

INTRODUCTION TO

# Health Care

Dakota Mitchell  
Lee Haroun



FOURTH EDITION



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# PREFACE

*Introduction to Health Care*, Fourth Edition, is designed as an introductory text for learners who are entering college-level health care programs or for those who believe they may be interested in pursuing a career in health care. The fundamentals common to all health care professions are presented in this full-color text to create a foundation on which learners can build when they take their specific professional courses. The topics included are appropriate for professions that involve direct patient care, such as nursing and dental assisting, as well as those that provide support services, such as health information technology and pharmacy technician. The goal of the text is to present a broad base of health care essentials. Therefore, skills and procedures that apply only to specific professions are not included.

The text is written in easy-to-understand language. A variety of learning exercises are included in each chapter. These exercises are designed to appeal to the different ways that learners comprehend material, including visual, auditory, and kinesthetic. The text can be used by learners as a reference book after completion of their introductory courses.

## Content for Today's Health Care Professional

*Introduction to Health Care*, Fourth Edition, includes topics essential for today's learner and tomorrow's health care professional. The basic concepts that create the foundation for health care education have been expanded beyond those usually included in an introductory text. The following topics have been included in response to the current needs of health care educators and employers.

- Thinking skills
- Learning styles and study techniques
- Complementary and alternative medicine
- Prevention and wellness strategies
- Lifelong learning and continuing education
- Documentation
- Cost-control measures

- Performance improvement
- Personal efficiency
- Customer service

## Emphasis on Thinking Skills

The dramatic growth of the health care industry promises to provide increasing numbers of employment opportunities for graduates of health care programs. At the same time, today's graduates face new challenges. Changes in health care are rapid and continuous. Professionals at all levels are being given additional responsibilities. Efficiency and flexibility, combined with competency, are vital to workplace success. To be competent and successful in this ever-changing environment, health care professionals must be able to think for themselves and learn and adapt as necessary to meet current employment demands.

The authors recognize the need of health care educators for materials that can assist them in preparing students to assess new situations, determine appropriate action, and apply on the job what they learned in the classroom. This text is designed to help meet this need. Learners are introduced to the concept of thinking like a health care professional in Chapter 1. The specific skills that make up applied thinking are explained in everyday language. A five-step problem-solving model is clearly described to help learners systematically approach new situations. Every chapter includes exercises called "Thinking It Through" that require learners to apply the concepts presented in the text to typical on-the-job scenarios. Each chapter then concludes with two application exercises and one problem-solving exercise that provide opportunities to summarize and apply the chapter content. For a detailed review of the features in this book, see *About This Book* on page xxi.

## Organization of the Text

*Introduction to Health Care*, Fourth Edition, is divided into nine units that contain between two and five chapters of related topics. The following overview highlights many of the major concepts included in the text.

### Unit 1: Health Care Today

- Characteristics and trends of modern health care, including changing patient demographics and complementary and alternative medicine
- Descriptions of many health occupations, organized by type of work performed
- Explanation of how to think like a health care professional
- Legal and ethical responsibilities required of all health care professionals

### Unit 2: The Language of Health Care

- Introduction to basic concepts of medical terminology
- Examples of common word elements
- Suggested ways to approach the study of terminology and to learn it systematically
- Review of math skills necessary for health care applications
- Tips for dealing with math anxiety

### Unit 3: The Human Body

- Brief overview of the basic organization, structure, and functions of the body systems, intended as an introduction rather than a complete anatomy and physiology course
- Examples of diseases and conditions related to each body system
- Preventive measures for each system, including lifestyle management tips
- Physical and mental milestones of growth and development over the life span and the implications when providing health care

### Unit 4: Personal and Workplace Safety

- Basic skills and habits needed to protect both health care professionals and patients
- Explanations of body mechanics and infection control
- Hands-on skills, such as using a fire extinguisher

### Unit 5: Behaviors for Success

- Self-care practices important for health care professionals, including dealing with stress
- Characteristics of professionalism essential for career success

- Lifelong learning and continuing education strategies

### Unit 6: Communication in the Health Care Setting

- Patients as individuals
- Basic human needs
- Acknowledging diversity while avoiding cultural stereotypes
- Using questions and observations to assess specific patient needs
- Basic oral and written communication techniques
- Overview of computer applications in health care
- Basics of health care documentation and medical records

### Unit 7: Health Care Skills

- Basic assessment skills
- Hands-on skills, such as taking vital signs and measuring height and weight
- Normal ranges and significant changes
- Step-by-step instructions for performing basic emergency procedures (Cardiopulmonary resuscitation is not included because certification is often required of health care learners and the course is taught by certified instructors who use annually updated, written materials instead of a textbook.)

### Unit 8: Business of Caring

- Health care as a business
- Improving care while controlling costs
- Working efficiently
- Customer service

### Unit 9: Securing and Maintaining Employment

- Application of job search skills to health care employment
- Tips for remaining successfully employed
- Behaviors for job success, including teamwork and leadership skills
- Employment legalities

