



Get Fit with Apple Watch

Using the Apple Watch for Health
and Fitness

Allen G. Taylor

Apress®

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*This book is dedicated to all those who value health and fitness
enough to work on their own on a regular basis.*

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About the Author



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Introduction

If you are like me, you are willing to put in some time and effort to maintain good health and even increase your level of fitness. However, it's hard to maintain the discipline to take the necessary actions day in and day out, over the long haul. It's too easy to fill up the day with necessary activities such that when evening rolls around it's too late to fit in the exercise that you know you should do.

Fitness trackers can help to keep you motivated for a while, but when the novelty wears off, most of them find themselves in the back of a drawer. To be a consistent aid to maintaining fitness, a wearable device must be more than just a fitness tracker. This is where the Apple Watch really shows its value. Yes, it is a fitness tracker, but it is also much more than that. It is an elegant premium timepiece and a supremely convenient communication device. It also has some unique features that you cannot get with any other device, wearable or not.

In the first several short chapters of this book I will provide a brief introduction to the general features of the Apple Watch and how to use them. I will then move into the real subject area of the book: how to use the Apple Watch to help you to maintain good health and improve your physical fitness, day in and day out, over a period of months and years. The Apple Watch is an appropriate accessory at the opera or ballet just as much as it is at the gym or out on the trail.

The Apple Watch contains a comprehensive suite of built-in applications that perform many of the functions that people are accustomed to performing on their smartphones. The Apple Watch serves as an extension of a person's iPhone that eliminates the need to rummage around in a purse or reach into a pocket to pull it out and then unlock. In addition to the built-in apps, the Apple Watch is supported by several thousand third-party apps that run on your iPhone and are ported via either Bluetooth or Wi-Fi directly to your

watch. A number of these apps deal with health and fitness, enabling watch wearers to tailor their daily, weekly, and monthly exercise programs to their own individual needs.

The Apple Watch sounds the opening bell to a new era, when wearable technology truly enters the mainstream. There may be no better way to appreciate where the future is flowing to than to experience the Apple Watch for yourself.



Part



Apple Watch Basic Facts

Common Features

The Apple Watch comes in three collections, aimed at three different audiences and with three different price points. Within these collections, you can buy the Apple Watch in 38 different configurations. Despite these differences, which I will discuss in [Chapter 2](#), the three collections have much in common. The functional hardware, the software, and the physical dimensions are the same among all three.

Case Dimensions

People come in all sizes, and that variability extends to wrists. Wrist size does not necessarily have anything to do with gender. Apple Watch cases come in two sizes: a smaller one with a height of 38mm and width of 33.3mm and a larger one with a height of 42mm and a width of 35.9mm. People with smaller wrists will likely find the 38mm model more comfortable. It also weighs a little less than the 42mm model does, which may make a difference to marathon runners and others who move their arms a lot in the course of a day. The 42mm model will likely be preferred by people with larger wrists or those who want the largest display size available.

Digital Crown

Mechanical watches have had crowns longer than wristwatches have existed. Pocket watches, such as the one Abraham Lincoln wore, have crowns too. The crown of a mechanical wristwatch is a little wheel on the side that you turn to “wind” the watch. Winding turns the spring that powers the clockwork mechanism that causes the movement to advance the hands on the dial as time passes. This type of crown is strictly an analog device.

Of course, the Apple Watch does not have a mechanical movement and thus does not need to be wound. Nonetheless, people have come to expect watches to have crowns, and since the Apple Watch is really more of a computer than it is a watch, there needs to be some way to control its functions. One way to do that is using the touch-sensitive display, but another way is to give control functionality to a digital crown.

With the crown on a mechanical watch, you can do two things: set the hands to the desired time and wind the spring. With the digital crown on the Apple Watch, you can do three things: scroll to navigate across the display, zoom in or out, and tap to return to the previous screen.

With the Apple Watch on the left wrist (which is where most right-handed people will put it), the digital crown is on the right side of the watch from the vantage point of the wearer. Left-handers, on the other hand (pun intended), usually prefer to put their watch on the right wrist, where it is less likely to interfere with what they are doing with their dominant left hand. Apple handles this in a way that no traditional watch could. When setting up the watch, left handers can flip the display 180 degrees, making it easy for them to place the watch on their right wrist and operate the digital crown with their dominant left hand. An additional benefit of locating the watch on the nondominant wrist is that the touchscreen display can be manipulated with the dominant hand.

