanced prehospital medical care personnel

encephalitis inflammation of the brain

endocarditis inflammation of the inside lining of the heart

endocardium the thin inside lining or membrane of the heart

endocrine system the body system that produces hormones

endotracheal tube a tube placed in the trachea to more directly and effectively ventilate a patient and protect the lungs from aspiration

enema a solution inserted into the rectum and lower portion of the colon

enteritis inflammation of the small intestine

enuresis bed wetting

enzyme a protein that stimulates and hastens a chemical reaction

epi- a prefix meaning over or upon

epidermis the top or outer layer of skin

epidural hematoma a condition is which blood accumulates in the epidural space

epiglottis the flap of tissue above the larynx (voice box) that closes off the airway when a person swallows

epiglottitis the inflammation and swelling of the epiglottis, usually by bacterial infection and potentially life threatening due to airway obstruction

epilepsy a general term for a seizure disorder that does not have a known cause other than abnormal focus of electrical activity in the brain

epinephrine (adrenaline) a medication administered for anaphylaxis and severe allergic reaction; it opens the bronchi and restores circulation; also, a naturally occurring hormone secreted by the adrenal gland causing the pulse to increase and vasoconstriction.

epistaxis nosebleed

erythema redness, usually associated with a rash

erythrocyte red blood cell

esophagus the muscular tube that carries swallowed food from the throat to the stomach

estrogen the female sex hormone; it contributes to the growth of female reproductive anatomy

etiology cause of a disease or condition

euthanasia mercy killing

exacerbation a worsening of a disease or condition

exhalation to breathe air out of the lungs

expectorant a medication to loosen up bronchial secretions and facilitate the ability to cough the secretions up

expectorate to cough up material

exsanguinate bleed to death

extravasation the leakage of fluids out of blood vessels and into the surrounding tissue

extremities the arms and legs

extrication free from entrapment

exudate pus or serum

F

fainting syncope; transient loss of consciousness due to lack of blood to the brain

Fallopian tubes the female structures that run from the ovaries to the uterus

fascia connective membrane tissue covering some muscles and organs

fasciotomy a surgical incision into the fascia

fasting abstaining from eating

febrile feverish

fecal impaction a solid mass of feces that prevents the passage of stool

feces excrement, body waste

femoral pulse the pulse point in the groin

femur thigh bone

fetus unborn child

fever elevation of body temperature

FiO_2 oxygen concentration of inspired air

fibrillation chaotic, unorganized electrical activity of the heart, that does not result in mechanical pumping

fibrin the substance in a blood clot

fibrinolysis dissolving a blood clot with enzymes

fibula the smaller, outermost bone in the lower leg

flaccid weak, flabby, lacking muscle tone

flammable capable of being easily ignited

flatulence intestinal gas

flatus intestinal gas

flexion the act of bending

flowmeter a device connected to an oxygen cylinder that measures the amount of oxygen being delivered

Foley catheter a tube inserted in the urinary bladder to drain urine. It is kept in place by a small water filled balloon in the bladder.

fontanelles the "soft spots" in infants; openings in the skull prior to bone fusion

foot drop a condition where the foot falls forward due to weakness or paralysis of lower leg muscles

Fowler's position semisitting, usually about 45 degrees

fracture a break in a bone or solid organ

frontal pertaining to the forehead

full-thickness burn third degree burn, affecting all layers of skin

fundus (uterine) the rounded or top part of the uterus

G

gag reflex a reflex causing one to retch or make an effort to vomit, when the back of the throat is stimulated or irritated

gait walk

gall bladder an organ in the digestive system that stores bile and is located adjacent to the liver

gallstone a calcification in the gallbladder or bile ducts

gangrene tissue death due to lack of blood supply

gastric gavage nourishment directly into the stomach through a tube inserted through the nose

gastritis inflammation of the stomach lining

gastro a root word meaning the stomach

gastroenteritis inflammation of the stomach and intestines

gastrointestinal related to the stomach and intestines

gastrostomy a surgical opening into the stomach through the abdominal wall

genitalia external sex organs

genitourinary system the organs of reproduction and organs of urine production and elimination

genotype the genetic makeup of an individual

geriatric pertaining to the elderly, usually over age 65

gestation the period from conception to birth

gingiva the gums

gingivitis inflammation of the gums

gland a group of specialized cells that secrete a certain substance

glaucoma abnormally high pressure in an eye, leading to pain, redness, and eventually vision loss

glottis the opening between the vocal cords

glucagon pancreas secreted hormone to increase blood sugar

glucose sugar used by the body and metabolized to create energy

grand mal seizure a generalized seizure with periods of intense involuntary muscle contractions and unconsciousness

gravid pregnant

gravidity the total number of pregnancies including miscarriages

grief emotional pain from loss of something, usually a loved one but it can be a home, a job, etc.