## Major Changes to the Fourth Edition

Book Chapter	Description of Changes
Frontmatter	<ul style="list-style-type: none"> <li>Added “Infection Control Content at a Glance” for easy reference</li> <li>Added a list of vital signs procedures to assist learners in locating this material quickly</li> <li>Added a list of first aid procedures as an easy reference for students</li> </ul>
Chapter 1	<ul style="list-style-type: none"> <li>Information updated for all careers: education, credentialing, state licensing requirements, job growth projections, etc.</li> <li>All health care industry facts and figures updated</li> <li>Added table listing occupations with largest numerical increases</li> <li>Revised explanation of career categories and how they overlap</li> <li>Added list of health care–related occupations such as art therapist and medical librarian</li> <li>Added material on patient care technician and home health aide occupations</li> <li>Reordered material in “Getting Off to a Good Start” section to be more logical</li> <li>Moved “Learning to Think Like a Health Care Professional” to the end of the chapter for better order; narrative now presents information about being a student, followed by information about being a health care professional, and ending with problem solving, which is a theme woven throughout the text</li> </ul>
Chapter 2	<ul style="list-style-type: none"> <li>Updated health care industry statistics</li> <li>Expanded list of advancements in medicine and health care</li> <li>Added information about incidence and the effects of Alzheimer’s and other forms of dementia on costs of providing health care; effects on families and society</li> <li>Chronic diseases and conditions and their effects               <ul style="list-style-type: none"> <li>Obesity</li> <li>Type 2 diabetes</li> </ul> </li> <li>Increase in use of pharmaceuticals and their costs               <ul style="list-style-type: none"> <li>Advertising of pharmaceuticals to the public: pros and cons</li> </ul> </li> <li>Patient Protection and Affordable Care Act (explained more fully in Chapter 22)</li> <li>Challenges               <ul style="list-style-type: none"> <li>Access to health care in terms of number of providers and facilities</li> <li>Patients learning to use the health care system</li> </ul> </li> <li>Expanded on social conditions that affect health care</li> <li>Public health concerns:               <ul style="list-style-type: none"> <li>Antivaccine movement and current incidence of measles</li> <li>Globalization</li> <li>Ebola, other</li> <li>Food safety</li> </ul> </li> </ul>
Chapter 3	<ul style="list-style-type: none"> <li>Updated to reflect changes in the law</li> <li>Revised examples of ethical issues based on current issues</li> </ul>
Chapter 5	<ul style="list-style-type: none"> <li>Added section on medication safety as reported by the Institute for Safe Medication Practices</li> </ul>
Chapter 7	<ul style="list-style-type: none"> <li>Moved Table 7–1 (Organ Systems of the Body) toward front of chapter for easier referral by students</li> </ul>
Chapter 8	<ul style="list-style-type: none"> <li>Added developmental theories by Piaget, Kohlberg, and Gilligan</li> </ul>
Chapter 9	<ul style="list-style-type: none"> <li>Added ergonomics of using a mobile and adjustable computer station</li> </ul>
Chapter 10	<ul style="list-style-type: none"> <li>All infectious diseases updated and Ebola virus added</li> <li>Drug-resistant infections expanded to include <i>Clostridium difficile</i> (<i>C. difficile</i>).</li> </ul>

(continued)

Book Chapter	Description of Changes
Chapter 11	<ul style="list-style-type: none"> <li>• Updated information on emergency preparedness plans</li> <li>• Added information and a sample of an emergency code system as a way health care facilities might communicate with staff without distressing patients and visitors</li> </ul>
Chapter 12	<ul style="list-style-type: none"> <li>• Updated statistics for: <ul style="list-style-type: none"> <li>◦ Leading causes of death in the United States</li> <li>◦ Prevalence of overweight and obesity</li> <li>◦ Deaths due to smoking and secondhand smoke</li> <li>◦ Incidence and deaths from substance abuse</li> <li>◦ Cases of HIV</li> </ul> </li> <li>• Added information about the link between eating habits and health</li> <li>• Added material on processed foods and their contents (sodium, trans fats, etc.)</li> <li>• Updated USDA guidelines: Choose My Plate</li> <li>• Added explanations of confusing terms: organic, free-range, hormone-free, etc.</li> <li>• Expanded information and included example on calculating BMI</li> <li>• Added explanation of maximum heart rate during exercise</li> <li>• Added flu vaccine recommendation</li> <li>• Added list of conditions that may be helped by practicing meditation</li> <li>• Expanded information about abuse of prescription drugs</li> <li>• Added list of common STDs</li> </ul>
Chapter 13	<ul style="list-style-type: none"> <li>• Under section on appearance, added item: avoid long, painted fingernails</li> </ul>
Chapter 14	<ul style="list-style-type: none"> <li>• Added items to Table 14–1 (Changes that Affect Health Care): <ul style="list-style-type: none"> <li>◦ Increase in incidence of Alzheimer’s disease</li> <li>◦ Mandatory electronic records</li> <li>◦ Increase of drug-resistant bacteria</li> <li>◦ Implementation of Patient Protection and Affordable Care Act</li> </ul> </li> <li>• Updated examples of how to earn CEUs</li> </ul>
Chapter 15	<ul style="list-style-type: none"> <li>• Updated population statistics</li> <li>• Corrected information on Native Americans (i.e., text now refers to medicine men and women, not shamans)</li> <li>• Added levels to Maslow’s hierarchy per his revisions of original work</li> <li>• Expanded the section “Determining Individual Needs” and moved it to end of chapter to pull together all the aspects that make up the individual</li> </ul>
Chapter 16	<ul style="list-style-type: none"> <li>• Added examples of communication encounters</li> </ul>
Chapter 17	<ul style="list-style-type: none"> <li>• Reorganized punctuation and grammar rules into table form to improve readability</li> <li>• Added material on writing emails and email etiquette</li> </ul>
Chapter 18	<ul style="list-style-type: none"> <li>• Updated information and examples on use of technology in health care</li> <li>• Updated and expanded information on electronic health records (government requirements, security, etc.)</li> </ul>
Chapter 19	<ul style="list-style-type: none"> <li>• Expanded information about electronic health records (EHR), personal health records (PHR), and HIPAA (Health Insurance Portability and Accountability Act of 1996)</li> </ul>
Chapter 20	<ul style="list-style-type: none"> <li>• Clarification added, noting the distinction made in using <i>assessment</i> versus <i>observation</i> and <i>data collection</i></li> </ul>

(continued)



Book Chapter	Description of Changes
Chapter 22	<ul style="list-style-type: none"> <li>Added factors that are causing increased health care costs, types of funding for health care institutions, and types of payment methods</li> <li>Added section on national health care coverage and passage of Patient Protection and Affordable Care Act (PPACA) in 2010, commonly called the Affordable Care Act (ACA) or “Obamacare”</li> </ul>
Chapter 23	<ul style="list-style-type: none"> <li>Expanded approaches to measuring quality of care</li> <li>Added section on “Taking Responsibility for Quality” by serving as an advocate</li> </ul>
Chapter 24	<ul style="list-style-type: none"> <li>Expanded information on using the Internet in the job search</li> <li>Added recommendation to avoid a career objective as first item in the resumé; instead, job seekers should state what they have to offer an employer</li> </ul>
Chapter 25	<ul style="list-style-type: none"> <li>Increased emphasis on sending thank-you note after an interview (based on survey indicating one in five managers won’t hire a candidate who fails to send a thank-you note)</li> <li>Added recent trends in interviewing: <ul style="list-style-type: none"> <li>Group</li> <li>Video</li> <li>Peculiar questions</li> <li>Psychometric tests</li> </ul> </li> </ul>
All chapters	<ul style="list-style-type: none"> <li>Added a Media Link feature that directs learners to animations and videos on the Student Companion website</li> </ul>

## Student Resources

### Workbook

The workbook was created to provide additional practice in learning the material in the text, including review questions, vocabulary review, image labeling, critical thinking scenarios, and skill assessment checklists. (ISBN: 978-1-3055-7495-3).

