

# Health Care Careers



A HOT TOPICS HOT SERIALS NEWSPAPER SUPPLEMENT FROM



# Healthy Futures

When you imagine the rest of your life, what do you see? If you see a bright future with work that earns you more than just a paycheck, you may want to consider a career in the health field.

Do you enjoy helping people? If you do, you may want to choose one of the health career professions in which you work directly with people. If you want to help but you're happier in a setting like a lab, you could choose one of many of the "behind the scenes" jobs in health information or a related medical engineering situation.

These jobs make a difference in people's lives. They're not just work; they're work that is good for the world. Plus, the pay is good, the benefits are strong, and you probably won't have to worry about being out of work because people are always needed in the health care field.

Talk about a growing field! With the changes coming to health care, more jobs will be available. The U.S. Department of Labor expects almost 5 million health care jobs to open up in the next few years.

The choices are vast and plentiful. Sure, you know about doctors and nurses, but have you thought about being a cytotechnologist or a food safety inspector?

This special section will introduce you to six people. Each of them is a member of a different family – a grandfather, a grandmother, a mom, a dad, a son, and a daughter. They are not related, but they are similar in that each has his or her own health issues, so they interact with lots of different health professionals. By reading about them and the professionals they work with, you'll learn a great deal about this exciting and expanding employment field.

The jobs are plentiful, and the work is rewarding. Is health care part of your future?

Note: Throughout this section, we mention potential earnings in these jobs. Those are guidelines only and may differ, depending on where you live.

## Use the



Decode the abbreviations in the Help Wanted ads in the e-edition or print newspaper. Make a list of the abbreviations and write out what they each mean. Write your own Help Wanted ad for a dream job in the medical field. Write a description of the job and the kind of person sought. Would you be a contender for that job?

Skim through the jobs listed in the Help Wanted ads and pick the Top 10 you think will be important this year. Rank the jobs in order of importance and then write a brief statement why each job fits into the Top 10 list.

**Learning Standards – writing descriptions, prioritizing**



# Take Ten. What Do You Know About Health Care Futures?

Read the following and decide if the statement is true or false. The answers are upside down under the chart.

1. According to MSN Money magazine, 13 of the 15 highest-paying jobs are in the health field.	T	F
2. Dental assistants and dental hygienists are the same.	T	F
3. According to Money magazine, pharmacist is one of the ten best jobs in the country.	T	F
4. Genetic counselors are social workers.	T	F
5. Athletic trainers coach players and do not need college degrees.	T	F
6. According to the Bureau of Labor Statistics, home care assistants are part of one of the fastest-growing fields, and the job requires no schooling after high school.	T	F
7. A kinesiologist develops exercise programs.	T	F
8. Health care interpreters figure out what doctors have written on prescription slips.	T	F
9. A perfusionist deals with the sense of smell.	T	F
10. Nuclear medicine technologists give patients radioactive atoms as part of the diagnostic test.	T	F

Source: ExploreHealthCareers.org

- Answers:**
1. True. The other two are CEOs and airline pilots.
  2. False. Dental assistants help the dentist, but dental hygienists work directly with patients.
  3. True. Pharmacists dispense drugs prescribed by doctors. They advise on dosages, side effects, and use of medications.
  4. False. While genetic counselors may have a background in social work, they are highly trained specialists with graduate degrees in medical genetics.
  5. False. Athletic trainers are health professionals who help prevent and manage sports injuries and help rehabilitate after they occur. They attend four years of school after high school and can earn \$35,000 to \$74,000 per year.
  6. True. Home health aides who care for physically or mentally ill patients earn an average of about \$20,000 per year and need only a high school diploma.
  7. True. This exciting profession requires four years of school after high school. Kinesiologists develop special exercise programs to help people recover muscle strength that they've lost due to injury or illness.
  8. False (but maybe someone should!). Health care interpreters help patients who don't speak English well understand their doctors, nurses, etc. Because there are increasing numbers of people who speak other languages, this is a growing field.
  9. False. A perfusionist is someone trained (with four to six years of school after high school) to operate the heart-lung machine that keeps a patient's blood flowing during some heart surgeries.
  10. True. Those atoms are used to diagnose and treat disease. This type of technologist goes to school for one year after high school and can make up to \$65,000 per year.



