Prevention of Medical Errors
Florida Society of American College of Osteopathic Family Physicians
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Florida Board of Osteopathic Medicine Requirements

• Two hour Prevention of Medical Errors course.

• Course must include information relating to the five most misdiagnosed conditions during the previous biennium, as determined by the Board.

• Shall include a study of root cause analysis, error reduction and prevention, and patient safety. Course shall address medication errors, surgical errors, diagnostic inaccuracies, and system failures, and

• Shall provide recommendations for creating safety systems in health care organizations.
Florida Board of Osteopathic Medicine

Five Most Misdiagnosed Conditions:

1. Inappropriate prescribing of opioids in patients in whom there have been misdiagnosis or failure to diagnose addiction, psychiatric conditions and diversion.

2. Failure or delay in diagnosing cancer.


4. Surgical complications/errors and pre-operative evaluations.

5. Prescribing, dispensing, administering, or using non-FDA approved medications and devices.
Most Misdiagnosed Conditions:
Florida Board of Medicine (in addition)

- Neurological conditions.
- Urological complications.
- Pregnancy-related conditions.
Overview of Presentation

- Medical Errors and the ‘Myths” of Medical Errors.
- Florida Board of Osteopathic Medicine Most Common Misdiagnosed Conditions.
- Root Cause Analysis.
- What Physicians can do to Improve Prevention of Medical Errors.
Medical Errors

and

‘Myths” of Medical Errors
Institute of Medicine

- Debate after the IOM report about the accuracy of its estimates. “TO ERR IS HUMAN: BUILDING A SAFER HEALTH SYSTEM”

- Whether the deaths of 100,000, 200,000 or 400,000 is unknown - but at any level significant issue.

- Action and progress on patient safety is frustratingly slow.

November 29, 1999


Wide Spectrum of Medical Errors

- Wrong side mastectomy – Chairman of Surgery.
- Radical neck dissection – incorrect diagnosis
- Wrong side thoracotomoy – Chief of Thoracic Surgery.
- Jaw Pain interpreted as dental – teeth extracted – Patient MI and died.
- Death following Ketorolac -Tromethamine.
- Physician incorrectly given diagnosis of metastatic cancer – devastating emotionally.
General Types Medical Errors (IOM)

- Diagnostic
- Treatment
- Performance
- Communications
- Systems
- Medication
Errors in Clinical Reasoning

Everyone makes mistakes but greater awareness of the causes would help clinicians avoid many of them.

“Most errors in clinical reasoning are not due to incompetence or inadequate knowledge but to frailty of human thinking under conditions of complexity, uncertainty, and pressure of time”
Diagnostic Error

Lack of appreciation for significant elements of the patient’s history and physical led to a missed Diagnosis

A 33-year-old obese patient with remote history of asthma, and on oral contraceptives,

Presented to her primary care clinician with a three-day complaint of right thigh pain, swelling, and red streaking on her skin. On exam, her right inguinal lymph nodes were enlarged; antibiotics were prescribed.

Three days later, she returned with complaint of new onset shortness of breath, chest pain, and rapid heart rate. The patient had diminished breath sounds.

Physician thought she was having an asthma flare and advised her to continue antibiotics and asthma medications
Diagnostic Error

Lack of appreciation for significant elements of the patient’s history and physical led to a missed diagnosis.

Later the same day, emergency personnel were called to the patient’s home after she fell. She was brought to a local Emergency Department where she quickly decompensated and died.

Autopsy revealed a large pulmonary thromboembolism.
Correct Diagnosis Provides explanation of a patient’s health problem and informs subsequent health care decisions:

- Prevent unnecessary testing
- Saves lives
- Reduces cost
Diagnostic Errors

- Wrong, delayed or missed.
- Cognitive and system errors.
- Failure to employ indicated tests.
- Use of outmoded tests.
- Failure to act on results of monitoring or testing.

“We will call you if there is a concern – no need to call us”
Diagnostic Errors

• Many error unknown: decline in autopsy, patient Lost to follow-up.

• Leading cause of claims.

• Most likely cause leading to death compared to other claims.