H

h.s. at bedtime

hallucination a sensation (visual, auditory, tactile) that does not exist in reality

hallucinogens a group of mind altering drugs that create hallucinations or distort reality

head-tilt, chin-lift maneuver a method of opening the airway when the patient is free from a neck or spinal injury

heart attack a non-medical term for an acute myocardial infarction, or heart muscle damage due to lack of blood flow

heart failure failure of the heart to function effectively as a pump and circulate blood

heart murmur an abnormal heart sound, usually caused by a heart valve problem

Heimlich maneuver a procedure designed to rid the airway of an obstruction of foreign material consisting of a series of thrusts to the abdomen

hem a root word indicating blood

hemat a root word meaning blood

hematemesis vomiting blood

hematocrit the lab test that determines percentage of red blood cells in a sample of whole blood; normal value is from 40–50%, depending on gender.

hematoma a blood tumor, or collection of blood in an organ or tissue as a result of an injured blood vessel

hematuria blood in the urine

hemi- a prefix meaning half

hemiparesis weakness on one side of the body

hemiplegia paralysis of one side of the body, usually caused by a stroke

hemodialysis the filtering or removal of waste products from the blood typically for patients with kidney disease

hemoglobin the oxygen carrying portion of red blood cells; 12–16g/100ml in women and 14–18g/100ml in men is the average

hemolysis the breakdown or destruction of red blood cells

hemophilia a blood clotting disorder that is inherited

hemoptysis coughing up blood

hemorrhage bleeding, either externally where it can be seen and easily identified or internally, where it may go unnoticed initially

hemorrhoids varicose veins in the anus, sometimes causing pain and bleeding

hemostasis stopping bleeding

HEPA mask a high efficiency particulate air filter that prevents microparticles from going through the barrier; worn to prevent transmission of airborne communicable disease

Heparin an anticoagulant medication

hepat a root word meaning the liver

hepatitis inflammation of the liver either by a virus or a toxic chemical

hernia the pushing forward or jutting out of an organ or structure through its wall

herniation the protrusion of an organ through an opening where it does not belong

Hickman catheter a central venous catheter used for prolonged intermittent administration of blood, nutrition agents, etc.

hip the joint at the top of the thigh, between the thigh and the pelvis

histamines a chemical released by damaged tissue that causes inflammation and may stimulate increased capillary leaking and dilation of blood vessels

hives skin disorder, frequently allergic, characterized by redness, swelling, and itching

homeostasis the appropriate balance or stability in the body

hormone a substance created in one part of the body that stimulates or regulates activity in another part of the body

hospice a program to support the terminal patient's emotional, physical and spiritual needs

Hoyer lift a hydraulic lift for assisting the movement of patients

human immumodeficiency virus (HIV) the virus that causes acquired immune deficiency syndrome (AIDs)

humerus the bone of the upper arm

humidifier a device with water, attached to the oxygen delivery system that provides moisture to the oxygen coming from the cylinder

hyper- a prefix meaning too much

hyperextension the over extension of a limb

hyperglycemia high blood sugar

hypersensitivity allergy

hypertension high blood pressure

hyperthermia excessive temperature

hypertrophy an increase in the size of tissue or an organ due to an increase in the size of the cells, rather than an increase in the number of cells

hyperventilation increased rate and/or depth of respiration

hypo- a prefix meaning too little

hypoperfusion a state of inadequate perfusion or blood flow to the body; shock

hypotension low blood pressure

hypothermia very low temperature

hypoventilation inadequate or too low ventilation rate or volume to sustain oxygenation

hypovolemia state of low or inadequate volume in the circulatory system

hypovolemic shock hypoperfusion due to inadequate body fluid or blood

hypoxemia inadequate oxygen in the blood

hypoxia inadequate oxygen in the blood and delivered to body tissues

hysterectomy surgical removal of the uterus

I

I & O intake and output

iatrogenic caused by medical therapy

ICP (intracranial pressure) amount of pressure within the cranium

ICU (intensive care unit) a specialized hospital area for patients needing continuous nursing care

idiopathic unknown origin or cause

idiosyncratic effect unexpected, individual, and unpredictable effect from a medication

ileostomy a surgical opening into the ileum (small bowel)

ileum the last portion of the small intestine

ileus an intestinal obstruction for some reason

immobilize to hold a part firmly in place; to restrict motion

immune system the body's defense system that fights disease and foreign bodies; comprised of white blood cells, the lymphatic system, antibodies, and body functions

immunity resistance to infection

impaction firmly wedged or lodged, often referring to a collection of hardened feces wedged in the rectum

impotence inability to achieve or sustain an erection to perform intercourse

incoherent lack of order, relevance, or meaning in actions or speech

incontinence inability to control elimination of urine or feces

indication when it is appropriate to use a medication or procedure

induration hardening

infarction necrosis; tissue death due to lack of blood supply

infection invasion of the body by pathological microorganism such as a bacteria or a virus

