The Perils of Diagnosis

2011 Physician Seminar

Disclosure

We would like to disclose that Patient Safety/Risk Management Specialists, as employees of The Doctors Company, have a financial interest in The Doctors Company, an organization that may have a direct interest in the subject matter of this CME presentation. Also, the participating attorneys are often retained by The Doctors Company for defense of malpractice claims.

“I began this study when I became aware of the anguish of clinical action and of the moral ambiguity of being a clinician, a person who acts, acts sometimes mistakenly, and, therefore, lives with the experience of being wrong.”

—Marianne A. Paget, The Unity of Mistakes

Overview

- Reason for focus on missed and delayed diagnoses
  - Claims and payouts
  - Frequency
  - Public perception
  - Processes and systems within diagnosis
  - Learning from case studies
  - Improvement strategies

Objectives

- Recall the common diagnostic processes and events that result in error
- Explain how human factors hinder diagnostic abilities
- Identify two patient safety strategies to reduce the potential for error

Why?

Statistics
### Frequency: Leading Cause in Malpractice Claims

- CRICO/RMF
- Agency for Healthcare Research and Quality (AHRQ)
- JAMA 2009: Diagnostic Errors – The Next Frontier for Patient Safety
- Pediatrics 2008
- Annals of Internal Medicine 2006: Ambulatory Settings

### Physician Insurers Association of America (PIAA)

- Internal Medicine
  - Most prevalent condition for errors in diagnosis
  - Malignant neoplasms of the bronchus and lung
  - Most expensive condition for errors in diagnosis
  - Chest pain
- General and Family Practice
  - Most prevalent condition for errors in diagnosis
  - Acute myocardial infarction

### Claims: Who’s at Risk?

- The Doctors Company data for 1,412 claims
  - Family and Internal Medicine – 33%
  - Medical Specialties – 15%
  - Emergency – 10%
  - Radiology – 9%
  - OB/GYN – 8%

### Major Breakdowns in the Diagnostic Process

- Failure to order appropriate diagnostic tests (55%)
- Failure to create a proper follow-up plan (45%)
- Failure to obtain an adequate history or to perform adequate physical examination (42%)
- Incorrect interpretation of a diagnostic test (37%)


### Major Breakdowns in the Management of Test/Procedure Results

- Failure to track tests until results are received
- Failure to notify patients of the results
- Failure to document that notification has occurred
- Failure to assure recommended follow-up occurs for abnormal results


### Both System and Human Issues

- Diagnostic process is a complex system
- Multiple providers are involved
- System(s) is/are poorly designed
- Human factors
  - Judgment
  - Memory
  - Knowledge
  - Patient-related
  - Handoffs
### Diagnosis-Related Allegations (2000-2010):

**Risk Management Issues**
- 387 claims revealed 2,019 risk management/patient safety events
  - Failure/delay ordering diagnostic test
  - Failure to establish differential diagnosis
  - Lack of or inadequate assessment, clinical information
  - Failure to rule out abnormal finding
  - Communication among providers

### Diagnostic Decision Making
- Clinical judgment uses a dual-process reasoning model
  - Two systems form the basis of clinical decision making
  - System 1 – heuristic and intuitive
    - Experience determines interpretation of data
    - Pattern recognition processing – a shortcut
  - System 2 – systematic and analytical
    - Used for unrecognized patterns or problems
    - Deliberate and comprehensive review of the case

### Error-Producing Conditions
- Suboptimal environments
  - Rushed, fatigued, distracted, resource constraints
- Emotional reactions
  - Positive or negative responses
- Communication issues
  - Language barriers
- Patient-related factors
  - Non-adherence

### Cognitive Pitfalls
- Anchoring error
  - Seizing on the initial symptom and making a snap judgment
- Attribution error
- Emotional reaction
- Availability error
  - Similar patients had similar complaints and diagnosis is the first one that comes to mind
- Confirmation bias
  - Seek confirming data; disregard conflicting data

### Problems in Identifying Diagnostic Errors
- Evaluation of a case with knowledge of the patient’s outcome (hindsight bias)
- Lack of a gold standard for diagnosis
Hindsight Does Not Equal Foresight

Knowledge of outcome biases our judgment about the processes that led up to that outcome.