• Claims involving death - diagnostic error is the top allegation at 26%
Diagnostic Errors

- Outpatient care Diagnostic Errors = 5%.
- Postmortem indicates an Error = 10%.
- Medical Record Review – Error = 6% -17% of hospital adverse events.
Diagnostic Errors
Hospital More than Clinic?

• First cause of claims in ambulatory care.

• Second - in hospitals (after improper performance of a procedure) - totals fairly close.

• More common diagnosis are missed - (not the rare ones) - the common killers: heart attack, cancer and stroke: Breast, MI, Stroke
Causes of Diagnostic Error?

- Multi – Factorial Usually six factors on average in IM.
- Physician knowledge is least often the problem.
- More often due to cognitive error, systems errors including communication errors.
- Most common of all, the combination of cognitive and systems errors.

[Grabber 2005]
Model of accident causation illustrates that, although many layers of defense lie between hazards and accidents, there are flaws in each layer that, if aligned, can allow the accident to occur.
Cognitive vs System Errors
• 33 year old W/F 5 months pregnant presents w hx of Sob/ Wheeze 2 days duration.
• V/Q Scan indicates significant ventilation defect
• Umbrella placed/heparin
• No better –> Pulm Angiogram – no PE
• Spirometry – consistent with Asthma
• Failure to obtain complete history – allergic asthma up to age 18 “outgrew”
• 55 Yr. old W/M
• Neck lymphadenopathy
• Positive needle biopsy
• Radical Neck dissection
• Pathology – negative for malignancy
Radical Neck

• MOTT on final culture
• 88 yr. old W/F
• Right hand hematoma
• Failed to improve four months
• Referred to hand surgeon
• Sarcoma – amputation of hand - recommended
Correcting Diagnostic Errors in Medicine

Improving the diagnostic process is not only possible, but also represents a moral, professional, and public health imperative.
Top Myths About Diagnostic Errors

Patients
 Physicians
 Healthcare Systems

2011-2015 Society to Improve Diagnosis In Medicine
Top Myths about Diagnostic Errors Held by Patients

1. No news is good news.
2. My doctors are talking to one another.
3. My doctor is different.
4. Somebody is in charge of my diagnosis.
5. There is always an answer.
6. My hunches don't count as much as my physician's.
7. I would be disloyal to my physician if I ask for a second opinion.
8. My insurance won't pay for a second opinion.
9. The more tests I have, the better.
10. Diagnosis errors won't happen to me.

2014-2015 Society to Improve Diagnosis In Medicine
Top Myths about Diagnostic Errors Held by Physicians

1. It won't happen to me.
2. I can trust my intuition.
3. Physicians know what they know and know what they don't know.
4. I communicate effectively with my patients.
5. I'm a good listener.
6. Most diagnostic errors involve rare or uncommon diseases.
7. I always make a complete differential diagnosis.
8. If I made a diagnostic error, I'd find out about it.
9. I speak personally with the Radiologist about important tests.
10. I have a reliable system in place to track requested tests.
Top Myths about Diagnostic Errors Held within Healthcare Systems

1. They don't happen here.
2. If something went wrong, I would hear about it.
3. We are already dealing with the problem.
4. They are too complex to understand.
5. That's the physician's problem.
6. We open ourselves to liability if we look too hard at diagnosis errors.
7. There's nothing we can do.
8. Only physicians have a role in diagnosis.
Wide Spectrum of Medical Errors

• Loss of hand – arterial stick – no Allen test

• Spine surgery performed with “clean” not “sterile” tools.

• Lumbar puncture ordered on incorrect patient.

• EMR and Missed Pulmonary Nodule.

• Pneumonia vs. Mitral Regurgitation?
Cognitive vs System Errors

• Cognitive Errors:
  Occurs in physician’s processing of information - thinking process: latching on prematurely to a diagnosis and abandoning the search for evidence to the contrary.