inferior anatomical relational term indicating away from the head and toward the feet

infiltration escape of intravenous fluid into the surrounding tissue

inflammation the reaction of tissue to injury

inhalation breathing in; drawing air into the lungs

inhaler a medication spray device that provides an aerosol form of medication into the airway, usually a bronchodilator

innocuous not harmful

inspiration breathing in; drawing air into the lungs

insufficiency inadequacy

insulin the hormone secreted by the pancreas that allows the body to use sugar

insulin shock severe hypoglycemia; low blood sugar which may be characterized by abnormal behavior, decreased level of consciousness and seizures; the treatment is sugar

integumentary system the body system consisting of the covering or the skin, hair, nails, etc.

intercostal the space between the ribs

intercostal retraction the inward movement of the muscles between the ribs—a result of reduced pressure in the chest cavity, usually due to airway obstruction

intermittent positive pressure breathing (IPPB) positive pressure delivery of oxygen into the lungs

intramuscular (IM) into the muscle

intraosseous into the bone; an alternate route for fluids and medications usually in the pediatric patient

intrathecal into the spinal cord

intravenous (IV) into a vein

intravenous pyelogram (IVP) an X-ray of kidneys after injection of contrast material

intubation insertion of a tube; frequently the placement of an endotracheal tube into the trachea

iris the colored part of the eye

irrigation large amounts of solution over an area

ischemia lack of blood flow to tissue, usually from severe narrowing of an artery or an obstruction

-itis a suffix meaning inflammation

J

jaundice a yellowish coloration to the skin or eyes due to excessive bile pigments in the blood; usually a sign of liver disease

jaw-thrust maneuver a method of opening the airway when it is necessary to avoid moving or extending the neck, such as in cases of trauma

jejunum the middle portion of the small intestine

joint when two bones come together

jugular venous distension (JVD) bulging of the neck veins

K

ketoacidosis a hyperglycemic condition that may occur in diabetics whereby acids and ketones are produced

kidneys paired organs that filter waste material from blood

kyphosis excessive posterior spinal curve

L

labor muscular contractions of the uterus intended to expel the fetus

laceration a tearing or cutting wound

lacrimal glands the glands in the outer corner of the eyes that secrete tears

lactation milk secretion

laryngectomee a patient who has had surgical removal of all or part of the larynx

laryngectomy the removal of the larynx, usually due to cancer of the larynx

laryngoscope an instrument used to visualize the larynx, usually for the purpose of placing an endotracheal tube

laryngospasm severe constriction or narrowing of the larynx, often due to an allergic reaction

larynx the voice box

lateral an anatomical term indicating away from the middle of the body

lateral recumbent position lying on one's side

lavage washing a body organ

laxative a medication that stimulates bowel movements

lesion a general term used to describe an abnormality

lethargy drowsiness

leukemia disease of the blood characterized by excessive white blood cells

leukocyte white blood cell

leukocytosis an increase in the number of WBCs, often indicating an infection

leukopenia a decrease in the numbers of WBCs

levin tube a type of nasogastric tube

liability legally responsible

libido sexual desire

ligaments fibrous connective tissue that join bones to bones and strengthen joints

lithotomy position lying on the back with feet in stirrups

liver the large solid organ of the right upper quadrant of the abdomen that detoxifies drugs, secretes bile, produces glucose, vitamins and other substances and other important functions

living will a legal document containing specific instructions to express medical decisions when one becomes incompetent as a result of accident or extended/terminal illness; usually intended to prevent resuscitative efforts or mechanical support

livor mortis tissue discoloration after death

log-rolling a procedure to move a patient while keeping head and spine aligned

LPN Licensed Practical Nurse

lumbar puncture a procedure where a needle is inserted into the subarachnoid space to draw off a sample of cerebro spinal fluid for analysis

lungs the organs in the thoracic cavity where the exchange of oxygen and carbon dioxide occurs

LVN Licensed Vocational Nurse

lymph node a collection of lymphatic tissue that produces a type of WBCs and fights infection

lymphatic system the body system responsible for maintaining the internal fluid system of the body

M

M.D. Doctor of Medicine

malaise a general feeling of sickness

malignant cancerous or likely to become worse and result in death

malnutrition lack of proper food nutrients in the diet

mammogram a special X-ray of the breast to screen for breast cancer

mandible the lower jawbone

mastectomy surgical removal of the breast

masticate to chew

maxilla the upper jawbone

mechanism of injury the cause and method of injury; consideration includes type, intensity, and direction of force, and body parts affected

meconium fetal stool

meconium stain fecal contamination of amniotic fluid, giving off a green or brownish color and indicating a complication of birth

medial toward the midline or middle

medulla part of the lower brain; the inner part of an organ

melena stool containing blood. Melena has a black, tar-like appearance.