### Online Resources

Online resources are available to enhance the learning experience. Additional resources include:

- PowerPoint® presentations
- Anatomy and pathology animations
- Health care–related videos
- Mathematics tutorials

### Redeeming an Access Code:

1. Go to: <http://www.CengageBrain.com>
2. REGISTER as a new user or LOG IN as an existing user if you already have an account with Cengage Learning or CengageBrain.com
3. SELECT **Go to My Account**
4. OPEN the product from the My Account page

### Animations and Videos included on the Online Resources

Chapter	Animation Topic
4	Word Parts Work Together
4	Combining Word Roots
6	Anatomy of a Typical Cell
6	Body Planes
7	Shoulder Injuries
7	Skin
7	The Heart
7	The Blood
7	Lymphatic System
7	Respiration
7	Digestion
7	Urine Formation
7	Vision
7	Hearing
7	Endocrine System
7	Female Reproductive System
7	Male Reproductive System
10	Infection Control

Chapter	Video Topic
9	Body Mechanics
10	Pathogens
10	Sterile Gloves and the Sterile Field
11	Fire Safety
20	Thermometers (Chemical-dot)
20	Digital/Electronic Thermometers
20	Tympanic Thermometers
20	TPR and BP
20	Radial Pulse
20	Apical Pulse
20	Respiration
20	Blood Pressure
20	Taking a Patient's Blood Pressure

### Math Tutorials for Chapter 5

Convert between Traditional and International Time
Convert between Celsius and Fahrenheit Temperature
Approximate Equivalents
The Metric System
The Apothecary System
The Household System
Ratios
Converting among Fractions, Decimals, Ratios, and Percents
Comparing the Size of Fractions, Decimals, Ratios and Percents
Calculate the Percentage of a Quantity
Reading and Writing Decimals
Fractions and Decimals
Converting between Fraction Types
Calculations with Fractions
Comparing the Values of Fractions and Decimals
Calculations with Decimals
Rounding of Decimals

## Instructor Resources

Resources for instructors include:

- Cognito® Testbank makes generating tests and quizzes a snap. You can create customized assessments for your students with the click of a button. Add your own unique questions and print tests for easy class preparation.
- Customizable instructor slide presentations created in PowerPoint® focus on key concepts from each chapter.
- Electronic Instructor's Manual includes the following items to help instructors most effectively use the text in planning and teaching an introductory course:
  - Suggested answers to "Thinking It Through" and "Application Exercises" found in the text
  - Procedure check-off forms for evaluating skills
  - Suggestions for class activities
  - Teaching thinking skills
  - Answers to review questions found at the end of each chapter in the text
  - Answers to workbook exercises

## MindTap

MindTap is a fully online, interactive learning experience built upon authoritative Cengage Learning content. By combining readings, multimedia, activities, and assessments into a singular learning path, MindTap elevates learning by providing real-world application to better engage students. Instructors customize the learning path by selecting Cengage Learning resources and adding their own content via apps that integrate into the MindTap framework seamlessly with many learning management systems.

The guided learning path demonstrates the relevance of fundamental topics common to all health care professions through engagement activities and interactive exercises. Learners apply an understanding of these fundamental topics through scenarios. These simulations elevate the study of fundamentals by challenging students to apply concepts to practice.

To learn more, visit [www.cengage.com/mindtap](http://www.cengage.com/mindtap)

## Infection Control Content at a Glance

Topic	Content Summary	Page Number(s)
Microbiology	General theory and terminology of microbiology, types of microbes, chain of infection, scope of the problem, and regulatory agencies.	219–225
Prevention through Asepsis	Discusses how to break the chain of infection by using standard, transmission, and neutropenic precautions. Methods of inhibiting or destroying microorganisms and surgical asepsis are introduced.	225–241
Procedures:		
10–1 Handwashing	These procedures show step-out directions and rationales with accompanying figures to illustrate the steps.	228–229
10–2 Nonsterile Gloves		231
10–3 Applying and Removing PPE		232–233
10–4 Sterile Gloves		241–242
The Risks	The most common contagions that health care professionals may encounter.	244–256
Reporting Accidental Exposure	OSHA regulations that apply to all health care facilities.	256

## List of Vital Signs Procedures

Procedure Number	Procedure	Purpose	Page Number(s)
20–1	Temperature	Measures how much heat is in the body. An elevation may indicate that an infection or other disease process is present	420
20–2	Radial Pulse	Measures how fast the heart is beating when felt at the wrist	426–427
20–3	Apical Pulse	Measures how fast the heart is beating by listening over the heart with a stethoscope	428
20–4	Respirations	Measures how fast the patient is breathing	430
20–5	Blood Pressure	Indicates how hard the heart is working to distribute blood to all parts of the body	433–434

## List of First Aid Procedures

Procedure Number	First Aid Procedure	Page Number(s)
21–1	Allergic Reactions	447–448
21–2	Bleeding and Wounds	449–452
21–3	Bone, Joint, and Muscle Injuries	454–455
21–4	Facial Injuries	456–458
21–5	Burns	460–461

(continued)

<b>Procedure Number</b>	<b>First Aid Procedure</b>	<b>Page Number(s)</b>
21-6	Drug-Related Problems	462-463
21-7	Poisonings	464
21-8	Temperature-Related Illnesses	465-466
21-9	Other Common Conditions	467-473
21-10	Applying a Triangular Sling	474
21-11	Applying a Spiral Wrap	475
21-12	Applying a Figure-Eight Wrap	476-477
21-13	Applying Bandage to a Finger	478

# DEDICATION

To the future health care professionals who will dedicate their time and energy to taking care of those in need of their services. May your career be as rewarding to you as mine is to me.

—Dakota Mitchell

To David, for providing daily inspiration and continual encouragement.

—Lee Haroun

## ABOUT THE AUTHORS

**Dakota Mitchell** has a Master's of Science degree in Nursing from the University of California, San Francisco, and a Master's in Business Administration degree from the University of Santa Clara. The combination of the two degrees provides a framework for understanding and functioning within the current and rapidly evolving world of health care today.