• Systems Errors:
  Occurs between the inter-related pieces in healthcare systems: physicians – others involved in care “dropping the ball” in the referral - consultation process or in the hand-off process. Lost or unreported test results.
Diagnostic Errors Common in all Specialties

#1 Cause of Medical Misadventure Claims for All the Primary Care Specialties:
- Internal Medicine
- Family and General Practice
- Pediatrics
- Radiology
- Emergency Medicine
- Most of Medical Sub-Specialties.

#2 Cause of Medical Misadventure Claims for Surgical Specialties:
- OB-Gyn
- General Surgery
- Orthopedics
- Most of the surgical sub-specialties

“most often a close, not a distant second place”
Diagnosis  Subject to Error?
Diagnosis Subject to Error?

- Rare disease? No!
- Common diagnosis - MI, cancer, CVA
- Breast cancer - dominant diagnostic error.
- Acute MI - adult primary care specialties: PC, EM, Cardiology.
- Stroke diagnostic error – 9% of time
- FP - MI, Breast CA, Appendicitis, Colorectal CA, Lung CA.
- P E, Aortic Dissection not known as autopsy rate declined so these and others are under-detected at an unknown rate.

PIAA Data Sharing Report 1985-2009
Newman-Toker et al 2008
Reducing Diagnostic Errors

• Increase awareness of whole team (patient and team).

• Awareness of cognitive errors - differentials.

• Aware of system failures, conflicts.

• EMR – problematic for some physicians.

• Attention to process in office/hospital.

• Assure every member of team are committed to culture of patient safety and patient coming first.
Florida Board of Osteopathic Medicine

Five Most Misdiagnosed Conditions:

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Inappropriate prescribing of opioids in patients in whom there have been misdiagnosis or failure to diagnose addiction, psychiatric conditions and diversion.
Inappropriate Prescribing of Opioids

- Misdiagnosis
- Failure to diagnose addiction.
- Psychiatric conditions.
- Diversion.

Florida Administrative Code 64B15-13.001(3)(f)
http://fapmmed.net/State_Opioid_Prescribing_Policy.pdf
Florida Opioid Prescribing Policy Documentation!!!

- Assess the patient.
- Adequate rational for opioids?
- Establish treatment goals.
- Abuse – must screen/monitor for addiction potential
- Deviation from “contract” (must have documentation)
- Blind acceptance.
- System failure (testing results).
- Unsupported clinical rational for OPIOIDS.
- Diversion.

CDC Guideline for Prescribing Opioids for Chronic Pain—United States, 2016
Failure or Delay in Diagnosing Cancer.
# Failure or Delay in Diagnosing Cancer

## Estimated Number* of New Cancer Cases and Deaths by Sex, US, 2015

<table>
<thead>
<tr>
<th></th>
<th>New Cases</th>
<th>Deaths</th>
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<tbody>
<tr>
<td></td>
<td>Both Sexes</td>
<td>Male</td>
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<tr>
<td>All Sites</td>
<td>1,658,370</td>
<td>848,200</td>
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<tr>
<td>Digestive</td>
<td>291,150</td>
<td>163,000</td>
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<tr>
<td>Colon</td>
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<tr>
<td>Respiratory</td>
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<tr>
<td>Lung</td>
<td>221,200</td>
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<tr>
<td>Breast</td>
<td>234,190</td>
<td>2,350</td>
</tr>
<tr>
<td>Prostate</td>
<td>220,800</td>
<td>220,800</td>
</tr>
</tbody>
</table>

©2015, American Cancer Society, Inc., Surveillance Research
Florida Board of Osteopathic Medicine
Breast Cancer

• One in eight women.

• Most commonly diagnosed cancer in women.

• Leading cause of death.

• Rare in men BUT can occur.
Breast Cancer

- Mammography became a common diagnostic tool in the 1960s.

- Key method for detecting breast cancer early, when it is easier to treat.

- All US states except Utah require private health insurance plans and Medicaid to pay for breast cancer screening.

