



## Integrated Health and Fitness

This course is an in-depth evaluation of health and wellness, exploring all aspects of health, including physical, emotional, and social well-being. We cover anatomy and body systems as a basis for understanding the body. We take a refreshing look at diet; while examining in detail the components of food, we also simplify the elements of diet to make it accessible. Some of the many topics covered are personal health care, drugs, sexuality, aging, alternative medicine, and the environment and health. An integral part of the course is fitness; students engage in a regular aerobic and strength building fitness program, using a heart rate monitor as a tool. Students learn the value of exercise for optimal brain function. This course includes a variety of project choices, including research, interviews, multi-media presentations, introspection, and more. The course reading incorporates cutting-edge research, and students are encouraged to tune into the media for health related topics. Societal and medical influences on diet and health are explored.

The following books are used in this course:

*Oak Meadow Integrated Health & Fitness Syllabus*

*Health: Making Life Choices* (McGraw-Hill)

*Human Anatomy Coloring Book* (Matt)

*Spark: The Revolutionary New Science of Exercise and the Brain* (Ratey)

*In Defense of Food: An Eater's Manifesto* (Pollan)

# Integrated Health & Fitness

## Oak Meadow Syllabus

Oak Meadow, Inc.  
Post Office Box 1346  
Brattleboro, VT 05302-1346  
oakmeadow.com  
Item #11105

# Table of Contents

---

Introduction .....	5
Lesson 1: What Is Health?.....	9
Lesson 2: Introduction to <i>Anatomy; Skeletal and Muscular Systems</i> .....	13
Lesson 3: Nervous and Endocrine Systems.....	17
Lesson 4: Cardiovascular and Respiratory Systems .....	23
Lesson 5: Fitness .....	27
Lesson 6: Emotional Health and Personality.....	37
Lesson 7: Stress.....	41
Lesson 8: Mental and Emotional Health.....	43
Lesson 9: Digestive and Urinary Systems .....	47
Lesson 10: Immune System.....	51
Lesson 11: Reproductive System.....	55
Lesson 12: A Dietary Assessment.....	59
Lesson 13: Carbohydrates and an Introduction to Food.....	63
Lesson 14: Fats .....	69
Lesson 15: Protein and the Evolution of the Modern Diet .....	79
Lesson 16: Vitamins and Minerals .....	85

Table of Contents	Lesson 17: Food Additives and Processed Food .....	91
<i>(continued)</i>	Lesson 18: Food Safety and Politics .....	97
	Lesson 19: Maintaining a Healthy Weight .....	99
	Lesson 20: Personal Health Care .....	107
	Lesson 21: Drugs.....	113
	Lesson 22: Drugs, Part 2 .....	117
	Lesson 23: Alcohol.....	123
	Lesson 24: Tobacco .....	129
	Lesson 25: Infectious Diseases.....	135
	Lesson 26: Sexually Transmitted Diseases.....	141
	Lesson 27: Lifestyle Diseases.....	145
	Lesson 28: Relationships and Family Life.....	151
	Lesson 29: Conception and Parenting.....	157
	Lesson 30: Sexuality .....	163
	Lesson 31: Old Age and Death .....	169
	Lesson 32: Accident Prevention and First Aid.....	175
	Lesson 33: The Environment and Health.....	181
	Lesson 34: Healing and Health Care .....	185
	Lesson 35: Healing and Alternative Medicine.....	191
	Lesson 36: The End? Or the Beginning? .....	203
	Supplementary Book List .....	207

# Lesson



## INTRODUCTION TO **Anatomy; Skeletal** AND **Muscular Systems**

---

In order to better understand your body and health, it is necessary to learn some anatomy and physiology. Anatomy is the study of the body parts and how they are put together. The word **anatomy** is derived from the Greek words *tomy*, to cut, and *ana*, apart. In the early days of anatomy study, deceased criminals were used as dissection specimens. In the eighteenth and nineteenth centuries, medical schools were becoming more popular, and people were eager for knowledge of the human body. There weren't enough criminals to supply the need. This is when the practice of "body snatching" became common. Some medical schools actually employed people to dig up graves for medical study! There was a constant need, as the bodies had to be fresh. People lived in fear that their deceased loved ones would be dug up, and went to great lengths to guard their graves. By the twentieth century, as preservation methods improved and medical science was becoming more respected, the practice of body snatching vanished. Bodies are still used, but they come from donations. In addition, the use of plastic models, photographs, and other visual aids has reduced the need for fresh bodies in anatomy study.