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**Lee Haroun** has a Master's of Art in Education from Portland State University (Oregon), a Master's in Business Administration from National University

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She has more than 35 years' experience in teaching and educational administration and has developed curricula for a variety of postsecondary programs, including occupational therapy assistant, health information professional, insurance coder, and patient care technician.

Lee is the author of *Career Development for Health Professionals* (Elsevier Science); co-author of *Teaching Ideas and Classroom Activities for Health Care* with Susan Royce (Cengage Learning); co-author of *Occupational Therapy Fieldwork Survival Guide* with Bonnie Napier-Tibere (F. A. Davis; out of print); and technical writer for *Essentials of Health and Wellness* by James Robinson and Deborah McCormick (Cengage Learning).

# ACKNOWLEDGMENTS

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# ABOUT THIS BOOK

**Objectives:** Overview of chapter content and goals for learning. Review these before beginning to read the chapter and use the objectives to check your progress after completing the chapter.

**Key Terms:** List of important vocabulary and key concepts. Understanding vocabulary is critical to understanding the concepts presented in the chapter. Key terms are bolded and defined the first time they appear in the chapter. There is also a comprehensive glossary in the back of the book.

**The Case of...:** These health care scenarios introduce chapter content and show why the material in the chapter is important for the competent health care professional. An application exercise at the end of the chapter refers back to the case.

**Fascinating Facts:** Interesting information that is related to the chapter topics.

**Tables:** These provide summaries of related facts. Use them as study aids and for quick reference.

**Boxes:** These include special features and additional information that expand on and support the material presented in the chapter.

**Colored photos and illustrations:** These reinforce important concepts and topics. Use them to increase your understanding of the material.

**Chapter 1**  
**Your Career in Health Care**

**OBJECTIVES**  
Studying and applying the material in this chapter will help you to:

- Understand the state of the health care industry, including employment projections.
- Describe the essential core qualities demonstrated by effective health care professionals.
- Describe the major kinds of approvals whose purpose is to ensure the competency of health care professionals.
- List the personal factors that should be considered when choosing a health care career.
- Describe the four classifications of health care careers and give three examples of careers for each classification.
- State the educational and certification, registration, and/or licensing requirements of occupations in which you are interested.
- Explain the meaning of "learning for mastery."
- Use study techniques that complement your preferred learning style.
- Practice the habits that contribute to both academic and professional success.
- Describe the advantages and challenges experienced by adult learners.
- List the techniques that adult learners can use to develop their personal organization and time management skills.
- Explain the meaning of "thinking like a health care professional."
- Apply the five-step problem-solving process to make effective decisions.

**KEY TERMS**

assessment  
auditory learner  
bias  
career ladders  
certification  
diagnostic  
integrity  
kinesthetic learner  
learning style  
lecture  
manual dexterity  
objective data  
openness  
problem-solving process  
registration  
reliable  
scope of practice  
signs  
subjective data  
symptoms  
therapeutic  
visual learner

**The Case of the Confused Learner**  
Kevin being a recent high school graduate who hopes to pursue a career in health care has his mind to set on a career in September at a local community college that offers many health care programs. Last spring Kevin attended two career fairs at local hospitals and learned about all the options. He knows that he wants to continue the medical approach with his career, but he feels overwhelmed by the number of choices in the health care field. He is unsure how to determine what the requirements and rewards of various careers are, what the daily duties would be, whether much education is necessary for them, how he is able to know how to best proceed making a decision that will significantly affect his life. This chapter includes key information about a variety of health career areas and occupations, a problem-solving process that can be used to make effective personal and professional decisions, and tips on succeeding in a health career program.

**Fascinating Facts**

In 2009, there were 39.6 million persons aged 65 and over, representing 12.9% of the total population. By 2030, this number will have grown to 72.1 million persons, who will make up 19% of the population.

Source: U.S. Department of Health & Human Services, Administration on Community Living, [www.acl.gov/About/Aboutaging\\_statistics/index.aspx](http://www.acl.gov/About/Aboutaging_statistics/index.aspx)

**BOX 3-2**

**Code of Ethics**

The Code of Ethics of the American Association of Medical Assistants (AAMA) shall set forth principles of ethical and moral conduct as they relate to the medical profession and the particular practice of medical assisting.

Members of AAMA dedicated to the conscientious pursuit of their profession, and thus desiring to merit the high regard of the entire medical profession and the respect of the general public which they serve, do pledge themselves to strive always to:

- render service with full respect for the dignity of humanity;
- respect confidential information obtained through employment unless legally authorized or required by responsible performance of duty to divulge such information;
- uphold the honor and high principles of the profession and accept its disciplines;
- seek to continually improve the knowledge and skills of medical assistants for the benefit of patients and professional colleagues;
- participate in additional service activities aimed toward improving the health and well-being of the community.

Source: Reprinted with permission of the American Association of Medical Assistants, Inc.

**Table 1-17 Medical Laboratory Occupations**

Occupation	Education and Training	Licensing and Certification
Pathologist (MD)	4-year college undergraduate education 4 years medical school 1 year of graduate medical education (residency); 1 or 2 more years required to board	Licensed by states 1. Graduate from accredited medical school 2. Complete residency training and residency 3. Pass certification exam
Medical Laboratory Technologist (MT)	Bachelor's or master's degree	Licensed or registered in some states Certification available from: 1. American Medical Technologists 2. Board of Registry of the American Society for Clinical Pathology 3. Board of Registry of the American Association of Bioanalysts
Medical Laboratory Technician	Completion of certificate program or associate degree	Licensing or registration required in some states Certification available from: 1. American Medical Technologists 2. Board of Certification of the American Society for Clinical Pathology
Medical Laboratory Assistant	1- to 2-year training program or specific work experience	Voluntary certification from American Medical Technologists Association
Phlebotomist	On-the-job training or formal training program	Licensing required in California and Louisiana Certification is required by most employers and is available from: 1. National Phlebotomy Association 2. American Society for Clinical Pathology 3. Association of Phlebotomy Technicians 4. Several other organizations also train and certify phlebotomists



**FIGURE 3-4** Communicating a sincere, caring attitude toward patients is the best defense against malpractice lawsuits.



**Media Link**

View Calculations with Decimals and Reading and Writing Decimals on the Online Resources to verify your understanding of working with decimals.