## Use the

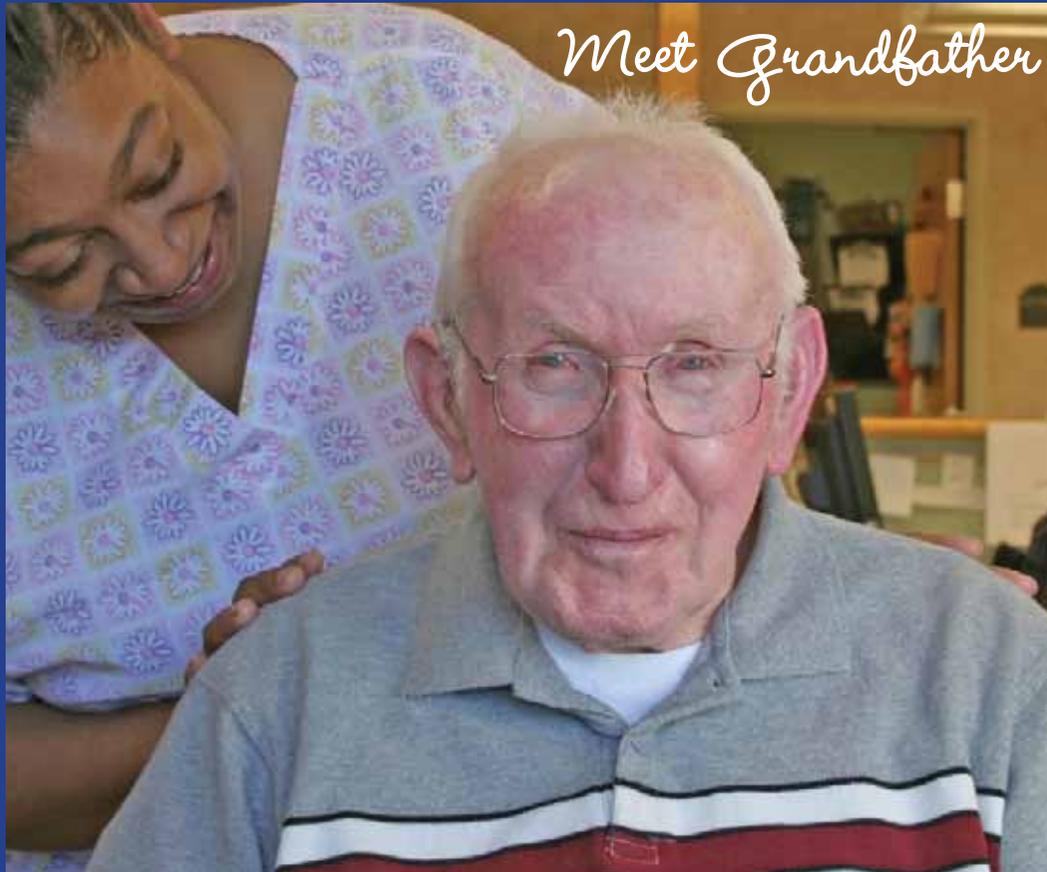
# NEWS



A resume is often the first thing an employer will look at in deciding whether or not to hire a prospective employee. Study the Help Wanted ads in the e-edition or print newspaper to find a job for which you someday hope to be qualified. List all of the qualifications you need and then check off those you already have. Then imagine you have the necessary requirements and write a resume for yourself. A resume needs to include personal information, educational background, employment, extracurricular activities, personal interests and references.

**Learning Standards – understanding the qualifications for employment, compiling information**





**Grandpa Henry is 80 years old.** He has been in the hospital a lot lately because he has mesothelioma, a form of lung cancer. When he was younger, he worked in a shipyard for many years. What they didn't understand back then was that the material used to insulate or keep heat in the pipes —called asbestos— was actually disintegrating into the air. The people who worked on the ships, often in places that were stuffy and without a lot of air circulating, were breathing in these microscopic pieces of asbestos.

Grandpa Henry had been healthy most of his life, but when he got older, he began having trouble breathing. He was losing weight and he felt tired a lot of the time. He saw a doctor and went through a lot of medical testing. It was discovered that he had mesothelioma because of the asbestos that had built up in his lungs.

Now, he has to be treated with surgery, radiation, and chemotherapy. That means that he spends a great deal of time in the hospital. His family visits often, but he still isn't happy about being there. He'd rather be home in his own bed, and he's in some pain and not very comfortable.