**Physiology** is the study of how the body and its parts function. *Physis* means "nature," and *ology* means "the study of." In order to learn about health, we need to learn how our body functions, and it's hard to understand how it functions without understanding how it's put together! For this reason, physiology and anatomy will be integrated into much of this course.

First, let's get a general picture of the body and its systems. Whenever you learn a new discipline, there is always a certain language that is used, and to communicate clearly and without confusion some common vocabulary is necessary. In this lesson, we will introduce the language of anatomy, learn the layout of the body systems, and cover the details of the skeletal and muscular systems.

**Anatomy** is the study of the body parts and how they are put together.

**Physiology** is the study of how the body and its parts function.

**A note to enrolled students:** Throughout much of this semester, you will color the diagrams in *The Anatomy Coloring Book* that came with your course materials. You will need to send these to your teacher. We don't recommend that you tear the pages out of the book, as it is a good reference book if you keep it intact. You may scan the appropriate pages with each lesson, copy them, or wait and send the entire book to your teacher after Lesson 11, when we complete the book.

The **anatomical position** is the standard position used when body parts are mentioned in reference to each other.

In the *Human Anatomy Coloring Book*, look at the pictures of the human body and skeletal system on pages 1 and 2. Notice the body is in one position. This is called the **anatomical position**. This is the standard position used when body parts are mentioned in reference to each other, regardless of the position the body happens to be in at the time. Notice particularly the position of the hands, with the palms forward.

The following are the directional terms to become familiar with:

Superior (or cephalic)	Above, or toward the head end
Inferior (or caudal)	Below, or toward the lower end
Anterior (or ventral)	In front of, or toward the front of the body
Posterior (or dorsal)	Behind, or toward the back of the body
Medial	Toward the midline of the body
Lateral	Away from the midline of the body
Proximal	Closer to the point of attachment to the trunk
Distal	Farther from the trunk
Superficial	Closer to the body surface
Deep	Farther from the body surface; more internal

Using these directional terms and the anatomical position, you can see that the head, for example, is superior to the heart even if the person is doing a handstand or lying on a bed.

### Reading

- ❑ Textbook, pages 130–139
- ❑ *Human Anatomy Coloring Book* (from now on, this will be referred to as *HACB*), pages 1–12

Lesson

2

Questions

---

1. What is homeostasis?
2. Describe the four levels of organization in the body.
3. Considering the anatomical position, use the directional terms to fill in the blanks:
  - a. The elbow is \_\_\_\_\_ to the hand.
  - b. The sternum is \_\_\_\_\_ to the vertebral column.
  - c. The thumb is \_\_\_\_\_ to the fingers.
  - d. The tibia is \_\_\_\_\_ to the femur.
  - e. The lungs are \_\_\_\_\_ to the skin.
  - f. The triceps is \_\_\_\_\_ to the biceps.
4. What are the functions of the skeletal system?
5. When you learn about the skeletal system, it is important to learn the functions of certain connective tissues, which are common sites of sports injuries. Using a dictionary, define the following terms:
  - a. tendon
  - b. ligament
  - c. cartilage
6. Using colored pencils, color the diagrams on pp. 3, 5, 6, and 7 of *HACB*.
7. What are the three types of muscles? Describe their functions and where they are found.
8. The term **muscular system** refers to the skeletal muscles, which is what we will be exploring. Using colored pencils, color the major muscular system diagrams on pages 8–12 of *HACB*. Notice that all muscles are connected to the bone with tendons, some of which can be quite long.
9. Define *origin* and *insertion*. Give an example of the location of each for one muscle.