**Thinking It Through**

Juan Ruiz is a physical therapy assistant working in a skilled nursing facility. He loves his work and enjoys helping patients regain strength and range of motion through exercise. The amount of rehabilitation that patients may receive is limited by their insurance companies and Medicare. Juan is concerned that patients who could be regaining the full use of their limbs are not being given an adequate number of sessions. One of Juan's patients, on learning that he has only one more session with Juan, asks him if he has received "enough therapy." Juan believes that this person would benefit from at least five more sessions.

1. How should Juan respond?
2. What can he do to help the patient progress toward his full potential?
3. What can Juan do to help increase the funding allocated for rehabilitation services?

**Media Link:** This feature directs the learner to numerous anatomy and pathology animations, and health-related videos on the Online Resources.

**Thinking It Through:** Located throughout the chapter, these exercises are a very important part of this text. The health care scenarios require you to think about the concepts presented in the chapter and use them to resolve typical problems encountered by health care professionals. Use the exercises to develop the thinking skills necessary to be a successful health care professional.

**PROCEDURE 10-2**

**Nonsterile Gloves (Applying Clean Gloves and Removing Contaminated Gloves)**

PROCEDURE	RATIONALE
1. Use proper handwashing technique before applying gloves.	To remove microorganisms from hands.
2. Remove appropriate-sized clean gloves from the box and apply. Once the hands are washed, no specific technique is necessary for applying gloves, but touch only the gloves you will be using when removing them from the dispenser.	Gloves that are too small can split and expose skin, and gloves that are too large are difficult to work with and can expose skin by slipping down, do not contaminate the remaining gloves in the dispenser by touching them.
<b>Removing contaminated gloves:</b>	
3. Grasp the outside of one glove at the palm with the other gloved hand (see Figure 10-8a), pull the glove down (see Figure 10-8b) and turn it inside out while removing it. (See Figure 10-8c)	At no time should the hands touch the outside of the contaminated gloves.
4. Hold the removed glove in the palm of the remaining gloved hand. (See Figures 10-8d and 10-8e.)	Same as above.
5. Take the ungloved hand and slide it under the cuff of the remaining glove (see Figure 10-8f) and push the glove off. (See Figure 10-8g.) The first glove is now inside the second glove that was removed. (See Figure 10-8h.)	Same as above.
6. Discard the gloves in an appropriate container according to facility policy.	Isolates the contaminated gloves from contact with other surfaces.
7. Wash hands immediately after removing gloves.	To remove microorganisms.

**Procedures:** A step-by-step format that helps you master basic hands-on skills. Pay special attention to the rationales that explain the reasons for the actions.

**Workbook Practice:** This feature directs the learner to even more learning tools in the workbook, including practice questions, image labeling, critical thinking scenarios, and skill assessment checklists.

**REVIEW QUESTIONS**

1. What is homeostasis?
2. What are the levels in the structural organization of the body?
3. What are the components of the cell, and what are their functions?
4. What are the four primary types of tissues?
5. What is the anatomical position?
6. What are the three body planes and how do they divide the body?
7. What are the main directional terms used for medical descriptions?
8. What are the primary body cavities and what structures are in each one?
9. What are the two methods used for describing the abdominal area?

**Suggested Learning Activities:** Try these interesting projects that include doing research on the Internet, reporting on observations from daily life, and visiting health care facilities.

**Web Activities:** Use these guided assignments to increase your research skills and learn more about the chapter content. Many of the activities refer you to specific websites.

**WORKBOOK PRACTICE**

Go to your workbook and complete the exercises for this chapter.

**Review Questions:** The questions are keyed to the chapter objectives to ensure your mastery of the chapter content. Use them to check your learning and identify areas that need more study.

**SUGGESTED LEARNING ACTIVITIES**

1. Create a personal plan for developing the core qualities demonstrated by health care professionals.
2. Seek opportunities to observe health care professionals at work. Report on the qualities they demonstrate that you believe make them effective.
3. Research an occupational area or specific career that interests you; interview a working professional, send for information or visit the Internet site of the appropriate professional organization (see Appendix 1), request a job description from a local facility, and/or read the job descriptions in the *Occupational Outlook Handbook*. (See additional websites listed in the "Suggested Readings and Resources" at the end of the chapter.)
4. Identify your preferred learning style and create five study techniques to help you master your class subjects.
5. Choose a problem in your life that you would like to work on and apply the five steps of the problem-solving process. Report on the results.

**Problem-Solving Practice:** Practice your skills with these typical, real-world problems encountered by learners and health care professionals.

**APPLICATION EXERCISES**

1. What could Rene, in the Case of Broken Dreams at the beginning of this chapter, have done to decrease his likelihood of sustaining injuries?
2. John Jones, a health care student, has been saving for months to purchase a laptop computer to assist him with his classes. He plans to purchase a computer table and chair as soon as he saves the additional money. In the meantime, he will be using the computer on his lap or at the kitchen table.
  - a. What possible injuries is John risking by not having an ergonomically sound setup?
  - b. What criteria should he consider when purchasing a computer table and chair?
  - c. What can he do in the meantime to adapt the kitchen to a safe working environment? Include RMI and eyestrain prevention. Describe in detail or prepare a sketch of your suggestions.

**Application Exercises:** Opportunities to apply the chapter's major concepts to typical health care situations. Use these exercises to practice using your knowledge in ways similar to those you may encounter on the job.

**WEB ACTIVITIES**

**Occupational Outlook Handbook**  
[www.bls.gov/oco](http://www.bls.gov/oco)  
 Locate an occupation of interest by clicking on "Health-care" in the Occupation Groups list. Using the information provided, write a description of the occupation that includes significant points, desirable personal qualities, job outlook, and typical earnings.

**Health Care Professional Organizations**  
 Explore the website of a professional organization from Appendix 1 for a career that interests you. Write a report describing the information and services provided by the organization.

**PROBLEM-SOLVING PRACTICE**

Robert Sherman spends many hours at the computer. He loves to surf the web and play games and now he is also doing a great deal of word processing for his classroom projects. He has heard a lot of talk about carpal tunnel syndrome and wonders if he can prevent this from happening to him. Using the five-step problem-solving process, determine what Robert can do about prevention.

**SUGGESTED READINGS AND RESOURCES**

National Institute of Neurological Disorders and Stroke  
[www.ninds.nih.gov/](http://www.ninds.nih.gov/)  
 Occupational Safety and Health Administration  
[www.osha.gov/](http://www.osha.gov/)

**Suggested Readings and Resources:** Learn more about topics of interest from the books, articles, and websites listed in this section.

