What Can Be Diagnosed With an EKG?

Conditions Diagnosed by EKG

Many clinical conditions can be assessed on the EKG. Here are a few examples.

- **Enlargement of the Heart Muscle** – Several clinical conditions such as chronic high blood pressure (hypertension), coronary artery disease, or even damage from excessive alcohol can enlarge the heart muscle. This makes the heart a less-than-perfect pump.

- **Electrical Blocks** – As you will learn, the heart relies on electrical impulses to cause the muscle to contract. Sometimes, these impulses do not travel through the heart at appropriate intervals. These delays, or blocks, can be depicted on the EKG. These blocks may lead to the patient requiring an external source of electrical stimulation implanted—that is, a pacemaker.

- **Blood Flow Issues** – If a patient is having a heart attack or chest pain, a blockage in an artery that feeds the heart muscle (coronary artery) is often the culprit. This is usually a blood clot that gets lodged into a coronary artery, cutting off blood flow. A particular pattern can be seen on the EKG and the region of the heart muscle affected can be ascertained on the tracing, which can help narrow down the potential artery requiring repair.

- **Death of the Heart Muscle** – After a heart attack, a part of the heart muscle can die. Fortunately, other parts of the healthy muscle can usually pick up the slack for the dead areas. These dead areas can also be seen on the EKG.

- **Heart Rate Issues** – There are several scenarios in which an abnormal heart rate can cause symptoms in a patient. Heart rate is easily calculated on an EKG.
- **Heart Rhythm Issues** – Just as with heart rate, determining the heart rhythm on an EKG can help uncover damage to the heart’s electrical system. It can also help care providers determine what, if any, life-saving measures need to be performed, such as defibrillation.

- **Non-Cardiac Issues** – The EKG can also be used to effectively evaluate non-cardiac clinical areas. An overactive thyroid gland can increase the heart rate and contribute to a specific rhythm: atrial fibrillation. High levels of potassium, which can lead to death, can be noted on an EKG tracing. The wrong dose of several medications can create predictable findings on the EKG.

**Question:**

Can you think of any other conditions or ailments not mentioned above that might be diagnosed by an EKG? How might an EKG lead to a diagnosis of these conditions?