## Questions

(continued)

10. Why do muscles need to work in pairs? What are these pairs called? Give an example of each.

## Activities

Do the following surface anatomy explorations:

- A. There is much that you can learn about your own skeletal system by examining the parts of your body. By carefully touching and feeling the parts of the body beneath the skin, you can develop a pretty clear picture of how you are put together. Using the diagrams in *HACB* and the text, do a surface anatomy exploration of your bones. Start with your skull and work down. Write a paragraph describing your results, noting any bones you had particular ease or difficulty locating.
- B. Using the diagrams in the text and *HACB*, do a surface anatomy muscular examination of yourself. Use your hands to feel the major muscles listed. Sometimes it helps to flex the muscles to feel them more easily. Write a paragraph describing your experience, listing any muscles you had particular ease or difficulty locating.

*Your completed work for Lessons 1 and 2 should be maintained in your homeschooling portfolio or, if you are enrolled, sent to your Oak Meadow teacher at this time for feedback and evaluation. Please be sure to organize and label each assignment clearly.*



# Lesson



## Fats

---

Fat—it's a big topic for a little word. Fats have gone from being a sought-after necessity in the diet, to being the villain, then the hero, and now? Now there are so many kinds of fats to know about that it seems you need to be a college chemistry professor if you want to survive in the era of nutrition information overload! This lesson will shed some light on fats, why they've received such a bad rap, how to consume the fats you need, and how to be a wise consumer.

**Be sure to read through the lesson questions before you do the reading.**

As you read Pollan's book this week, stay on the lookout for points or concepts that you find interesting or surprising. At the end of the lesson, you will be asked to list three of them.

### Reading

- ❑ Textbook, pages 179–183
- ❑ Pollan, pages 32–81, 124–132 (This second reading in Pollan will be part of the next lesson as well, when we explore the transformation of the Western diet; we read it now because it has some important information on fats.)

## More Background Information

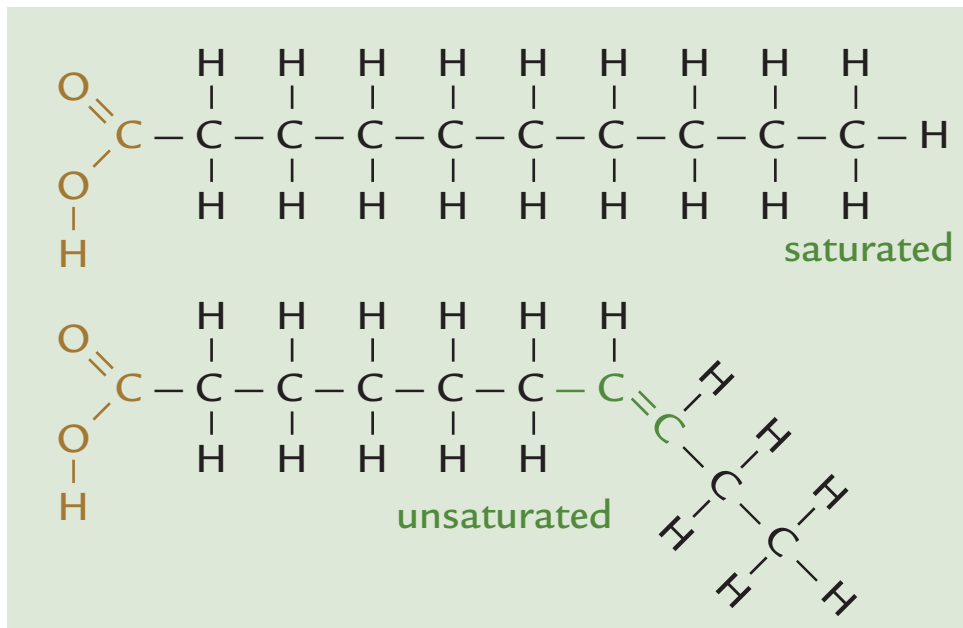
To understand the role of fats in the diet, it is important to understand the different types of fats, so that when you hear a name, you have more than a vague sense of what it means. You often hear the terms **fats** and **lipids** being used interchangeably. Fats are lipids, and there are other important lipids also, such as phospholipids, steroids, and waxes. Phospholipids make up part of cell membranes. Steroids are very important hormones with many functions in the body. They include the sex hormones, hormones that control inflammation, and some that control salt and water balance. Cholesterol is a steroid that is necessary for cell membrane formation and nerve impulse conduction. It is also essential for the formation of other steroids, such as bile (remember, the hormone produced by the liver that aids in fat digestion?), vitamin D, and sex hormones.