He gets great care from his doctors, but right now the health care professionals he sees the most and feels the closest to are the nurses. Their constant care and attention keep Grandpa Henry from being frightened during his hospital stay. They monitor him to make sure that he takes his medication on time and that he's not in too much pain. They help him to get out of bed and walk around so that he won't get too weak from staying in bed too much.

In a way, they're like family to Grandpa Henry. Seeing their faces and their upbeat, positive attitude makes him feel better and is almost as important to his recovery as medicine. When Grandpa Henry sees Daniel or Janice (they're his two favorites) come into the room, he feels at ease, just like when his son or daughter arrives.

If you can picture yourself helping someone like Grandpa Henry, nursing may be a great career choice for you.



### **Nursing facts:**

- **Salary:** It's a big range, from registered nurses, whose average starting salary is about \$44,600, to nurse practitioners, who might make about \$57,000 in their first year. Plus, nurses can continue their education to become specialists in a variety of areas and earn more money.
- **Years in school:** You need a high school diploma to enter nursing school. You can then earn an associate's degree in two or three years or a bachelor's degree in a four-year program. Generally, the more years of training you have, the better paid you will be. Many nurses go on to advanced degrees, beyond the bachelor's.
- **Employment outlook:** Excellent. Nursing is the nation's largest health care profession, with more than 2.6 million employed, but there are many shortages around the country.



Nurses certainly aren't the only people that are vital to Grandpa Henry's health and well-being. One of the first professionals involved was a cytotechnologist. That is

a person who studies cells under a microscope, looking for evidence of disease, such as cancer. Cytotechnologists work independently doing very careful work. They have great responsibility because their determination may direct a patient's care. They work with pathologists to provide a diagnosis. Their quick and accurate work may mean the difference between life and death.

### **Cytotechnology facts:**

- **Salary:** Average in the U.S. for an experienced person is \$60,537.
- **Years in school:** After college, candidates attend an accredited program of one to two years at hospitals and/or universities.
- **Employment outlook:** Good. There are shortages in certain areas of the country.



## Meet Grandmother



**Grandy Cindy is 80 years old.** She was an English teacher in a middle school. Her mind was really sharp. She was a great writer. Then, she began having a hard time remembering words. Sometimes she would say things that didn't make any sense. She got frustrated easily as she realized she couldn't say exactly what she wanted to say.

It seemed to get worse each month. Her family was concerned. They encouraged her to see a doctor. The diagnosis was Alzheimer's disease. It was exactly what everyone was most afraid of. They worried that Grandy would slip away from them slowly and sadly.

And she did.

Alzheimer's disease destroys brain cells and causes people to lose memory. Millions of people suffer from it. And their families suffer, too. As the memory fails, the person becomes more difficult to care for. Their brains may forget words and then people and then even how to do things like eat or walk. They need special care that may be more than the family can offer at home. They might move to a nursing home or assisted living place where medical professionals can better meet their needs.

That's where Grandy Cindy is now. She lives at a nursing home near where the family lives. Doctors on staff take care of her medical needs, but she also has people who work with her to see to it that she stays as strong as possible for as long as possible. Maybe even as important as the care Grandy Cindy gets is the help that her family receives.

A social worker meets with the family often. She listens to their concerns and gives them advice about support groups they can join for help. The recreational therapist works with the grand kids and shows them ways they can interact with Grandy. He suggested that when they talk to her, if she has a memory of something, they should ask her to talk more about it. They can brush her hair and show her family photos. They can paint or draw together or play a card game. He also said that reading her a newspaper is a good idea, especially if they point at items in the ads that she might recognize.

Recreational therapists work with patients like Grandy Cindy, and they also work with folks with disabilities or illnesses. They might use art, animals, sports, games, dance, yoga, drama, and music to help patients feel better, manage stress, and improve their motor skills and thinking abilities.