# Unit 1

# Health Care Today



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# Chapter 1

## Your Career in Health Care

### OBJECTIVES

Studying and applying the material in this chapter will help you to:

- Understand the state of the health care industry, including employment projections.
- Describe the essential core qualities demonstrated by effective health care professionals.
- Describe the major kinds of approvals whose purpose is to ensure the competency of health care professionals.
- List the personal factors that should be considered when choosing a health care career.
- Describe the four classifications of health care careers and give three examples of careers for each classification.
- State the educational and certification, registration, and/or licensing requirements of occupations in which you are interested.
- Explain the meaning of “learning for mastery.”
- Use study techniques that complement your preferred learning style.
- Practice the habits that contribute to both academic and professional success.
- Describe the advantages and challenges experienced by adult learners.
- List the techniques that adult learners can use to develop their personal organization and time management skills.
- Explain the meaning of “thinking like a health care professional.”
- Apply the five-step problem-solving process to make effective decisions.

### KEY TERMS

assessment  
auditory learner  
bias  
career ladders  
certification  
diagnostic  
integrity  
kinesthetic learner  
learning style  
licensure  
manual dexterity  
objective data  
opinion  
problem-solving process  
registration  
reliable  
scope of practice  
signs  
subjective data  
symptoms  
therapeutic  
visual learner

## The Case of the Confused Learner

Kevin Yang is a recent high school graduate who hopes to pursue a career in health care. He has enrolled to start classes in September at a local community college that offers many health care programs. Last spring Kevin attended two career fairs at local hospitals and learned about a variety of careers. He knows that he wants to combine his mechanical aptitude with his desire to work with people, but he feels overwhelmed by the number of choices in the health care field. He is not sure how to learn more about the requirements and rewards of various occupations, what the daily duties would be, and how much education is necessary to enter them. He is also unsure how to best go about making a decision that will significantly affect his life. This chapter includes basic information about a variety of health career areas and occupations, a problem-solving process that can be used to make effective personal and professional decisions, and tips on succeeding in a health career program.



## YOUR FUTURE IN HEALTH CARE

Health care services make up one of the largest industries in the United States, providing 14.3 million jobs in 2010 (Center for Health Workforce Studies, 2012). The need for health care professionals continues to grow. According to the Bureau of Labor Statistics, health care will generate 4.2 million new jobs in the 10-year period between 2010 and 2020. In fact, between 2010 and 2020, it is projected that employment in the health care industry will grow by more than 30%, more than two times that of the general economy. Currently, more than 13% of the U.S. labor force works in health care.

Many health care occupations are projected to have increases of over 30 percent. (See Table 1–1.) Ten of the 20 fastest growing jobs in all industries are health care–related. At the same time, four of the 20 occupations with the largest numerical increases are in health care: registered nurse; personal and home care aides; home health aides; nursing aides, orderlies, and attendants. (See Table 1–2.)

Careers in health care can be sources of great satisfaction. Health care professionals perform valuable services that make a significant contribution to the community. Each day their work makes a difference in the quality of life of those they serve. Whether you choose to work directly with patients or provide support services, be assured that what you do is important and of benefit to others.

As well as providing satisfaction, health care work makes many demands on those who pursue it. The work must be taken seriously because it affects the

**Table 1–1** Examples of Growing Health Care Jobs

Job	Projected Percentage Increase in Employment, 2010–2020
Home Health Aide	69%
Veterinary Technologists and Technicians	52%
Physical Therapist Assistant	46%
Physical Therapist Aide	43%
Occupational Therapy Assistant	43%
Dental Hygienist	38%
Dental Assistant	31%
Physician Assistant	27%
Surgical Technologist	24%

Source: Center for Health Workforce Studies. (2012). Health care employment projections: An analysis of Bureau of Labor statistics occupational projection, 2010–2020. Available: [www.healthit.gov/sites/default/files/chws\\_bls\\_report\\_2012.pdf](http://www.healthit.gov/sites/default/files/chws_bls_report_2012.pdf)

well-being of others. All tasks must be performed thoughtfully and conscientiously. Nothing can be taken for granted or done automatically, not even routine assignments. Health care professionals must be willing to devote their full attention to everything they say and do. Potential problems must be noted and addressed before they become critical. The consequences of mistakes can be devastating if, for

**Table 1–2 Occupations with the Largest Numerical Increases**

Job	Numerical Increase in Positions, 2010–2020
Registered Nurses	712,000
Home Health Aides	706,000
Personal Care Aides	607,000
Nursing Aides, Orderlies, and Attendants	302,000
Medical Secretaries	210,000
Licensed Practical and Vocational Nurses	169,000
Physicians and Surgeons	168,000
Medical Assistants	163,000

Source: Center for Health Workforce Studies. (2012). Health care employment projections: An analysis of Bureau of Labor statistics occupational projection, 2010–2020. Available: [www.healthit.gov/sites/default/files/chws\\_bls\\_report\\_2012.pdf](http://www.healthit.gov/sites/default/files/chws_bls_report_2012.pdf)

example, a prescription for medication is incorrect or the wrong procedure is performed.

### Fascinating Facts

In 2009, there were 39.6 million persons aged 65 and over, representing 12.9% of the total population. By 2030, this number will have grown to 72.1 million persons, who will make up 19% of the population.

Source: U.S. Department of Health & Human Services, Administration on Community Living, [www.aoa.gov/AoARoot/Aging\\_Statistics/index.aspx](http://www.aoa.gov/AoARoot/Aging_Statistics/index.aspx)

## Essential Qualities of Health Care Professionals

Although the specific duties performed in the many health care occupations vary, there are common core qualities required of everyone who works in health care. A learner whose goal is to become an effective health care professional must:

- **Care about others:** Have compassion. Apply knowledge and skills to decrease suffering and increase the well-being of others. When necessary, be willing to put the needs of patients ahead of one's own. Have respect for all people and help them regardless of their race,

nationality, economic status, religion, age, or lifestyle preferences.