A **saturated fat** is filled with hydrogen atoms, resulting in a straight molecule.

In an **unsaturated fat**, some hydrogen spaces are left open, causing kinks in the molecule.

Before we talk more about cholesterol, let's get clear on the types of fat. You often hear about **saturated fat**, **unsaturated fat**, **polyunsaturated fat**, **trans fat**, etc. A fat molecule typically contains three fatty acids bonded to a glycerol molecule backbone. In the following diagram of individual fatty acids, you can see part of the glycerol molecule backbone on the left. Notice the saturated fatty acid is filled with hydrogen atoms; that's what makes it saturated. This results in a straight molecule. They are able to stack together tightly, which results in a fat that is solid at room temperature. Saturated fats are very stable and don't go rancid.

When a fat is unsaturated, some of the carbons have double bonds, which results in some hydrogen spaces left open. This causes kinks in the molecules, and they slide off each other, resulting in a liquid fat at room temperature, such as a vegetable oil. The unsaturated fatty acid pictured here is a **monounsaturated fatty acid**, because there is only one double bond. A polyunsaturated fatty acid consists of more than one double bond, so there can be several hydrogen spaces left open, and more kinks in the molecule. Olive oil is composed of mostly monounsaturated fat. Notice that it is liquid at room temperature, and solid if you put it in the refrigerator, unlike other vegetable oils, which remain liquid.



## More Background Information

(continued)

It should be mentioned that most foods, even oils and meat, have a combination of all three types of fatty acids.

A **trans fat** is simply an unsaturated fatty acid that has been “blasted with hydrogen,” to use Michael Pollan’s words, in order to make it saturated and solid at room temperature. This increases its shelf life, which is why so much of it is used in processed foods. Vegetable shortening and margarine are examples. Trans fats are now well known to be the most harmful type of fat consumed.

Okay, now back to cholesterol, that essential substance that has been vilified by the media. Cholesterol is made by the liver. You often hear about “good” cholesterol and “bad” cholesterol—what does that mean? Since cholesterol is a fat and can’t dissolve in the blood, it has to be transported around by special carriers called **lipoproteins**. Low-density lipoprotein, or LDL, carries most of the cholesterol in your blood. This, according to common belief, becomes the “bad” cholesterol when there is too much of it, clogging up the arteries and increasing the risk of heart disease. A small amount of cholesterol is carried by high-density lipoproteins. This HDL cholesterol is commonly known as the “good” cholesterol, because it supposedly removes cholesterol from the arteries and takes it back to the liver for disposal.

A **trans fat** is an unsaturated fatty acid that is saturated and solid at room temperature.

**Lipoproteins** special carriers that transport cholesterol around your bloodstream.

## More Background Information

(continued)

As it turns out, this cholesterol hypothesis has not held up in scientific testing; there is no trial that conclusively demonstrates that a reduction in LDL cholesterol reduces the risk of cardiovascular disease.