membrane a protective covering

menarche the first menstrual period, usually occurring between 9 and 17 years of age

meninges the three layers of brain and spinal cord covering

meningitis inflammation of the meninges

menopause cessation of menstruation

menses menstrual flow

menstruation the monthly female process of sloughing or shedding the uterine lining

metabolism the biochemical reactions that take place in the body to provide energy, growth, and other bodily functions

metacarpals the bones of the hand between the wrist and the fingers

metatarsals the bones of the foot between the ankle and the toes

micturation urination

midclavicular line an anatomical landmark consisting of an imaginary line from the middle of the clavical downward on the chest

milliliter (ml.) one thousandth of a liter; 1 cubic centimeter

miosis pupillary constriction

miscarriage the spontaneous loss of embryo or fetus prior to the 28th week of pregnancy; also called a spontaneous abortion

MMR measles, mumps, and rubella vaccine

morbidity degree or severity of illness

mortality death from a disease or injury

MRI magnetic resonance imaging—a type of X-ray

MT medical technologist

mucous membrane membranes that line many organs and contain mucous producing glands

mucus slippery secretion that serves to lubricate and protect various surfaces

muscular dystrophy a genetic disease of the muscles causing progressive loss of function

musculoskeletal system the system of bones, joints, muscles, and related structures that enable the body to move and function

myalgia muscle pain or tenderness

mydriasis pupillary dilation

myocardial infarction heart attack; death of a portion of the heart muscle due to an inadequate amount of blood supply

myocardium the heart muscle

myopia nearsightedness

N

N.P.O. nothing by mouth

narcolepsy disorder characterized by excessive, recurrent, and/or uncontrollable sleep episodes that occur inappropriately. The cause is treatable but incurable.

narcotic an addictive category of "pain killer" medications that are derived from opium. These drugs are sometimes used illicitly to produce euphoria and relaxation.

nasal cannula an oxygen delivery device consisting of two prongs that go a short distance into the nose

nasal septum the portion of the nose that separates the two nasal cavities

nasogastric tube a tube that is inserted into the nose while the patient swallows and goes into the stomach to allow drainage, feeding, or to wash out stomach contents

nasopharyngeal airway a nasal airway; a flexible plastic tube that prevents the tongue from blocking the airway and allows air to flow unobstructed. The tube goes from the nose to the posterior nasopharynx.

nasopharynx back of the throat and nose

nausea the sensation of being "sick at the stomach," typically prior to vomiting

nebulizer a device that delivers water or liquid medication in the form of a fine spray or mist

necrosis death of tissue

negligence failure to act as a reasonably prudent person, resulting in harm

neoplasm a new growth that is abnormal

nephritis inflammation of the kidney

nephro a root word meaning the kidney

nephron the unit of the kidney that does the actual filtration of blood

nervous anxious, excitable

nervous system the brain, spinal cord, and nerves

neuralgia pain from a nerve

neuron a nerve cell

neuropathy any disorder of the nerves

nicotine a poisonous and addictive substance found in tobacco

nitroglycerine a medication to dilate or open up coronary arteries during episodes of angina or chest pain

nocturia increased frequency of urination at night that is not due to increased fluid intake

non rebreather mask an oxygen delivery devices that contains a mask with a bag and provides for a high concentration of oxygen delivery

normal saline (ns) a 0.9% salt (sodium chloride) solution that is similar to body fluid. It can be administered in an intravenous solution or used as an irrigating solution on a wound.

normal sinus rhythm (NSR) the normal rhythm of the heart where the electrical impulse arises from the sinoatrial node and travels through the heart's normal electrical pathways without interference

nosocomial originating in the hospital

NP Nurse Practitioner

nutrition how the body uses food

nystagmus rhythmic jerking of the pupils; sometimes a sign of toxicity

O

obesity weight over 20% of the ideal weight for a person's height and frame

obtunded difficult to stimulate

occlusion a blockage, usually referring to a blocked blood vessel

occult hidden

ocular related to the eye

olfactory sense of smell

oliguria none or minimal urine output

-oma a suffix meaning tumor

opthalmoscope instrument to examine the inside of the eye

orientation conscious awareness of person, place, and time

orifice opening into the body

orogastric tube a tube inserted into the mouth that goes into the stomach

oropharyngeal airway oral airway; a plastic device to be inserted into the mouth and posterior pharynx in an unresponsive patient without a gag reflex to keep the tongue from occluding the airway

oropharynx area behind the base of the tongue and back of the mouth

orthopnea needing to sit up to breathe

orthostatic hypotension a low blood pressure, usually transiently, as one changes from a sitting to a standing position

osteo referring to bone

osteoarthritis joint inflammation, usually a result of aging

osteomyelitis bone inflammation

osteoporosis decrease in bone density, causing an increased likelihood of a bone break, even without much force

ostomate a person having an ostomy

-ostomy a suffix meaning to form an opening

OT Occupational Therapist

OTC over the counter medication available without a prescription

otitis externa inflammation of the external ear; swimmer's ear

otitis media inflammation of the middle ear

otoscope an instrument to examine the inside of the ear

ovary the female sex organ in which eggs and female hormones are produced

ovulation process whereby an ovum or egg is released, usually once a month

ovum the egg cell produced by the ovary

oxygen odorless, colorless gas that is essential to life; normal air contains 21% oxygen

oxytocin a hormone that helps the uterus to contract before, during, and after delivery of an infant