- **Have integrity:** Be honest at all times. Respect the privacy of others. Be loyal to the employer. Accept responsibility for one's actions.
- **Be dependable:** Be at work on time and as scheduled. Follow through and finish all assigned tasks. Perform work accurately and completely. Work without constant supervision and reminders.
- **Work well with others:** Strive to understand the feelings and needs of others. Be courteous and considerate. Practice good communication skills. Be a good team member by cooperating and contributing to the achievement of group goals. Take directions willingly from the supervisor.
- **Be flexible:** Be willing to adapt to changing conditions and emergencies. Do what is needed to carry out tasks. Acquire knowledge and skills necessary to keep up with advances in technology and changes in the way health care is delivered.
- **Be willing to learn:** Keep skills up to date. Ask questions, attend workshops, read professional publications, use the Internet, and continue to acquire new skills.
- **Strive to be cost conscious:** Look for ways to improve patient care while maintaining or lowering expenses. Work efficiently and take care not to waste supplies. (See Figure 1–1.)



**FIGURE 1–1** Successful health care professionals work hard and exhibit the core qualities discussed in this chapter. At the same time, they enjoy the satisfaction of helping others.

## STANDARDS FOR HEALTH CARE PROFESSIONALS

Standards for health care professionals have been established to protect the public from potential harm caused by incompetence. Testing, along with various approval and monitoring mechanisms, has been developed to determine whether professionals have met specific standards. The purpose of standards is to ensure that professionals master at least the minimum knowledge and skills necessary to safely and competently practice their professions. Learners should be aware that in addition to knowledge and skill standards, some occupations require background checks and drug testing. Individuals who have been convicted of certain crimes are prohibited from taking certification exams or practicing certain occupations.

Standards may be set by state boards or national professional organizations. There are several terms that designate various types of approvals. **Certification** is a general term that means a person has met predetermined standards. The process of becoming certified usually involves completing certain educational requirements and passing a professional examination. Most individuals who work in health care go through a certification process, although their title might not include the term *certified*. Examples of occupations that do include this term in their title are certified occupational therapy assistant, certified medical assistant, and certified nursing assistant.

Some occupations require **registration**, which means being placed on an official list (registry) after meeting the educational and testing requirements for the profession. Professionals who use this term in their title include registered nurse, registered respiratory therapist, and registered medical assistant.

**Licensure** is a designation that means the person has been granted permission to legally perform certain acts. Licenses are granted by government agencies, often the state. The specific occupations that require licensure vary from state to state. Some occupations are licensed in most, but not all, states. The word *licensed* does not usually appear with the title of licensed professions. For example, in the following list of licensed professions, only one includes the term: dentist, dental hygienist, physician, registered nurse, and licensed practical/vocational nurse.

The various types of approvals can be confusing. Certification and registration are often, but not always, required to work legally. Even when not required by

law, they provide credibility and are preferred by many employers when hiring. Medical assisting is an example of an occupation in which voluntary certification or registration enhances the graduate's chances of being hired. Licensure, if required for a profession, is never voluntary.

Some professions have more than one form of approval. Medical assistants, for example, can be either certified or registered. Both approvals require meeting specific educational requirements and passing a national exam. The American Association of Medical Assistants grants the title "certified." The American Medical Technologists grants the title "registered."

Certification and licensing exams vary by occupation. Some consist of multiple-choice questions that are presented in a computerized format. Others contain case studies and ask questions to test the candidates' knowledge about handling situations that may be encountered on the job. Still others have a practical component that requires candidates to demonstrate their ability to perform certain tasks. In addition to occupational questions, some states test the knowledge of the laws that apply to health care occupations.

Another point that can be confusing is that some professions are licensed but use the title "registered." Nurses take a national exam that, when passed, entitles them to apply for a license in the state where they want to work. They can become licensed in any state as long as they follow the proper application process. In addition, they are listed in a registry. Although "registered nurse" is the title for the occupation, it is also a licensed profession.

Study the contents of Tables 1–8 and 1–9. Note the variety of titles and educational levels within the nursing and occupational therapy careers. As you can see, professional titles and the types of approval granted do not necessarily indicate the level of education achieved. For example, the educational requirements for a certified nursing assistant can be less than 200 hours of instruction; a certified occupational therapy assistant, however, must earn an associate degree. The titles given refer to the specific methods chosen by various organizations to ensure that their standards are met, rather than to the educational requirements. Furthermore, some titles may be acquired with varying amounts of education. Using the example of the registered nurse once again, we see that qualifying education can be either an associate or bachelor's degree.

It is essential that students understand what is necessary for them to work in their chosen occupation. Most examining and licensing boards require attendance at an accredited school and/or program. This means that the school and/or program meets the standards set by a specific professional organization. To become accredited, a school or program must formally apply for approval. Once the application is accepted, a team from the organization visits the campus to ensure that all standards are being met.

In addition to attending an accredited program, students must meet the following requirements before most professional exams can be taken:

- High school diploma or the equivalent
- Completion of specific courses
- Successful completion of the clinical portion of the training
- Not having been convicted of certain crimes

Once obtained, most certifications require specific amounts of continuing education. This is discussed further in Chapter 14. Individuals who fail to maintain the competency and conduct standards for their profession can lose their certification or license. The purpose of health care regulation is not to provide one-time approval. It is an ongoing effort to ensure that only qualified professionals are serving the public.

## OCCUPATIONAL PROFILES

There are hundreds of job titles in health care and the number continues to grow. They require a wide range of skills and abilities. Each occupational area, such as radiology and physical therapy, has positions that require different amounts of education and training. Collectively, these levels are known as **career ladders**.

Learners who are pursuing occupations in health care should discover as much as possible about the requirements, responsibilities, and conditions of their areas of interest. This knowledge will enable them to make good career choices that match their preferences and abilities. For example, some individuals interested in health care would find the emergency medical technician's (EMT) job to be interesting and exciting. EMTs have opportunities to apply their skills to help others in significant ways, sometimes even saving lives. At the same time, the work is physically and emotionally demanding. It is often performed under difficult circumstances. Emergencies do not

happen at convenient times and places. The schedules for EMTs include nights, weekends, and holidays, and they are called out to work in all types of weather conditions. All aspects of an occupation must be considered to increase the chances of choosing a career that will provide long-term satisfaction.

Learners who thoroughly explore the career areas that interest them will have a better chance of finding an occupation that matches their abilities and preferences. When choosing an occupation, learners should carefully consider the following factors about themselves:

- Educational background
- The amount of additional time they are willing to dedicate to their education
- Natural abilities
- The type of activities they most enjoy
- Preferences for workplace environment and conditions

The occupations described in this section are organized into four categories:

1. **Therapeutic** and Treatment
2. **Diagnostic**
3. Health Information Management
4. Environmental

Note that there is overlap among the categories. For example, although listed in the therapeutic and treatment section, a major responsibility of dentists and physicians is to diagnose their patients' conditions. And although dietetics is listed in the environmental category, nutrition experts prescribe diets as part of the treatment of health conditions such as diabetes and heart disease.

