

Investigation

2.6: The Diagnosis

The practice of medicine starts with making the right **diagnosis**. If you don't make the correct diagnosis your patient will suffer because your misdirected treatment will not work; time wasted on the wrong treatment may allow your patient's condition to worsen. So, you have a tremendous responsibility in medical practice to make the correct diagnosis.

In order to make the correct diagnosis you, as the doctor, must consider all of the possible causes for the patient's symptoms. The task can prove difficult because many diseases or injuries can have very similar **symptoms**. You must solve the medical mystery, just as the crime scene investigator must solve the crime mystery. Sometimes in the case of a crime the detective arrests the wrong person and a court may convict an innocent person all because the investigator left the real criminal off the suspect list. In medicine, if you don't have the cause of your patient's disease in your **differential diagnosis**, you may make an incorrect diagnosis and sentence your patient to unnecessary pain, disability, or even death.

When patients come to you for advice or treatment, their **chief complaint** will usually relate to not feeling well or suffering an **injury**. The patient tells you their **symptoms**; your analysis of their symptoms and test results helps you form your differential diagnosis. When you analyze this list of possible causes of the symptoms, you think about which of their symptoms might *not* fit with the diagnoses on your list. You try to **rule-out** the possible diagnoses one-by-one by asking more questions, examining the patient more carefully, or doing additional laboratory tests until only one diagnosis remains, the correct one. Virtually every diagnosis you make as a physician will fall into one of three categories: **Infection, Injury, or Genetic Disorder**.

When we think of an **illness**, an infection probably jumps first into our minds. But an illness can also result from an injury or even a genetic origin. As the treating physician it makes sense to first determine whether your patient's illness arises from an infection. Genetic disorders and injuries do not spread to the people around you. However, we call many infections **communicable** because they can easily spread to others. Diagnosing communicable diseases quickly may keep an infection from spreading through your entire neighborhood or beyond. Focus first on the possibility of an infection.

You can normally diagnose acute injuries more easily. If your patient tells you that yesterday he fell off his skateboard and now his wrist is swollen and painful, you already know with some certainty that the fall injured his wrist. But your differential diagnosis should include both a fracture and a sprain, and perhaps even a couple very rare causes of wrist swelling and pain, because you don't yet know the diagnosis with certainty. Sometimes patients don't come to you until several days or even weeks have passed since their injury. Sub-acute injuries, injuries that do not seem too bad at first, can make your diagnostic challenge much more difficult. Think about the last time you

had an injury. Did you use the injured part right away? Probably not. People normally protect an injured area from movement or stress so it will not hurt. When we protect our injured area we might then overuse another part of our body. This effort to protect can cause pain in the overused area that wasn't injured originally. So be careful when you diagnose the cause of a sub-acute injury to make sure you find the primary site of injury.

Genetic disorders are **deformities** or diseases that parents carry and pass on unknowingly to their children. Some of these disorders are passed on by only one parent while others require the condition to be carried by both parents. Some genetic disorders present at birth, such as a **cleft palate**, while others may not show symptoms until later years, like **epilepsy**.

Use your **differential diagnoses** list to eliminate possibilities one-by-one until you have only the correct diagnosis left. In reality doctors often cannot eliminate with certainty all but one potential cause. In that case, you must use your **judgment** to go ahead and treat the injury or illness despite the uncertainty. That decision makes sense if the treatment has little chance of harming your patient, or if the treatment response proves your uncertain diagnosis correct. Some call these judgment decisions in the face of uncertainty the "**Art**" of Medicine. If medical care was provided based only on science, no one would receive treatment without a proven diagnosis, and patients would suffer from long delays. You, as a doctor, must use your judgment in analyzing all available information to decide on a treatment plan while still searching for new information and options. That aspect of the "**Art**" requires years to develop.

Never forget: Patients put their trust in you, the physician, to do your best to diagnose and treat their injuries and illnesses to the best of your ability. It is a sacred responsibility that should never be taken lightly.

The lessons in this text will challenge you to solve medical mysteries for the benefit of your patients. You will have an opportunity to practice and develop your skills of evaluation, analysis, and diagnosis. Don't forget to make a thorough Differential Diagnosis for each case you investigate so that you can consider all of the possible causes. The ability to work through a list of options to find the best solution will serve you well in solving cases from this book as well as solving the crises in your own life. We are confident you are up to the challenge.

Before you begin solving the medical investigations to follow, let's practice classifying diagnoses. On the next page you will find an activity to help you think about how to classify the challenges you will encounter later.