Retina Display, Gestures, and Force Touch

Steve Jobs introduced the Retina Display when he unveiled iPhone 4. He gave it a special name because the pixel density, and thus the resolution, of the display was greater than on previous Apple products. On the 38mm Apple Watch, the pixel density is 290 pixels per inch, and the display resolution is 272×340. The display on the 42mm model is a little bit sharper, with 302 pixels per inch and a resolution of 312×390. At these values, the sharpness of the display on both Apple Watch models is not quite up to that of an iPhone but is close.

The Apple Watch display responds to touch in much the same way that an iPhone does.

- Taps indicate selection or some other action, which depends on the active app.
- Vertical swipes scroll the current screen either up or down.
- Horizontal swipes move to either the previous or next page, assuming the app being displayed has a page-based interface.
- Left-edge swipes navigate back to where you came from.

The one difference between the touch capabilities of the Apple Watch and iPhones is that pinches are not supported on the Apple Watch.

Force Touch adds a new dimension to the touch-sensing capabilities of the Apple Watch. It detects the amount of force applied by a user's finger. When a press with significant force is applied, the currently running app may display a screen with options, such as to exit or pause the current activity.

Heart-Rate Sensor

People interested in improving their health know that exercise is important. What they may not know is how much exercise is the right amount for the fitness goals that they have set for themselves. Those who are trying to improve their health by losing weight will have different requirements from elite athletes who are trying to get the absolute maximum performance out of their bodies. One way to gauge how hard your body is working is to monitor your heart rate in terms of beats per minute. You want your heart rate to be high enough to move you toward your fitness goal, but not so high as to be a risk.

For several years athletes have been monitoring their heart rate by strapping a sensor to their chest, which transmits heart-rate readings to their smartphones via a Bluetooth connection. These straps are not very comfortable to wear and do not give immediate feedback on the fly because it's not a good idea to be looking at your phone while you are running or biking.

On the other hand, a quick glance at your Apple Watch can be done frequently without problems. The Apple Watch monitors blood flow in your wrist to determine heart rate. By glancing at your Apple Watch periodically while exercising, you can modify your pace or exertion level to match what you are trying to achieve.

Accelerometer

An *accelerometer* is an instrument that detects a change in motion. This could be from standing still to running, or it could be from changing direction while you are moving. It can be used to track movement in places where GPS location services are not available. The accelerometer in the Apple Watch is a key component of the system that records your movements. That information gets translated by software into meaningful fitness information, such as distance traveled and pace.

Gyroscope

A *gyroscope* is an instrument that detects motion but in a different way from the way the accelerometer works. It detects rotation around an axis. For example, when you lift your wrist to glance at your watch, it is the gyroscope that recognizes what you are doing and signals the processor to activate the display. There is no point in running the watch's battery down, powering the display when you are not looking at it.

Taken together, the accelerometer, the gyroscope, and the GPS functionality in your companion iPhone give you accurate information about where you are, where you have been, and where you are headed.

Ambient Light Sensor

The readability of a watch is going to be quite different on a sunny afternoon than it would be on a moonless night. In spite of that, you are going to want to read it easily in both cases and everywhere in between. To address this challenge, Apple has included an ambient light sensor in the Apple Watch. If it senses that the display has to compete with bright sunlight, it will crank up the luminosity. On the moonless night, your dark-adapted eyes don't need as much pixel power but still need some. Ordinary indoor lighting requires a moderate amount of light. Software in the watch will determine the optimal display power level based on the amount of light detected by the ambient light sensor.

Speaker and Microphone

The Apple Watch has both a speaker and a microphone, so you can talk to Siri, Dick Tracy-style, with the watch up in front of your mouth. When Siri responds, you will be able to hear what she has to say. For a quick answer to a question that occurs to you, this beats pulling out and unlocking your phone, hands down (er, I guess at least one hand is *up*—the one attached to the watch you are talking into).

Wi-Fi

Wi-Fi is supported. This means that when you are within range of a Wi-Fi hotspot, you can communicate with any of your other devices, such as your iPhone, that are also within range of that hotspot. When you are at home, within range of your wireless router, you don't have to carry your iPhone around. Your watch will link to it and enable you to make and receive calls right from your watch.