Current research has determined that there is more than one type of LDL cholesterol. The bad guy is now *oxidized LDL*. Most of the LDL in your bloodstream is unmodified LDL, and this cannot produce atherosclerosis (the buildup of plaque on the artery walls). Where does the oxidized LDL come from? It gets created when LDL reacts with free radicals in the bloodstream. And, as it turns out, the oxidized LDL concentration is strongly influenced by diet. It is thought that since polyunsaturated fats are less stable and more prone to oxidation than saturated fats, they are a contributor. Also, an increase in blood sugar has been shown to increase the oxidation. Smoking could be a contributor as well.

You can research all this on the Internet and go a little crazy with all kinds of conflicting information. The long and short of it is, as Michael Pollan describes, that it seems the increase in refined carbohydrates and the trend away from vegetables and whole foods has contributed to many of our health problems today.

Now for a little bit on omega-6 and omega-3 fatty acids, which Pollan discusses. They are both essential fatty acids, meaning we cannot synthesize them in our body and must get them from food. They are found in polyunsaturated fats. Good sources of omega-3s are oily fishes, flaxseed, walnuts, and other plants. Omega-6s are generally found in very large amounts in corn, soy, sunflower, and cottonseed oils. It's the ratio that is important. The typical Western diet can have a 20:1 ratio of omega-6 to omega-3. A much healthier ratio is more like 3:1! It is our shift to consuming a large amount of these seed oils that has thrown off the balance.

Here's one final interesting fact. Later in Pollan's book, you'll read his statement, "You are what you eat eats." The fatty acid profile differs in animal foods, depending on what they eat. Grass-fed beef will have a much healthier ratio of fatty acids (more omega-3, less omega-6) than corn-fed beef, for example.

The main thing to take away from this lesson is that fats need to be consumed in balance. We need to think both about how much fat we're eating, and in general, what kinds of fat compose our diet.

**Lesson**  
**14****Questions**

*From Pollan:*

1. Give an overview of the changes in the food industry after 1973, when the FDA repealed the imitation food labeling rule.
2. What is the lipid hypothesis?
3. What are the effects of trans fats in the body?
4. Describe how nutritionist logic can be used to make a junk food look like a health food, including being endorsed by the FDA or the American Heart Association.
5. Explain Pollan's suggestion that the war on fat has caused the increase in obesity and diabetes.
6. Very often, connections between diet and health are made while isolating certain factors and ignoring others. Explain how skepticism is useful in reading dietary and health claims. Michael Pollan is well practiced at using skepticism, and bringing out studies, rationale, or questions that expose the flaws in earlier claims. Give two examples of this in the reading for this lesson.
7. Explain the flaws of focusing on individual nutrients when studying food, and isolating them in supplements.
8. Describe the functions of omega-3 and omega-6 fatty acids in the body.
9. Why is the ratio of omega-6s to omega-3s in our diet important? What has caused this ratio to change over the last few decades?
10. Briefly describe three points from Pollan's book that you found interesting or surprising.

## Reading Food Labels

*Correction:* Review the food label on page 182 of the text. The calories per serving should read 130, the calories from fat should read 27, and the total fat per serving should be 3g. If these numbers differ in your text, please correct them. Some texts have this rather blatant error. Look at the bottom of the food label, where it lists the calories per gram for fats, carbohydrates, and proteins. By doing the math, you can see that with 3 grams of fat in a serving, there should be 27 total calories from fat. Likewise, 23 grams of carbohydrates contains 92 calories. Three grams of protein has 12 calories. Adding them all up:  $27 + 92 + 12 = 131$ . Food labels will often round numbers off for simplicity, as you will see when you examine them.

Given that there are approximately 130 total calories per serving, and 27 calories come from fat, is this a high-fat food? The best way to determine this is to calculate the *percentage* of calories from fat. Divide 27 by 130, and you get 0.21, which translates to 21% fat. This is not a particularly high-fat food.

In the same way, you can calculate the amount of sugar or protein in a food. It's clear that most of the calories come from carbohydrates in this food. Only 1g or less is sugar.  $1/130 = 0.008$ , or 0.8% of the calories from sugar. Not much sugar in these pretzels!