- Standards for the timing of mammography vary by organization and by patient history. The US Preventive Services Task Force currently recommends that low-risk women older than 50 years receive mammography once every 2 years. ACOG currently recommends annual mammograms for all women 40 and older.
Breast Cancer

- Failure to engage high risk groups
- Failure to exam
- Poor follow up on palpable findings*
- Questionable mammogram – dense breast tissue – no breast ultrasound!
- Failure to workup mammographic abnormalities
- Consistency with American College of Radiology Standards
- Technical or technician performance issues
- Loss of reports! Therefore, no follow-up.
- Interpretative errors (most common reason for claims)
- Communication errors
Three Patients

• 58 Yr. Old  B/F - wife of a patient – asks in passing about “coughing up blood”.

• 66 Yr. old W/F fell on vacation struck face now coughing up blood.

• 42 yr. old W/F – lifted case of beer out of trunk pain right upper posterior shoulder.
Failure or Delay in Diagnosing Cancer
Lung Cancer

- Lung cancer – 2nd most common cancer worldwide.
- Most patients present because of symptoms
- Hemoptysis, unexplained, change in cough
- Incidental finding on chest imaging.
- Delay in diagnosis
- Failure to follow through
- Communication between consultants

Florida Administrative Code 64B15-13.001(3)(f)
Cancer Misdiagnosis in General – Causes?

- Miscommunication, lab failing to accurately report biopsy to physician in a timely fashion. Office failing to inform the patient about test results.

- Lab errors - mishandling samples, misreporting results or incorrectly interpreting tests.

- Failure to “see the big picture” that could indicate cancer when synthesizing all the data about a patient.

- Failing to refer the patient to consultant for evaluation and treatment.

- Not screening a patient - at-risk for certain type of cancer.

- Discounting - potential for cancer because of the patient’s characteristics, such as assuming a woman is too young to develop breast cancer, rectal bleeding in young patient etc.

- Many cases of negligent cancer misdiagnosis or delayed diagnosis involve a series of system or process breakdowns.
Medication Errors
Medication Errors

- 7,000 + fatalities secondary medication errors
- Hand written RX
- Abbreviations
- Cross checking drug interactions
- Multiple pharmacies
- Allergies
- Communication with patient
- Patient knowledge of their medication
Polypharmacy

National Health & Nutrition Examination Survey

- 13,869 aged 65 or older – 1988-2010.
- Rx verified by medication containers.
- No. of meds increased from two to five.
- No. of medication > five – tripled (12.8 to 39.0).
- Increase in # of medication in patient with:
  - increase in BMI
  - Higher income – poverty ratio
  - Former smoker
Treatment Errors

• Medication errors are major concern.

• Error in the performance of an operation, procedure, or test.

• Error in administering the treatment.

• Error in the dose or method of using a drug.

• Avoidable delay in treatment or in responding to an abnormal test.

• Inappropriate (not indicated) care.

Preventive/Other Errors

- Failure to provide prophylactic treatment.
- Inadequate monitoring or follow-up of treatment.
- Failure of communication.
- Equipment failure.
- Other system failure.

EMR ISSUES

- Failure of system design
- Does not function as a “folder/file/chart”
- Confusing interface
- Lack of patient physician contact
- Incorrect information entered
- Tedious data entry
- Difficulty reviewing prior data timely
- System failure unable to access data
- Other issues
- Scribes?
Systems Errors

- Complex environment
- Organized practices vs disorganization
- Reporting
- Recording
- Human factor
Retained Foreign Objects
Wrong Site/Patient - Surgery
Retained Foreign Bodies
Unintended Retention Foreign Objects (URFOs)

• After invasive procedure

• Can Cause Death – survivors – emotional/physical harm

• Liability – estimated $200,000.00/incident

Joint Commission Sentinel Alert 2013
Most Common URFOs

- Soft goods, such as sponges and towels.
- Small miscellaneous items, including unretrieved device components or fragments (such as broken parts of instruments), stapler components.
- Parts of laparoscopic trocars, guidewires, catheters, and pieces of drains.
- Needles and other sharps.
- Instruments, most commonly malleable retractors.
URFOs
Root Cause Analysis 2005 -2012

• 772 URFOs reported to Joint Commission’s Sentinel Event data base.

• Sixteen deaths

• 95% of incidents required additional care and/or extended hospital stays.