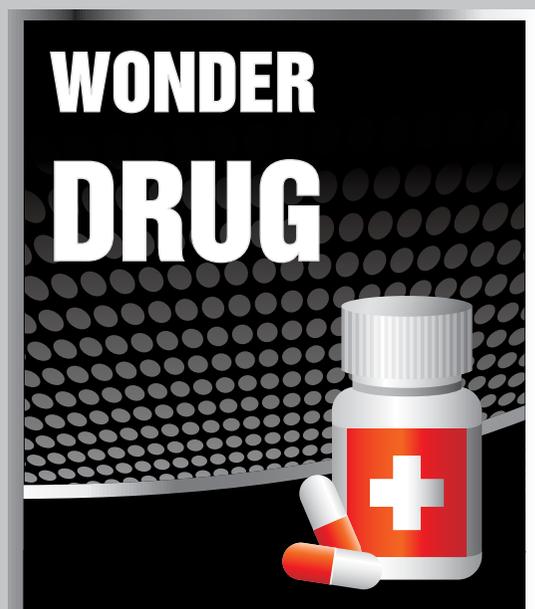
### Recreational therapy facts:

- **Salary:** Median annual earnings for someone with less than one year experience is about \$33,000.
- **Years in school:** Most have a bachelor's degree in therapeutic recreation. Some states require licensing.
- **Employment outlook:** Employment may decline in hospitals but grow in long-term-care facilities. Jobs may be more plentiful for people who have special certifications, such as aquatic (water) therapy.

## Use the News

Health care is big business and the costs are predicted to rise by more than 50% over the next ten years. Determine which health care companies are advertising in the e-edition or print newspaper and what their products are. Then write an essay telling why you think health is such big business.

**Learning Standard:** discussing a topic of social concern





### Dentist facts:

- **Salary:** Median salary for a person with less than one year of experience is about \$97,000.
- **Years in school:** College degree plus four years of study in dental school.
- **Employment outlook:** Good. The field is expected to grow 9% through 2016 as a large number of dentists retire. Also, overall population is growing, resulting in the need for more dentists.

Tanya is a doctor of optometry or optometrist, who examines people's eyes to diagnose vision problems and diseases of the eye. They prescribe drugs, glasses, or contact lenses, and they may offer vision therapy or care for patients who have had cataracts removed before and after surgery.



### Optometrist facts:

- **Salary:** Median salary for an optometrist in private practice is about \$84,000.
- **Years in school:** Most students have a college degree and then go to optometry school. Most of those programs last four years. Optometrists must also be licensed, which means they pass a state test after getting the degree.
- **Employment outlook:** Good. The field is expected to grow 11% through 2016.

**Dad is 51 years old and in terrific shape.** He eats pretty healthfully. While he doesn't make himself crazy, he's careful to eat lots of fresh fruits and vegetables. Although he loves fried foods and often wants to eat fast food at lunch, he eats that stuff only once in a while. When he cooks for the family, he makes dishes that have ingredients that are fresh and not overly processed or packaged.

One of the reasons why Dad is so clued in to good nutrition is that he studied human anatomy as part of his training to be a dentist. A dentist is a doctor who examines teeth and diagnoses diseases of the teeth and gums. They clean teeth and cavities (decay) and rebuild broken teeth. They may also perform some dental surgery such as extracting (removing) teeth.

Being a dentist requires good hand and eye coordination. It's a good job for people with good vision who like to work with their hands. It's best for people who are sympathetic and caring and enjoy working with people. Dentistry also involves a lot of standing, so it requires some stamina and endurance.

Recently, Dad was writing some notes on a patient's file and he noticed that his computer screen was a bit blurry. His eyes had been watering a lot lately. He thought at first that his allergies were acting up, but even after taking his medication, his eyes continued to bother him.

Then he noticed that when he read some nutrition labels, they were harder to see than they used to be. He mentioned this to one of his patients, Tanya, and she suggested that Dad come into her office for a checkup.





**Sonya is thrilled to be having her first baby.** Being a mother is not something she took lightly. She waited until she was established in her career and able to take good care of a child. So now she's 38 and six months pregnant.

Women Sonya's age can have healthy babies, but they do have some special considerations that younger moms may not have. As a result, Sonya has had some tests that not all pregnant women are given.

One concern of Sonya's doctor was gestational diabetes. It's sometimes called pregnancy diabetes. It has to do with the way the woman's body handles sugar and how that changes during pregnancy. Because hormones change as a woman ages and during pregnancy, and hormones affect how the body deals with sugar, gestational diabetes becomes a concern, especially in older moms.

So Sonya has had regular blood tests to check her blood sugar level. A medical phlebotomist performs the blood test. That is a person who is specially trained to draw blood, using a needle. It's important that this person has a good understanding of sterilization procedures so as to avoid an infection. It's also vital for a phlebotomist to know how to talk to people and to deal with the discomfort that many people have about needles and blood.