P

p.c. after meals

PA Physician's Assistant

palate the roof of the mouth

palliative to provide relief but not cure

pallor very pale skin

palpation feeling with the hands and fingers

palpitation a sensation of heart fluttering or irregularity caused by a dysrhythmia.

palsy paralysis

pancreas an organ of the digestive system that secretes insulin and digestive enzymes

pancreatitis inflammation of the pancreas

panic severe anxiety

paracentesis the insertion of a needle into a body cavity to remove fluid

paralysis loss of the ability to move a body part

paranoia abnormal or unrealistic suspiciousness; exaggerated feelings of persecution

paraplegia paralysis of the legs

parasympathetic nervous system part of the autonomic nervous system that controls vegetative functions of the body such as digestion

parenteral by injection such as intramuscular, subcutaneous, intravenous, rather than through the alimentary canal

parenteral hyperalimentation provision of all necessary nutrients via an intravenous solution; for use when the patient is not able to eat

paresis weakness

paresthesia numbness or tingling

Parkinson's disease a disorder characterized by tremor, muscle rigidity and weakness, and a forward leaning gait; dementia may occur in later stages

parotid glands salivary glands located below and in front of the ears

paroxysmal occurring suddenly and usually intensely

patella kneebone

patent open; not obstructed

pathogen an organism that causes infection

pathological diseased

pathology the study of disease

pedal pertaining to the foot

pediatric pertaining to infants and children

pelvis the bones of the lower trunk of the body

penis the male sexual organ that also is a passageway to eliminate urine

peptic pertaining to the stomach

percutaneous via the skin

perfusion circulation of blood and oxygen to the body and tissues.

peri a prefix that means around

pericarditis inflammation of the pericardium

pericardium the membrane around the heart

perineum area between the anus and the external genitalia

perioribital around the eye socket

peripheral anatomical term indicating distant or away from the middle

peristalsis the muscular contractions of the intestines that move food along during digestion

peritoneal cavity abdominal cavity

peritoneal dialysis a process of filtering waste products from the body through the abdominal cavity

peritoneum the membrane that surrounds the abdominal cavity

peritonitis inflammation of the peritoneum

personal protective equipment (PPE) protection from communicable diseases or hazardous materials with eyewear, gloves, gown, mask, helmet, or other protective wear

petechiae very small, pinpoint red spots on the skin

petit mal seizure an "absence" or momentary loss of awareness episode without muscle jerking or other motor dysfunction

phalanges finger or toe bones

pharyngitis sore throat; inflammation of the pharynx

pharynx the throat

phlebitis inflammation of a vein

phlebotomy opening a vein, or sticking a vein, to remove blood

phobia a persistent irrational fear

photophobia sensitivity to light

physiology the study of body and body part functioning

placebo a "fake" medication that contains no active ingredients and is given to satisfy a patient's request for medication, in studies of medication effectiveness, and in clinical trials of new medications

placenta the "afterbirth" or organ attached to the uterine wall and connected to the fetus to provide oxygen and food, and exchange waste

placenta previa condition in which the placenta is attached very low in the uterus and potentially over the cervical opening; a normal vaginal delivery is not possible in this case

plasma the fluid component of blood

pleura the two layered lining of the lungs

pleural space the potential space between the pleura that normally contains a small amount of fluid

pleuritis inflammation of the pleura

pneumo a root word meaning the lungs

pneumonia infection of the lungs

pneumothorax air in the pleural space

poliomyelitis a viral infection that can cause paralysis

poly- a prefix meaning excessive

polydipsia excessive thirst

polyphagia excessive hunger

polyuria excessive urination

position of function the body positions that are natural and relaxed and preserve normal function. For example, the position of function for the hand is the wrist and fingers somewhat flexed.

post after

posterior back side of the body or of an organ

postictal the period of decreased level of consciousness that occurs after a grand mal seizure

postoperative the time period after surgery

postpartum the time period after childbirth

potentiation an enhanced effect of a drug caused by the simultaneous use of another drug

preecclampsia a complication of pregnancy where fluid retention, swelling, and hypertension occur. It can progress to life threatening ecclampsia with seizures and unresponsiveness.