If you see a food labeled “low fat” or “low sugar,” it could be because they've shrunk the recommended serving size. Come on, if you sit with a bag of chips, do you really just eat the 8–10 chips that are in a “single serving”? Or drink only half of a 16-ounce soda? The fat or sugar content of a food is better understood by looking at the percentage of calories that come from fat or sugar.

### Activity

Let's now practice with food labels. This assignment will be started this lesson, and finished with Lesson 15, when we cover proteins. *For enrolled students, this will be graded with Lesson 15. Do not send it to your teacher now.*

Take a trip to your kitchen cupboards and the store and read some food labels. In the table at the end of this lesson, you will record information about these foods. For this lesson, you will fill out all except the last two columns, which you will complete in Lesson 15.

Down the side, list the following foods:

- Lowfat milk (2% milk is already done as an example for you)
- Whole milk
- Nonfat milk
- Peanut butter
- Ice cream
- Your favorite cookies
- A type of breakfast cereal
- Corn or potato chips
- Spaghetti
- Brown rice
- Fruit juice
- Vegetable juice
- Bread
- Two types of meat
- Two types of fruits
- Two types of vegetables
- Two other foods of your choice

Complete the table, using the information from the nutrition label and the calculations that you need to complete, as described above. You need to fill out the column titled “grams of protein” now, while you have the foods in front of you. The final two columns will be completed in the next lesson.

Look over your results and draw a conclusion on what you learned about the fat or sugar content of any of the foods. Were there any surprises for you?

## Fitness Plan

Continue with your exercise program. Remember not to punish yourself if you miss some days of workouts. Just pick up where you left off, and keep going. If you are having trouble getting moving, exercise with someone—a friend, sibling, parent, or a dog. Dogs are usually willing participants! Also, don’t forget to try different times of the day to find out what works. Make sure you don’t work out when you are hungry, so you don’t “bonk” from low blood sugar.

If you did not do the second progress test last week, plan to do it this week.

## Reading Food Labels

*(continued)*

## Fitness Plan

*(continued)*

This week, practice the relaxation method introduced in Lesson 13 a few more times. Include your experience in your fitness journal (use the back of the page for any extra notes).

*Your completed work for Lessons 13 and 14 should be maintained in your homeschooling portfolio or, if you are enrolled, sent to your Oak Meadow teacher at this time for feedback and evaluation. Please be sure to organize and label each assignment clearly. At this time, please also send at least three sample pages of your fitness journal. You may make copies if you like, or send the originals (they'll be returned).*







# Your Thoughts

---



## Lesson

# 34

# Healing and Health Care

---

Health care is one of the hottest issues in the news these days. While the government of the United States has struggled to overhaul the health-care system, consumers are faced with tough decisions every day. What kind of health insurance policy should I get? Can I afford this? What will happen if I don't have health insurance? What kind of care does my plan include? Will it include chiropractic care? How about naturopathic care? Which kinds of health care do I actually need or want?

In the next two lessons, we will explore health care from a consumer point of view, and we will also get an introduction to the many avenues of health care that are available, including the medical system that we are familiar with as well as many so-called “alternative” methods. To be a wise consumer is to know what is available so you can make informed choices that you are comfortable with. Remember, it is *your* health that you are dealing with. Not only are you responsible for taking care of your body, but you have the ultimate say in just how you do that.

At this point it might be a good idea to review the introduction to the immune system that was covered in Lesson 10, as it directly relates to the health-care philosophies we will cover in the next two lessons.

## A Little History

Allopathic medicine, otherwise known as conventional medicine, is now the dominant system of medical practice in the world. Strictly speaking, allopathic medicine is the medical system that treats disease with remedies that produce effects opposite of the symptoms of the disease. For example, if a patient has high blood pressure, he is given a drug that reduces blood pressure. Allopathic medicine is a biologically based approach to healing. In the United States, it is by far the most widely used and accepted approach to medicine.

## A Little History

*(continued)*

### **Allopathic medicine** (or **allopathy**)

is a medical system that treats disease with remedies that produce effects opposite of the symptoms of the disease.

