How to Avoid the Diagnostic Errors Every Physician Makes
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For the Medical Staff of Northwest Community Healthcare
There are no financial disclosures
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Objectives

- Understand the magnitude of Medical Errors
- Identify the types of diagnostic errors
- Recognize diagnostic errors in clinical scenarios
Patient Safety

Avoiding patient harm, above all else, has long been the basic principle of healthcare.
Patient Safety

Primum non nocere
First, do no harm

Attributed to Hippocrates
Patient Safety

“It may seem a strange principle to enunciate as the very first requirement in a hospital that it should do the sick no harm.”

Florence Nightingale 1820-1910
The Patient Safety Movement

There has been increasing public awareness of patient safety and medical errors.
Medicare Payment

Patient safety is a large component of Medicare Value Based Payment
Hospitals are Rated on Safety
Malpractice Litigation
Institute of Medicine
Report from 1999

98,000 Deaths annually in the United States due to Medical Errors

Estimate 400,000 deaths annually due to Medical Errors
Types of Medical Errors

1. Errors of Commission (mistaken action)
2. Errors of Omission (failure to follow guidelines)
3. Errors of Communication (failure to give instructions)
4. Errors of Context (failure to take into account patient factors)
5. Diagnostic Errors (over or under diagnose)
Errors of Commission

- An action that causes harm to a patient
- Example—a surgical instrument is left in the patient
Errors of Omission

- A treatment that is considered the standard of care is not given
- Example—the patient was not given antibiotics prior to surgery
Error of Communication

- Failure to communicate with other caregivers, the patient or family.
- Example—failed to discuss diet with a patient on Warfarin
Error of Context

- Not taking other factors into account when developing treatment plan
- Example - prescribing medications that the patient cannot afford
Diagnostic Errors

- Failure to diagnosis

- Example - patient comes with chest pain and patient is evaluated for heart disease but has a pulmonary embolism
Case #1

22 year old female with fever, generalized body ache and fatigue. It is the height of the influenza season and she did not get a vaccination. The physician told had seen numerous other patients with influenza symptoms that day and told her she had the flu and discharged her.
Availability Bias

People tend to be influenced by recent events and information that is readily available.
Case #1

The patient returned the next day with a petechial rash and sepsis from bacterial meningitis.
Availability Bias

Basing a diagnosis on a disease that comes most easily to mind and was present in previous patients can lead to availability bias.
Availability Bias

When using a common or prevalent diagnosis, prove to yourself that this could not be something else. If you cannot validate the diagnosis, re-evaluate.
Case #2

A 16 year old female comes with compliant of syncope. She has no symptoms at this time and a normal physical exam. She has had many episodes of this in the past and is under the care of a neurologist. She admits that she feels very anxious just prior to the syncope. She has had a CT scan, MRI and EEG which are all negative. She has been on several different seizure medication without help and her neurologist has diagnosed pseudo-seizures.
Anchoring Bias

People rely on a previously established diagnosis and future judgements are influenced by the anchor.
Case #2

The patient was referred to a psychiatrist who was treating her with medication for anxiety.
Case #2

The patient eventually did not wake up from a syncopal episode, bystander CPR was initiated and an EKG in the Emergency Department revealed prolonged QT syndrome.
Anchoring Bias

Reliance on a previous diagnosis is a powerful and frequent cause of misdiagnosis, particularly if the diagnosis has been made by an “expert” specialist.
Anchoring Bias

Be aware of the power of a previous diagnosis and carefully review all available data and account for anything that is not consistent with the diagnosis.
Case #3

42 year old male, with a history of IV heroin use, comes with abdominal pain and vomiting. He thinks that the heroin he last purchased was diluted.
Framing Bias

Framing bias is the thought process that leads to the initial diagnosis. This refers to the way the data points are connected to reach a conclusion.
Case #3

On physical exam the abdomen has a large surgical scar and is distended with hypoactive bowel sounds.
Case #3

The physician diagnoses narcotic withdrawal, gives him anti-emetic, IV fluids and a Clonidine patch.
Case #3

The patient returns with worsening symptoms and an x-ray reveals a bowel obstruction.
Case #3