Occupational titles are further divided into specific career areas, such as dental and mental health. The educational and certification, registration, and/or licensing requirements for various occupational levels are presented in Tables 1–3 through 1–20. (Note that the abbreviations given in the tables for job titles assume that the individual has achieved the required approval, such as certification. For example, RN stands for *registered nurse*.) Following each table, occupations that generally require associate degrees or vocational training are described in more detail.

It is important for learners to keep in mind that the information in this chapter consists of brief overviews and contains only some of the hundreds



**BOX 1-1****Examples of Health Care–Related Occupations**

Art Therapist  
 Athletic Trainer  
 Audiologist  
 Health Educator  
 Medical Illustrator  
 Medical Librarian  
 Medical Photographer  
 Medical Writer  
 Music Therapist  
 Speech and Language Pathologist

of health care jobs available today. (See Box 1-1 for examples of additional occupations.) The growth projections cited are taken from the Bureau of Labor Statistics (2014). It is also important to note that there are more rungs on each career ladder than appear in the tables. For example, there are many nurse specialties, such as nurse anesthetist, clinical nurse specialist, and nurse practitioner, as well as doctoral degrees in nursing. Many health care providers earn advanced degrees beyond the basic requirements for their professions.

Learners should use the tables as a starting point and then thoroughly investigate all the career options in their areas of interest. Good starting points for career information include the following:

- The professional organizations for the various occupations. Contact information for these organizations is listed in Appendix 1.
- Occupational Outlook Handbook from the Bureau of Labor Statistics. Available at: [www.bls.gov/ooh](http://www.bls.gov/ooh)
- O\*Net, sponsored by the U.S. Department of Labor. Available at: [www.onetonline.org](http://www.onetonline.org)
- Education Portal. Available at: [education-portal.com](http://education-portal.com) (It is not necessary to register and log in.)

Salaries have not been included for the various occupations. It is difficult to provide accurate, up-to-date information that applies to all geographic areas, individual facilities, and current economic conditions. Learners are encouraged to check the latest

statistics provided by the Bureau of Labor to see current median salaries for occupations of interest.

On-the-job training, in which individuals learn necessary job skills after being employed, is being replaced in many occupations by formal training. For example, aide-level positions are being assigned more responsibilities, and classroom training is becoming necessary. Today's health care facilities need individuals who have current skills, are able to think for themselves, and can start immediately as contributing members of the health care team.

## Therapeutic and Treatment Occupations

Therapeutic and treatment occupations provide services that assist patients to regain or attain maximum wellness. They may involve direct patient care, such as nursing, or provide services that contribute to the patient's recovery, such as the pharmacy professions. The majority of health care occupations fall into this category.

### Dental Occupations

Dental professionals treat diseases and conditions of the teeth and soft tissues of the mouth. They perform preventive measures, restore missing and defective teeth, diagnose and treat diseases of the gums, perform cosmetic dentistry, and provide patient education. (See Table 1-3.)

#### Dental Hygienist

The primary responsibility of a dental hygienist is to provide preventive dental care. This is accomplished by cleaning the teeth with special instruments and equipment, examining the mouth and taking X-rays, and providing patient education about dental care. Although hygienists perform their work independently, they are under the supervision of a dentist. Work schedules are often flexible, and many hygienists work part-time and/or for more than one dentist. The work involves prolonged patient contact, standing and reaching, and requires the ability to get along well with others. Good **manual dexterity** (skill working with the hands) and hand-eye coordination are essential. This is one of the 20 fastest growing health care occupations, with some parts of the country reporting a significant shortage of hygienists.

#### Dental Assistant

Dental assistants are trained to perform a variety of duties in the dental office. They may work closely with

**Table 1–3 Dental Occupations**

Career	Education	Testing and Approval
Dentist (DDS or DMD)	2–4 years college preprofessional education 4 years dental school 2–4 years additional education if seeking specialty	Licensed by states: 1. Graduate from accredited dental school 2. Pass written and practical exams
Dental Hygienist (RDH)	Associate or bachelor’s degree 2–4 years depending on program requirements	Licensed by states: 1. Graduate from accredited dental hygiene school 2. Pass national board exams administered by American Dental Association Joint Commission on National Dental Examinations 3. Pass state and/or locally administered clinical exams 4. Pass state exam covering dental hygiene law
Dental Assistant (CDA or RDA)	1–2 year educational program (recommended) or on-the-job training	Requirements vary by state; voluntary certifications available through Dental Assisting National Board
Dental Laboratory Technician	On-the-job training or 2-year associate degree program	Voluntary certification available from National Association of Dental Laboratories and/or National Board for Certification in Dental Laboratory Technology

the dentist by preparing patients for treatment, passing instruments, and suctioning the mouth during procedures performed by the dentist. Laboratory duties may include sterilizing and preparing instruments, creating casts of the teeth, and making temporary crowns. Administrative dental assistants greet patients, schedule appointments, keep patient records, send bills, and perform other clerical duties as needed. Dental assistants must have good manual dexterity, the ability and willingness to follow directions, and good interpersonal skills. This occupation is experiencing positive growth and provides excellent job opportunities.

### **Dental Laboratory Technician**

Dental laboratory technicians make the items used by dentists to replace and restore teeth, such as crowns, bridges, and dentures. These are fabricated using models of the patient’s mouth and involve working with plaster, wax, metal, and porcelain. Small hand-held tools, grinding and polishing equipment, and

heat sources for melting and baking are used. The work is precise and very delicate. Successful technicians are patient and steady-handed and have good vision, especially the ability to discriminate colors, needed for matching replacements to remaining teeth. Growth in the number of jobs is expected to be lower than average because improved dental care has decreased the need for dentures.

### **Emergency Medical Occupations**

Emergency medical technicians provide quick response service to victims of medical emergencies. All EMTs are qualified to give life support and immediate care such as restoring breathing, controlling bleeding, administering oxygen, bandaging wounds, and treating a person for shock. EMTs transport victims to health care facilities and provide necessary care en route. Intermediate EMTs have additional skills that include administering fluids intravenously and using a defibrillator to administer an electrical