The term **allopathy** was coined by C.F.S. Hahnemann in 1842, to distinguish this form of medicine from homeopathy, a system of therapy that he founded, which will be covered in more detail in Lesson 35. In 1848, the American Medical Association was formed, and allopathic medicine quickly rose to dominance. Clinics that had used homeopathy and naturopathy converted to the new form of medicine as scientific advancements were made. The pharmaceutical industry made rapid growth with the discovery of antibiotics, vaccines, and other drugs.

Allopathic medicine is rooted in the writings of two philosophers who have shaped the perspectives of modern humanity: Francis Bacon (1561–1626) and Rene Descartes (1596–1650).

Francis Bacon’s perspective on order and control relied on the power of the human to manipulate the world, experiment, and exercise the fullest powers of technology. He was the originator of the expression “Knowledge is power.” Bacon felt that the only knowledge of importance was empirically rooted in the natural world. He believed that it was mankind’s responsibility to “torture” nature’s secrets from her, and he developed a system of scientific inquiry, known today as the modern **scientific method**, that he felt would assure mankind’s mastery over the world. This contribution of Bacon’s spurred a huge boost in scientific reasoning and advancement, and medicine was no exception. It is because of Bacon’s influence that scientists and doctors perceive themselves as interveners or healers who are personally responsible for and active in the healing process. Bacon’s perspective gave rise to the thought that a patient is acted upon and is not personally active in his or her own healing.

Rene Descartes believed that science and math could explain everything in nature. He saw all living organisms as machines, constructed from separate parts, with the mind being separate from the body. By reducing organisms to their smallest parts and by studying the mechanisms through which they interact, the human body is seen as the sum of all of its component parts. In this way the study of cell structure and function becomes the basis for study of the composition of the human body, its different tissues, and systems of organization. The study of anatomy, for instance, is a specific discipline that views the body as a machine. This, of course, has been immensely useful to the advancement of medicine. However, it is limited in that it cannot address the interconnectedness between the body and other factors such as psychology, spirituality,

social issues, or the environment. Based on this “Cartesian” philosophy, doctors or practitioners of allopathic medicine have become highly specialized, each with a specific focus, dealing with particular parts of the body or treating particular types of disease or injury.

Descartes’s perspective has given rise to a linear perspective of nature. The belief that certain effects can be isolated and traced to a single, particular cause has permeated scientific thought. Because nature is perceived as existing of such linear relationships, scientists have tended to isolate specific relationships in their studies. The idea that “more is more effective,” and that “the output of a system is proportional to a specific input” can also be traced to this perspective.

Allopathic medicine deals effectively with many common and serious problems including acute infections associated with bacteria, parasites, or other microorganisms; acute injuries; and surgical emergencies. Louis Pasteur’s “germ theory of disease” is a direct application of Cartesian thought in medicine. The correlation between germs and disease was one of the most important events in modern history. Likewise, the art of repairing wounds to vital organs has become an essential healing technique. Yet, there are other ways to look at disease and healing. Germ theory has given rise to the belief that pathogens are the only cause of disease. Consequently, medicine has focused on the identification of microbes and the design of drugs that target specific pathogens. Preventative medicine or alternative methods of treatment can threaten this approach to health. Similarly, surgery is often a temporary solution to a bigger problem that the surgery does not treat. Surgery is often performed unnecessarily, in the honest belief that it is the best or only solution.

Cartesian philosophy was an important and essential step in the development of modern allopathic healing systems. Here are some of the basic premises that relate Cartesian philosophy to modern medicine:

- The body represents one functional system and the mind another.
- *Disease* has taken on a purely physical meaning in terms of science, rather than the patient understanding disease in terms of human illness on a personal level.
- It tends to alienate the patient from his body; he hands full responsibility for his healing to the medical professional, and ceases to regard himself as a significant player.

## A Little History

(continued)

## A Little History

(continued)

- The part of the body that is seen as ailing is the only part that is treated.