The abdominal distention was not consistent with narcotic withdrawal but was overlooked because of the first data point was IV heroin use and the patient’s own assumption that heroin withdrawal was the cause of his symptoms.
Framing Bias

In this case, if the first data points had been abdominal distention and a history of an exploratory laparotomy rather than a history of heroin use, the case may have been framed in a different way.
Framing Bias

Confirm that the data points align properly and fit the diagnostic possibilities. If they do not fit, widen the frame of reference.
Case #4

64 year old male with a negative PMH comes to the ED with shortness of breath and chest pain. He had tachypnea, was somewhat cyanotic and had an O2 saturation of 89%.
Case #4

His EKG showed an acute anterior wall myocardial infarction and the cardiologist activated the cardiac cath lab.
Confirmation Bias

With confirmation bias, the preference is to find evidence that supports a favored conclusion or diagnosis.
Case #4

In the cardiac cath lab, the patient was found to have moderate coronary artery disease and a stent was placed. The patient recovered and was discharged in 2 days.
Case #4

The following week, the patient returned to the ED in full arrest and was not able to be resuscitated. An autopsy revealed a saddle pulmonary embolism.
Case #4

In this case the EKG was considered diagnostic and led to the diagnosis of acute MI, despite the cyanosis and low O2 saturation that is not typical of an acute MI.
Confirmation Bias

Be aware of selective filtering of information to confirm a belief. Seek information that could weaken or negate the initial diagnosis and give it more serious consideration.
Case#5

49 year old male with a history of alcohol abuse and frequent falls comes to the ED with slurred speech after being found sleeping on a park bench.
Case #5

The patient is well known to the ED and the nurse places him in the back room to “sleep it off”. She tells the physician that “Kenny is here again, looks like he really tied one on.”
Pre-mature Closure

Coming to a conclusion without looking at relevant information.
Case #5

Kenny didn’t wake up in the morning. In fact, he was snoring loudly and not moving.
Case #5

A CT scan of the head showed a large subdural hematoma.
Case #5

In this case, it was assumed that the patient was intoxicated and no evaluation was performed.
Premature closure

Even after a conclusion has been reached, keep an open mind about what else could be happening.
<table>
<thead>
<tr>
<th>Bias</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability</td>
<td>Influence from recent events and information</td>
</tr>
<tr>
<td>Anchoring</td>
<td>Reliance on previous diagnosis</td>
</tr>
<tr>
<td>Framing</td>
<td>Connection of data to reach a conclusion</td>
</tr>
<tr>
<td>Confirmation</td>
<td>Using data that confirms a diagnosis to the exclusion of other data</td>
</tr>
<tr>
<td>Premature Closure</td>
<td>Making a conclusion before all data collected</td>
</tr>
</tbody>
</table>
Other ways to prevent Diagnostic Errors
Collaborate

Check in with other team members to get their thoughts about the case. They may have seen something you did not notice.
Second opinion

Talk through the case with a colleague to see if they have other thoughts about the diagnosis.
Consider the “worst case scenario”

Start the differential with the worst possible diagnosis and prove that it is incorrect rather than assume a more benign condition.
Recognize your personal bias

Everyone has patients who seem difficult. Be aware of your prejudice and exert extra caution with patients you who frustrate you.
Patients who minimize

Although it is important to consider what the patient thinks is wrong, be aware that many patients will minimize symptoms out of fear.
Avoid Red-Herrings

Be aware of information that may, at first glance, seem important but that is actually distracting.
Avoid Fatigue

Fatigue can lead to poor judgement and poor decision making.
Avoid Multi-tasking

The brain cannot multi-task. Trying to move quickly between tasks results in errors.
Limit Interruptions

Physicians have constant interruptions. Set limits on how and when interruptions should occur to minimize distractions.
Computer Errors

The Electronic Medical Record (EMR) eliminates some errors, but creates others. Be aware of keystroke errors, alarm fatigue and other ways you can make errors while using EMR.
Avoid Rushing

Allow adequate time to be thoughtful about each patient. Production pressure creates short-cuts and errors.
Mindful attention

Give mindful attention to each patient.
Work slowly and finish fast.
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