## Use the News

There is a growing demand for workers in health care. Look through the Help Wanted ads in the Classified section of the e-edition or print newspaper and select occupations that are in the health field. Describe the duties that are involved in each position by writing an hourly schedule for a typical day on the job. Which jobs are of a particular interest to you?

**Learning Standard: evaluating career opportunities**



### Phlebotomy facts:

- **Salary:** Average annual salary is about \$24,350. Supervisors may earn up to \$35,000.
- **Years in school:** You must have a high school diploma, followed by a phlebotomy program that may last four to eight months and be gotten in a vocational training school or center. Some places offer on-the-job training.
- **Employment outlook:** Good. Expected to increase 10%-20% during the next ten years as our aging population requires more lab testing.

Sonya also had an ultrasound procedure to track the progress of the baby's growth. The exam uses sound waves that create a picture of the baby inside the mother. A sonographer performed the test. A sonographer is a highly skilled professional (not a doctor) who uses specialized equipment to create images that the doctors use to make a medical diagnosis.



### Sonographer facts:

- **Salary:** In 2007, the average salary was \$60,590.
- **Years in school:** After earning a high school diploma, there are several avenues of education acceptable to employers. Some train in hospitals or vocational programs. Colleges and universities also offer two- and four-year training programs. There are also some one-year programs that are acceptable.
- **Employment outlook:** Expected to increase faster than average, by about 19% through 2016.



## *A Son Who Achieves*

**Evan is an awesome 11-year-old kid.** He does well in school, loves video games, and plays soccer. He also has juvenile diabetes. That means that his body doesn't process sugar well, so he has to take a medicine called insulin to help him. It's also really important that Evan eats right and exercises regularly, so it's great that he loves sports.

Evan sees Martin, a clinical dietitian in a hospital. Martin studied for many years. He has a master's degree in human nutrition and then he became a certified clinical nutritionist. When asked what he does for a living, he says that he helps people "eat their way to better health."

He identifies patients who may have nutritional deficiencies or who may need nutrition counseling. Martin says that lots of people are confused about food these days. They get tons of information about what to eat and how to eat – no carbs, no fat, all meat, all vegetarian – but they can't figure out what to do.



Martin loves his job because he gives people tools they can use. His advice really does make people feel better and live healthier lives. No two days at work are exactly the same, and he's never bored. Plus, he gets to use a variety of skills. His science background is a plus, his language and writing skills help him communicate clearly, and he even uses some math as he must calculate nutrition requirements.

He gets to interact with a variety of people, too. He works with physicians, nurses, food service workers, and the patients. As a team, they develop a plan for each individual's care. While it's not always easy to convince people to change their ways and eat better, Martin enjoys the challenge.



### **Clinical nutritionist facts:**

- **Salary:** Average is \$53,414.
- **Years in school:** A college degree plus about two years for a master's degree.
- **Employment outlook:** Good. Jobs are expected to increase about 9% through 2016.





### Child psychologist facts:

- **Salary:** Average salary for someone with one to four years' experience is about \$51,000.
- **Years in school:** College degree plus about four years for an advanced degree.
- **Employment outlook:** Good. Job opportunities will be found in schools, social service agencies, and through consulting services.



Sometimes it bums Evan out that he has diabetes. Most of the time he's fine, but every once in a while he gets depressed or angry about what he has to deal with. He wants to just be able to eat birthday cake at parties like other kids. He doesn't always feel like taking his medicine. Sometimes it feels like no one understands, too.

That's why Evan meets once a month with Nicole, a child psychologist. Nicole has a doctoral degree in psychology. She doesn't have a medical degree, but she is a doctor. She talks to Evan and listens carefully, with sensitivity. Nicole is extremely patient and understands the way kids think. She gives Evan strategies for dealing with his feelings.



## Use the News

Plan a healthy meal by going through the Food section of the e-edition or print newspaper to create a shopping list. Select the foods you need to buy and the price of each item. Total the cost of your food purchase.

In the past 20 years, the number of overweight children has doubled. The Department of Agriculture wants to find ways to help children live healthier lives. Use the newspaper to find healthy foods, products, and activities in the paper. Make a chart to categorize your findings.

**Learning Standards:** planning nutritious meals, understanding the impact of food selections



## A Daughter Makes Her Parents Proud



**Brandy is an amazing 16-year-old athlete.** She plays field hockey in the fall, lacrosse in the spring, and soccer in the summer. She eats well; she's a vegetarian so she doesn't eat any meat, chicken, or fish. She trains all the time by running and lifting some light weights. She also does yoga to keep herself from getting too stressed out.