**Hindsight Bias**
- Evaluation of a case with knowledge of the patient’s outcome
  - Radiologist who presents with shortness of breath
  - Interprets his own x-ray as “consistent with pneumonia”
  - Later dies of MI and pulmonary edema
  - Several radiologists review x-ray knowing outcome
    - “Consistent with pulmonary edema”
  - Additional problem: No gold standard for diagnostic criteria

Hindsight Does Not Equal Foresight

**Hindsight Bias**

Traditional Review vs. Systems Review
- Patient safety review
  - Not focusing on individual blame or the culpable individuals as the courts do
  - Instead, analyze the systems in which the failures occurred—multi-factors
  - Today’s approach: Macro view of the diagnostic system with an understanding of where the failures lie

Case Study: Delay in Ordering Diagnostic Test
- 45-year-old seen in emergency room
  - Complaining of shoulder and back pain
  - Diagnosis thoracic strain and spasm post-injury
  - Administered morphine and Phenergan and sent home
- Three days later returned to the emergency room
  - Confused, febrile, back pain, lack of sensation in legs
  - Diagnosis pyelonephritis, urinary retention, urosepsis
  - Admitted but ER record not received on unit for two hours
- Examination by hospitalist after record received
  - Patient uncooperative, moaning, leg weakness, neck and back pain, distended bladder
  - MRI revealed minor disc herniation with degenerative changes C1-C7
  - Next day, seen by urology
    - Hydronephrosis, positive blood cultures
    - Second MRI shows epidural abscess
    - Spinal cord compression T3-T10
  - Postoperatively, no motor function or sensation in lower extremities
Case Discussion Points: Delay in Ordering Diagnostic Test (continued)

- What are the dangers associated with taking this case to trial?
  - Large adverse verdict
  - Young age
  - Severe injury
  - Life care plan
- Does tort reform affect economic damages?
- What happens if the verdict is more than the insurance coverage?

Patient Safety Issues: Delay in Ordering Diagnostic Test

- Lack of timely and thorough assessments
- Delays in medical record transmission
- Delay in initial MRI
- Uncooperative patient
- Human factors
  - Settled on one diagnosis: If it looks like pyelonephritis, urinary retention, and urosepsis, that must be the diagnosis

The following diagnosis case studies are used with permission of CRICO/Risk Management Foundation of the Harvard Medical Institutions, Cambridge, Massachusetts.

Case Study: Management of Test/Procedure Results

- 55-year-old with history of hypertension
- Complains of weight loss, diarrhea with occasional mild cramps, and joint pain
- Diagnosed with osteoarthritis
- Hemocult positive
  - Guaiac-positive stools “raise concerns for some form of colitis, polyps, or possible malignancy”
- Additional stool specimen guaiac-positive
  - “It is likely that she will need a colonoscopy”

Case Study: Management of Test/Procedure Results (continued)

- Follow-up check for blood pressure one month later
  - Patient expressed concern to nurse over blood in stool
- Seen by PCP several times over next several months for hypertension
  - No discussion of diarrhea, blood in stool, or colonoscopy
  - Physical exam four months later
    - Rectal exam omitted
- Seen for right lower quadrant pain eight months later
- CT scan and biopsies done—adenocarcinoma
  - Metastasis
Case Discussion Points: Management of Test/Procedure Results (continued)

- What does the law require of a physician with regard to educating a patient regarding diagnostic tests he/she recommends?
  - Informed consent
  - Informed refusal
  - Follow up

Case Study: Failure to Rule Out Abnormal Findings

- 48-year-old seen for sprained wrist
  - History of cardiac surgery
  - Mentions itchy rash—prescribed creams
- One year and five months later calls office—provided telephone advice
  - “Rash returns because works out every day…cannot cure with this level of activity”
  - Prescribed a different cream
- Three months later calls office—gets appointment
  - PCP consults dermatologist (curbside)
  - Tried different medications
- Five months later patient calls office and requests referral to dermatologist
  - PCP denied referral request
  - “It won’t go away unless he stops working out. It is a fungus. Live with it and cream will keep it in check.”
- Six months later, patient changes providers—referred to dermatologist
- Biopsy—squamous cell cancer
  - Two years and nine months after initial complaint

Patient Safety Tips: Management of Test/Procedure Results (continued)

- No system in place to ensure proper follow-up
- No ongoing problem list
- Lack of documentation of test results and advice

Case Study: Failure to Rule Out Abnormal Findings (continued)