Medical practitioners of all kinds are now realizing that there is much more to healing than the “fixing” of body parts or the killing of germs. Throughout this course, you have been introduced to many ways you can be involved in your own health, physically, mentally, and spiritually. The connections are being recognized, and medicine has become more integrated as the “alternatives” become more widely accepted. Now, more than ever, modern medicine and the healing arts of many cultures are merging in new and exciting ways. By becoming informed, you can be part of this global transformation.

### Reading

- Textbook, Chapter 27, pages 728–743, “The Consumer and the Health Care System”

### Lesson



## Questions

---

1. Define *Medicare* and *Medicaid*.
2. When is it advisable to get a second opinion, and why is it recommended?
3. How is the Food and Drug Administration involved in health care?
4. Explain how allopathic medicine affects the way people think about health.

### Research and Activities

- A. *Choose one* of the following two assignments:
  1. Find out what *medical tourism* is, and write a report of one to two pages. What are the pros and cons of medical tourism? Compare the costs of procedures in the United States and other countries. What kinds of procedures are recommended for this arrangement? If you have any personal experience with someone who has gone overseas for a procedure, feel free to share it. Refer to the writing guidelines in the course introduction.

2. Research the health-care systems of the United States and Canada. Describe the positive and negative aspects of each. Using the qualities you feel are the best of both, make up your own ideal health-care system.

## Research and Activities

*(continued)*

- B. You can view the marriage between our political, economic, and health-care systems just by turning on the news or reading the paper. Physicians are motivated to provide the highest quality of care, regardless of cost. Medical science and technology have made truly remarkable advances, as can be seen with modern medical imaging, surgical techniques, joint replacement technology, drug combinations, etc. It has come to the point where high-tech tests have become routine, and failure to utilize the existing technology can often be viewed as negligence by a doctor or hospital. This brings the other players into the system, such as lawyers, industry researchers and salespeople, pharmaceutical companies, administrators, and insurers, all adding up to the tangled web that we know of as our “health-care system.”

This week, listen to the news on the radio or TV, or peruse the newspapers for an article or segment that has to do with any of the issues in the above paragraph. Summarize it in your own words, describe who the interests involved are, and state where you heard or read it.

## Fitness Plan

Continue with your fitness routine this week, keeping up with your fitness journal. Don’t forget to include notes about your energy level, major changes in your life that affect your ability to be active, any particular breakthroughs or frustrations regarding your physical activities or the course material, etc.

In this course, we have focused on activities that do not require specific strength-building exercise equipment. We want you to realize that total fitness does not depend on gadgets, but on your motivation and desire to be active. With that said, there are two simple and helpful tools that you should become familiar with—resistance bands and the exercise ball. They both are lightweight, portable, inexpensive, and quite versatile.

Resistance bands are simply big rubber bands of differing thickness. You wrap them around inanimate objects, such as railings or posts, or

## Fitness Plan

*(continued)*

use your own body parts to add the resistance. They allow you to get all the benefits of free weights, with the added advantage that they provide resistance during all phases of the movement. The tension remains throughout the whole exercise, and you can set them up so the tension comes from any direction. They can be used in many different ways, varying the intensity of the exercise with the same band. They are cheap and extremely easy to travel with.

The exercise ball is a well-known tool for developing core strength. It is a large, soft plastic ball that is filled with air. The number of exercises that can be done with the exercise ball is seemingly endless, as you will find if you do an Internet search for some ideas. The benefit of the exercise ball for many core-strengthening exercises is that the body engages many muscles in response to the instability of the flexible ball. Just try sitting on one and feel the muscles that are utilized!

This week, look these two tools up online and read about some of the many strengthening exercises you can do with them. If you have either of them and haven't used them, try them out. Describe your findings and experiences in your fitness journal.

*Your completed work for Lessons 33 and 34 should be maintained in your homeschooling portfolio or, if you are enrolled, sent to your Oak Meadow teacher at this time for feedback and evaluation. Please be sure to organize and label each assignment clearly.*