Even though her schedule is quite busy, she spends time with her family by eating dinner at home each night. That way she can also keep up with her homework after dinner because she wants to maintain a good grade point average.

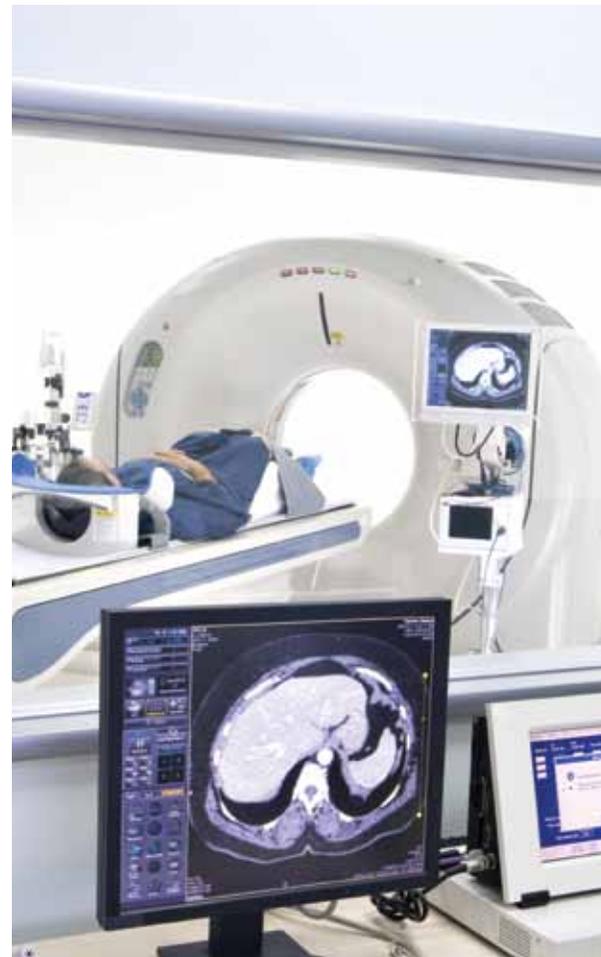
Her family is very supportive of Brandy's activities. They come to watch her play and cheer her on whenever they can. It's a good thing, too, because at a recent lacrosse game, Brandy was badly injured when a player accidentally hit her in the head with the lacrosse stick.

Brandy had been running when she was hit. The blow caused her to fall down and land hard on her right knee. After she collapsed, she was unable to get up. She seemed dazed and barely conscious. The trainer at school called 911. The paramedics came and checked her vital signs. They determined that while her injury wasn't likely too bad, she needed to be treated at an emergency room.

After arriving at the ER, Brandy was given a battery of tests. The doctors were particularly concerned about two things – the possibility of a concussion (or some bleeding inside Brandy's head) and an injury in the knee area where she has had a lot of pain.

First, the phlebotomist drew some blood from Brandy's arm. Brandy was happy that the technician was good at his job because she doesn't like needles and was afraid it would hurt. It didn't hurt at all.

Next, the ER doctor ordered a CT scan to check Brandy's head for brain injury, bleeding, or skull fracture. The technologist took her into a room and assured her that the test was painless and quick. Like an X-ray, a CT scan looks inside a body to see what's happening internally.



## Use the



Injuries are an unfortunate part of sports and can have serious complications for athletes. Check the Sports section of the e-edition or print newspaper for reports about injuries. List five important facts found in the article.

**Learning Standard: understanding the interrelationships of body systems**





Finally, they called in an orthopedic physician to look at Brandy's knee. She was concerned that there might be damage, like a tear, in the medial meniscus, the cartilage in the knee that helps cushion the joint. Or, the doctor explained, Brandy might have torn a ligament in her knee when she fell. She ordered another test, an MRI, which also looks inside the body. That way, they could determine if there were any injuries to the knee.

Another technologist who has had training specific to this test performs the MRI, a magnetic resonance imaging exam. A radiologist, a physician with advanced training in imaging tests, oversees the procedure and then reads and interprets the results. Those results go to the orthopedist, the doctor who specializes in bones, muscles, tendons, and all other aspects of the musculoskeletal system.

The orthopedist explained to Brandy that she had, in fact, torn a ligament in her knee, her ACL. She explained that this injury was extremely common among athletes, especially girls, and that it could be totally repaired.