presby old age

presbycusis loss of hearing due to aging

presbyopia far sightedness due to aging

prescription a physician's order for a drug

pressure dressing bulky bandages secured tightly to provide direct pressure and control bleeding

pressure point the site of a major artery close to the surface of the body where direct pressure can stop bleeding distal to the site.

pressure sore also called bed sore or skin ulcer; the breakdown and erosion of tissue from friction and lack of blood flow to that area, commonly on the tailbone or hip

priapism sustained penile erection, sometimes due to a spinal cord injury or other medical condition

primigravida a woman who is pregnant for the first time

PRN administer as needed

progesterone female sex hormone that supports pregnancy

prognosis opinion about the outcome of a particular disease

prolapsed cord an urgent situation during childbirth when the umbilical cord is protruding from the vagina causing the infant's head to compress the cord against the vaginal wall

prone lying on one's stomach

prophylaxis disease prevention

prostate gland the gland surrounding the lower part of the male urethra

prostatic hypertrophy enlargement of the prostate gland, causing problems with urination

prosthesis an artificial body part

prostration extreme exhaustion, collapse

protocol a written plan of treatment

proximal an anatomical term meaning located toward the center of the body; opposite of distal

pruritis severe itching

psychomotor motor actions related to cognitive function

psychosis major psychological disorder in which the patient is unable to discern what is real from what is not

psychosomatic emotional problems causing physical symptoms

psychotic a person with a psychosis

PT Physical Therapist

ptosis drooping

puberty the period of life when sexual maturity and reproductive capability occurs, usually between the ages of 10 and 14 years

pulmonary having to do with the lungs

pulmonary artery the major artery coming from the right ventricle of the heart and carrying non-oxygenated blood to the lungs

pulmonary edema fluid in the lungs

pulmonary veins the major veins coming from the lungs and carrying oxygenated blood to the left atrium of the heart

pulse the site in some arteries where the beat of the heart can be felt

purulent containing pus

pus a thick, white substance associated with infection and inflammation

pyorrhea severe inflammation of gums and bone around the teeth

pyrogen any microorganism, bacteria or virus or chemical released during inflammation that causes a fever

Q

q. 4h. every four hours

q.i.d. four times a day

quadraplegia paralysis of all four limbs

R

R. Ph Registered Pharmacist

R. T. (N) Registered Technologist in nuclear medicine

R. T. (R) Registered Technologist radiographer

R.N. Registered Nurse

R.O.M. range of motion or degree of movement for each joint

R.T. Radiological Technologist; Respiratory Therapist

R.T. (T) Registered Technologist in radiation therapy

raccoon eyes bruises around the eye area without a direct blow to the eyes, usually indicating a fracture in the base of the skull

radial pertaining to the wrist

radial pulse the pulse point on the wrist; most often used when taking a pulse rate

radiation therapy X-ray therapy used for some types of cancer

radius the bone of the forearm on the thumbside

rales lung crackles; abnormal breath sounds

rash a skin eruption

RBC's red blood cells or erythrocytes

reasonable force enough force to restrain or subdue

recovery position a position to assist in airway maintenance in a breathing but unresponsive patient without trauma. The position is on the patient's side so secretions can drain out of the mouth.

reduction restore to normal position

referred pain pain felt somewhere other than the injured or diseased part of the body

reflex involuntary reaction to a stimulus

regurgitate vomit

rehabilitation restoring an individual to his or her highest level of functioning

remission lessening of severity of symptoms

renal pertaining to the kidney

renal calculi kidney stones

renal failure dysfunction of the kidneys whereby urine formation is diminished or absent altogether

rescue breathing artificially breathing for a patient who has stopped breathing

respiration the exchange of oxygen and carbon dioxide

respiratory arrest cessation of respirations

respiratory distress difficulty breathing

resuscitate to revive or restore life

retching attempting to vomit without vomitus

retractions a possible indication of respiratory distress where the skin pulls tight around the ribs, above the clavicles, or in the sternal notch during inspiration

retroperitoneum the area behind the peritoneum; the kidneys are located here

rheumatoid arthritis progressive joint inflammation believed to be due to an autoimmune disease process

rhinitis inflammation of the nasal membranes

rhonchi lung crackles, abnormal coarse, rattling breath sounds

rigor mortis stiffening of the body after death

rotation turning

-rrhage a suffix meaning excessive flow

RRT Registered Respiratory Therapist

S

saline salt solution

saliva water and other substance secreted by the salivary gland

scapula shoulder blade

scar a mark on the skin from a healed wound

scoliosis curved spinal column

scope of practice the specified practices and procedures allowed for a specific healthcare provider usually determined by state statute

scrotum the sac that contains and protects the testes of the male

sedative a category of medications that depresses the central nervous system causing sedation or sleep

