This lecture looks at the problem of medical error. Iatrogenesis is defined as a medically-induced illness or disease. Medical error and iatrogenesis are not necessarily mutually exclusive. In a case of medical error, there may or may not be iatrogenesis. Not all cases of iatrogenesis are caused specifically by medical error. For example, a person being treated in the hospital could contract a serious infection without that situation necessarily being considered a medical error.

Let’s look into this situation further. In a report by the Harvard Medical Practice, there is a correlation between age and negligence. Age poses a tremendous risk factor to providers and patients. People over the age of 65 are the highest risk group, while newborns are the lowest risk group. When looking at other possible risk factors in relation to negligence, there is no difference in regards to gender.

Another factor to be considered in negligence issues is the type of medical facility that is treating the patient. For example, the treating facility could be a government facility, a non-profit facility, or a privately owned facility. There is also the consideration of whether the hospital is a teaching or non-teaching facility. Statistical studies show us that adverse events as a result of negligence occur at rates in excess of 50% higher in government-owned hospitals that other comparable facilities. Non-teaching hospitals have a much lower rate of incidents compared to the teaching hospitals. However, ironically, the university hospitals have the lowest rate of adverse events from negligence.

According to the American Institute of Medicine, there are two categories of medical errors. There are errors of execution and errors of planning. Errors of execution occur when the correct action is not done as intended or when an inadvertent event occurs due to an action. For example, if the physician intended to insert a catheter into the heart’s left ventricle without touching the top of the heart, yet inadvertently did so – this would be an error of execution.
An error of planning is when the original intended action was actually not the correct action necessary. An example of this would be if a physician determined that the removal of the appendix was necessary and yet the real nature of the health problem was caused by an unrelated bowel obstruction.

In the practice of medicine, there are three particular methods used to combat medical error. These are redundancy, forcing function, and standardization.

Redundancy is the tool of the duplication, triplication, or quadruplication of critical processes as a means to prevent error. This could be, for example, checking multiple times during a surgery to ensure that correct organ was being acted on. Another example might be having more than one of a critical instrument available during the surgical procedure.

Next is what we call forcing functions. These are the creation of a system that makes it impossible to complete a series of acts out of sequence. A good example of this would be if the automobile industry designed a vehicle that did not start if the seatbelt was not engaged. You would be forced to use the seatbelt before the car could be used – this is forcing functions.

The third and final practice we are going to look at is standardization. Standardization is creating a uniform design or a uniform method to reduce the errors. An example here would be if every operating room was set up in the exact same manner, with items like a defibrillator located in the same location each time, so that a doctor can instinctively know where to reach for it.