First, Brandy would have to use crutches and completely rest the knee until the swelling went away. Then she'd work with a physical therapist to build back her knee function and strength. Finally, she might have surgery to repair the tear and, following surgery, more physical therapy would be needed.

The doctor assured Brandy that she would make a full recovery and would likely be ready to return to the field in time for field hockey season next fall. Once she knew that she would be fine, Brandy had a great attitude about what she had to do. She started working with Ernie, a physical therapist.

After surgery, Brandy wore a brace, even during her physical therapy sessions. She didn't mind the sessions at all. They were like athletic training sessions, in a way. Ernie showed her how to work out with weights, and sometimes she rode a stationary cycle. The workouts got a bit harder each time but were always done under Ernie's watchful eye. He would also massage the area each time and help her to move her leg so that she had full range of motion in her knee.

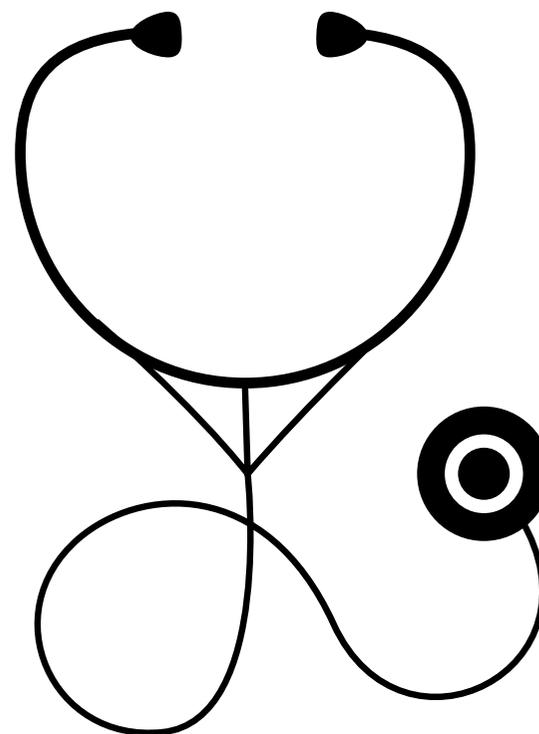
Eventually, her physical therapy sessions included swimming. Ernie explained that water is a great tool because you can work your body without too much strain on the joints. One thing Brandy liked best about Ernie was his explanations. He took time to lay out the goals for each session so that Brandy understood exactly why she was doing each exercise. He was also very reassuring, almost a like a personal trainer and cheerleader in one very strong package.

Brandy told Ernie that she was interested in becoming a physical therapist. He said she was a good candidate because she was a good student and a strong person, both requirements for a PT. Although Brandy isn't very tall, Ernie said that wouldn't matter, as long as she was willing to work out to build strength. Physical therapists have to be strong enough to manipulate, or move, patients of all sizes.



### Physical Therapy facts:

- **Salary:** Average is about \$72,000.
- **Years in school:** College degree plus master's or doctoral degree. Only master's and doctoral programs are accredited. A license is required, too.
- **Employment outlook:** Expected to grow much faster than average, about 27% through 2016.



# A Future Without Limits

If you think that a career in a health profession is for you, start now to achieve your dream. As you take your high school courses, think about what you're interested in and what you enjoy. After all, your job should fill your heart and soul, not just your wallet, right? That's going to take some careful thought and planning.

Consider your personal priorities. Will you be ready for college right after high school? Or will you work for a while and then continue your education? Either way, a career in health may work for you.

Deciding on your career goals early will help you take the right direction. For example, if you decide that one of the health professions that requires college is the one for you, then you'll want to start doing the research to find the school that offers the program you want.

You may also want to consider a "pre-enrichment" program. These are jobs you can do while you're in high school to try out a health career by assisting a health professional. You might get a paid position or an internship, or perhaps you'll volunteer at a hospital. Start by getting in touch with hospitals and health care organizations in your area to check out the possibilities.

Gather information, and spend some time thinking about your goals. Here are some online resources to check out.

An alphabetical list of health careers can be found at:  
<http://library.thinkquest.org/15569/car1a.html>

Explore health careers  
<http://www.explorehealthcareers.org/en/Index.aspx>

U.S. Department of Labor  
<http://www.bls.gov/oco/cg/cgs035.htm>

Vocational Information Center  
<http://www.khake.com/page22.html>

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