seizure a discharge of electrical activity in the brain, causing some type of neurological dysfunction from a mild period of unresponsiveness to a full blown tonic clonic seizure

senescence the process of aging

senility loss of mental capacity in old age

sensory deprivation insufficient sensory stimulation

sepsis infection

serum liquid portion of blood

shock hypoperfusion; inadequate tissue perfusion; or discharge of electrical energy as in defibrillation

shunt a diversion

sickle cell anemia anemia characterized by sickle or crescent shaped red blood cells and destruction of red blood cells

side effect an undesired effect of a drug

sigmoid colon the lower portion of the descending colon of the large intestine

sigmoidoscopy examination of the inside of the inside of the sigmoid colon with a special scope

sinus a cavity in a bony structure

skull the bony structure of the head

sling a bandage applied around the neck to support and immobilize the lower arm

slough separate from the living tissue

SMA 12, SMA 20 (sequential multiple analyzer) a device that analyzes many blood chemistry tests

small intestine the portion of the alimentary canal between the stomach and the large intestine

somatic referring to physical body

spasm a sudden involuntary contraction of a muscle or constriction of a passageway

spasticity continuous sudden involuntary muscle contractions

speculum an instrument to open a body cavity for examination

sperm the male reproductive cell

sphincter a ringlike muscle that is situated at body orifices

sphygmomanometer a blood pressure cuff; a device to measure blood pressure

spinal tap lumbar puncture

spleen a solid organ in the left upper quadrant of the abdomen that helps fight infection

splint a rigid material to immobilize an injured body part

spontaneous abortion miscarriage; delivery of the fetus and placenta prior to the 28th week of pregnancy

sprain a ligament injury, either by stretching or a partial tear

sputum material coughed up from the lungs

standard of care the minimal level of expected care or performance criteria provided in a particular community

stasis slowing or sluggishness of the flow of a liquid, usually blood or urine

stat order an order to be carried out immediately without delay

status epilepticus repeated seizures or seizure activity without a period of consciousness

stenosis narrowing

sterile microorganism free; unable to produce children

sterilization the process of destroying all microorganisms; the process of making a person unable to produce offspring

sternum the breast bone

steroid a category of medication

stillborn born dead and unable to be resuscitated

stimulant a category of drugs that stimulate the central nervous system and increases body activity

stoma an artificial opening

stomach the hollow, sac-like organ of the alimentary canal between the esophagus and small intestine that holds food and contributes to digestion

stool feces

strain a minor muscle injury from over exertion of the muscle

stress incontinence involuntary escape of urine due to coughing or some other pressure

stricture narrowing

stridor a high pitched sound caused by narrowing of the trachea or larynx

Stryker® frame a special patient bed that allows rotation of the patient without patient assistance

stroke a brain attack or cerebrovascular accident (CVA); damage of a portion of the brain due to lack of blood flow causing a variety of neurological symptoms depending on which part of the brain is damaged

sub a prefix meaning under

subcutaneous the tissue beneath the skin

subdural hematoma accumulation of blood between the pia mater and the arachnoid membrane of the brain

sublingual under the tongue

subluxation partial dislocation

superior a directional anatomy term meaning toward the top or the head

supine lying on the back, face up

suppository a solid medication inserted into the rectum or vagina

surfactant a pulmonary lubricant

suture the material used to stitch parts of the body together

sympathetic nervous system part of the autonomic nervous system that readies the body to react to stressful situations

syncope temporary loss of consciousness; fainting

syndrome a group of symptoms common to a specific disease process

systemic pertaining to the entire body system

systole the contraction of the heart

systolic (blood) pressure the arterial pressure when the heart is contracting

T

t.i.d. three times a day

tachycardia fast heart beat, usually over 100 beats per minute

tachypnea rapid respiratory rate

tenacious sticky

tendon connective tissue that connects muscle to bone

tendonitis inflammation of a tendon

terminal illness an illness where recovery is not expected

testes male sperm producing genitalia located in the scrotum

testosterone the male sex hormone responsible for male reproductive organ and sexual organ development

tetany muscle twitching or spasm

therapeutic healing

therapeutic abortion an induced termination of pregnancy for the health of the mother

therapeutic action the desired effect of a drug

thoracentesis withdrawal of fluid from the pleural cavity

thoracotomy surgical opening into the chest

thorax the chest

threatened abortion vaginal bleeding indicating the possibility or threat of a spontaneous miscarriage

thrombocyte a platelet

thrombocytopenia an abnormal decrease in the amount of platelets

thrombophlebitis vein inflammation associated with a blood clot

thrombus a blood clot

tibia the shinbone or medial lower leg bone

tidal volume the amount of air in one inspiration and exhalation

tinnitus ringing or buzzing noise in the ears, sometimes the result of drug toxicity