- What concerns are there regarding the jury’s perception of the PCP’s notation, “It won’t go away unless he stops working out. It is a fungus. Live with it and cream will keep it in check”?
- Compassion
- What about the refusal of the patient’s request for referral to a dermatologist?
  - Punitive damages
Patient Safety Tips: Failure to Rule Out Abnormal Findings (continued)

- Human factors
  - Assumptions of diagnosis continued despite ongoing complaints unresolved by treatments
- Use of telephone advice
  - Institute a “second call” and “third call” rule
- Lack of adequate communication with patient
  - Multiple complaints, difficult situation
  - Denied referral request
- Curbside consult
- Incomplete documentation
  - Only one entry in three years described the lesion

Case Study: Inadequate Assessment

- 39-year-old to OB/GYN for breast lump
  - Close friend just died of breast cancer
  - Physician unable to palpate
- Screening mammogram ordered
- Three months later, mammogram done
  - “Very dense stromal pattern, which reduces the sensitivity of the study for detection of cancer; there is no focal abnormality or other findings suggestive of malignancy—recommendation: annual screening”

Case Study: Inadequate Assessment (continued)

- Three months later, to OB/GYN for possible pregnancy
  - No review of mammogram results
  - No breast exam done
- Six months later, return for routine annual exam
  - Patient still able to palpate lump
  - Breast exam reveals suspicious area
  - Surgery consult—stage IV invasive ductile cancer
    - Metastasis to spine, multiple compression fractures

Case Discussion Points: Inadequate Assessment (continued)

- What effect, if any, do algorithms and practice guidelines have in determining whether a physician complied with the standard of care in his/her treatment of a patient?
Case Study: Narrow Diagnostic Focus

32-year-old presented to ER
- Two-day history of chest pain radiating to both arms
  - Occurred at rest
  - Shortness of breath
  - Palpitations
  - Hard cough
- Denied drug use
- Reported that father suffered MI at age 35

Eight hours later returned to ER
- Crushing chest pain, shortness of breath, dizziness, pain radiating to left arm
- “I was just discharged, but I’m still having chest pain”
- Reports cocaine use one week prior
- EKG changes—diagnosed with acute inferior myocardial infarction
  - History now reported as father had first MI at age 20, died of an MI at age 37
- Stent placement

Does a patient bear any responsibility when he/she fails to convey important historical information to physician?
- Family history
- Drug use

Thorough clinician-patient initial interview
- Family history, including severity and extent
- Drug use
- Document clinical rationale for diagnosis
  - Discharged without serial enzymes or EKGs or further chest pain workup
- Anchoring
  - Costochondritis
- Clarify the patient’s key concerns
- Ensure patient understanding of discharge instructions and what to do if symptoms recur
  - Ask patient to repeat back instructions
Patient Safety Tips: Prevention

- Organize yourself with routines—practice by standards
  - Document all encounters
  - Develop plan for care of patient and document it
- Involve the patient/family when appropriate
  - Open and transparent communication
  - What is available to deal with language barriers, hearing-impaired patients, illiteracy?
  - Give clear, written follow-up instructions and ask for “repeat back”

Patient Safety Tips: Prevention (continued)

- Determine who is coordinating the care
  - You’re the primary care physician…
  - Make sure all tests/consults are tracked back to you
  - You’re the hospitalist…
  - Make sure you know when and how to hand-off the care back to the admitting physician
  - You’re the consultant…
  - Make sure you know who ordered the consult, whether the report should be immediately communicated to ordering physician and to whom you are to transmit report

Patient Safety Tips: Disclosure

- What facts are known so far?
- What reviews/analysis pending?
  - When will results be available?
- Is the patient aware of a problem?
- If the outcome is very clearly a known risk/complication, say so
- If a confirmed error was made, say so

Physician Strategies

- Clinical reasoning improvements
- Second opinions and consultations
- Disclose diagnosis to patient and what to expect
- Long-term continuity to investigate whether diagnostic error occurred
Patient Safety Tips: Disclosure (continued)

- Disclosure Resources on The Doctors Company Web site at www.thedoctors.com
- Guidelines that physicians can use in their office practices to enhance their effectiveness when disclosing adverse events
- Patient Safety/Risk Managers will work with you to provide support, communication coaching, and assistance

Mission Statement

Our Mission Is to Advance, Protect, and Reward the Practice of Good Medicine

For additional Patient Safety information, please visit our Web site at: www.thedoctors.com or call (800) 421-2368, extension 1243

Our Mission Is to Advance,
Protect, and Reward the
Practice of Good Medicine