-tomy a suffix meaning the act of cutting; incision (e.g., lobo*tomy*, laparo*tomy*, and so on)

tolerance a diminished effect of a drug requiring an increase in dosage to achieve the same effect

tonsils lymph tissue in the back of the throat and base of the tongue

topical administration a medication applied directly to the body site

torsion twisting

tourniquet a method of external hemorrhage control, used as the last resort to stop bleeding. It is usually a wide plastic or cloth that is wrapped around an extremity and pulled tightly.

toxemia (of pregnancy) (eclampsia) an abnormal condition associated with the presence of toxins in the blood

toxic poisonous

toxin poison from plants, animal or bacteria

TPN total parenteral nutrition or administration of all one's nutritional needs via an intravenous solution into a large vessel

trachea the windpipe

tracheostomy a surgical opening into the neck and trachea

traction a pulling force

traction splint fracture stabilization device that exerts force to straighten and align the bone ends, usually for a femur fracture

trade name brand name or manufacturer's name of a medication

transdermal through the skin

transient ischemia attack (TIA) a "little stroke" or neurological event whereby the symptoms are temporary, lasting less than 24 hours

trauma injury by an external force, usually a physical injury but it can be psychological

tremor an involuntary twitching or fine movement, usually of the hand

Trendelenburg's position position where patient's feet and legs are elevated higher than the head; used for hypovolemic shock

triage to sort, usually by severity or type of medical condition

trimester a period of three months, usually in reference to the three periods or trimesters of pregnancy

trocar sharp, pointed instrument inside a canulla or narrow tube used to pierce a body cavity

tubal ligation a surgical procedure to cut the fallopian tubes and render the female sterile

tuberculosis a chronic contagious infection, usually affecting the lungs

tumor a collection of cells with uncontrolled growth

tympanic membrane the eardrum

U

UA urinalysis

ulcer open craterlike sore on the skin or mucous membrane

ulna the larger bone of the forearm on the little finger side

umbilical cord the cord containing blood vessels that connect the fetus to the placenta

umbilicus the navel

unilateral one sided

universal precautions infection control concept that every patient is potentially infection carrying and requires use of gloves, mask, and protective eyewear when blood or body secretions are contacted

untoward adverse

uppers slang for a category of drugs that stimulate the central nervous system

urea a waste product of the body that contains nitrogen

ureters tubes that carry urine from the kidneys to the bladder

urethra tube that carries urine from the bladder to outside the body

urinalysis lab analysis of urine

urinary retention the inability to urinate

urine fluid secreted by the kidneys and stored in the urinary bladder

urticaria hives

uterus womb; the pear shaped internal female reproductive organ that nourishes a developing embryo/fetus

V

V.A.D. vascular access device; a generic term for centrally implanted intravenous devices to deliver chemotherapy and other frequently administered treatments; VAD's include central venous catheters (CVC's) and peripheral inserted central catheters (PICC).

vagina the birth canal

varicose vein an abnormally large dilated vein

vascular pertaining to blood vessels

vasectomy a surgical cutting of the vas deferens, usually for the purpose of contraception in men

vaso a root word meaning vessel

vasoconstriction narrowing of the lumen or diameter of blood vessels

vasodilation widening of the lumen or diameter of blood vessels

vasopressor a medication that causes the blood vessels to constrict and the blood pressure to rise

vena cava the major vein of the body that returns blood to the right side of the heart

venereal disease a sexually transmitted contagious disease

venipuncture the puncture or sticking of a vein, usually for the purpose obtaining a blood sample or starting an intravenous infusion

venom poisonous fluid secreted by some snakes and insects

ventilation the provision air to the lungs

ventricles the lower heart chambers; also small cavities in the brain that produce and store cerebral spinal fluid

ventricular fibrillation (vf) an ECG rhythm characterized by chaotic electrical impulses in the ventricle. This rhythm does not result in pumping and consequently is a cardiac arrest rhythm requiring immediate defibrillation.

ventricular tachycardia a life threatening rapid ECG rhythm with an abnormal pacemaker, the ventricle. This rhythm may or may not produce mechanical pumping.

vertebra the individual bones of the spinal cord

vertebral pertaining to the spinal column

vertigo dizziness or sensation that the room is spinning

viable potential to survive or live

virulent extremely poisonous or infectious

virus a simple type of microorganism that can cause disease

visceral internal tissues and organs

viscous thick and sticky

vital signs pulse and respiratory rate, blood pressure, and temperature

VNA Visiting Nurse Association

void urinate or defecate

vomitus emesis

vulva external female genitalia

W

WBCs white blood cells or leukocytes

wheeze a high pitched whistling noise indicating narrowed lower airways. In some cases, these may be heard without a stethoscope although ordinarily a stethoscope is necessary to hear them. Asthma, COPD, or an allergic reaction may be the cause.

wound a break in the skin

X

xiphoid process the cartilage at the lower tip of the sternum

Z

zygoma cheekbone