• Operating rooms, Cath labs, Endo lab, ambulatory surgery centers, interventional radiology
Involves up to 1 in 5000 persons.

2008 study published in Annals of Surgery - mistakes in tool and sponge counts > 12.5% of surgeries.

Nursing /Surgical groups recommend - all members of surgical team play equal role in assuring accuracy of counts.

Manufacturers have made sponges with threads visible on x-rays, radiofrequency identification systems, and bar coding to alert staff about missing sponges.
Most Common Root Causes Reported to Joint Commission

• Absence of policies and procedures.

• Problems with hierarchy and intimidation.

• Failure in communication with physicians.

• Failure of staff to communicate relevant patient information.

• Inadequate or incomplete education of staff.
Wrong-Site Surgery Defined

- Wrong patient.
- Wrong body part.
- Wrong side.
- Wrong procedure.
- Unnecessary/unauthorized procedure.
- Wrong level of the correctly identified site.
Wrong Site Surgery “Sentinel Events”

• Largely preventable patient safety incidents should not occur if the available preventive measures were implemented.

• Unexpected - resulting in serious physical, emotional injury, risk - to a patient.

• Not related to the natural course patients illness - is the most frequent sentinel event accounting for 13.4% of such events reviewed by the JCAHO between 1995–2010.

• Wrong-site surgery is considered indicative of serious underlying patient-safety problem.
Wrong Site Surgery

- 9,744 paid settlements for surgical “never events” in the United states from 1990 – 2010 to $1.3b.

- Mortality occurring in 6.6% of the patients.

- Permanent injury in 32.9%.

- Temporary injury in 59.2%.

- Cost of these events to the healthcare system and the enormous harm to the patients call for vigorous attention.
Responsibility of the treating physician or an equivalently trained DO or MD practicing within a Board approved GME program to explain the procedure to and obtain the informed consent of the patient.

Not necessary to witness signature

Except in life-threatening emergencies - once the patient has been prepared for the elective surgery/procedure and the team has been gathered in the surgery/procedure room and immediately prior to the initiation of any procedure, the surgery/procedure team will pause and the physician(s) performing the procedure will verbally confirm the patient’s identification, the intended procedure and the correct surgical/procedure site.

Physician performing the surgery/procedure shall not make any incision or perform any surgery or procedure prior to performing this required confirmation.

Notes of the surgery/procedure shall specifically reflect when this confirmation procedure was completed and which personnel on the surgical team confirmed each item.
Standards of Practice for Surgery/Procedure
64B15-14.006

- Confirmation of the patient’s identity shall be made by using two or more of the following corroborating patient identifiers:
  1. Name
  2. Assigned identification number
  3. Telephone number
  4. Date of Birth
  5. Social security number
  6. Address
  7. Photograph

- Applicable to anesthesia

- If the physician(s) leave(s) the room where the procedure is being performed, upon his or her return, the pause set forth in paragraph (b) above must be performed again.

- (3) Management of postsurgical care.

- (4) The operating surgeon can delegate discretionary postoperative activities

- Delegation ...... if the other practitioner is supervised by the operating surgeon or an equivalently trained licensed allopathic or osteopathic physician or a physician practicing within a Board approved postgraduate training program.
Wrong-Site Surgery 2004-2012
Causes and Remedies Reported by JCAHO

- Leadership
- Communication
- Human Factors
- Information Management
- Operative Care
- Assessment
- Physical Environment
- Patient Rights
- Anesthesia Care
- Continuum of Care

Reported by JCAHO
Surgical complications/errors
Pre-op evaluation
Surgical Complications

- Failure to exam patient/speak with patient day of procedure.
- Failure to prepare patient pre-operatively. (PC at risk)
- Failure to recognize need for proper preparation of patient – Cardiac, Pulmonary, DM etc.
- Informed Consent for “all” procedures.
- Inappropriate or no discharge orders/followup
- Removal of IV etc.
Florida Board of Osteopathic Medicine
Most Common Misdiagnosed Conditions

• Inappropriate prescribing of opioids in patients in whom there have been misdiagnosis or failure to diagnose addiction, psychiatric conditions and diversion.

• Failure or delay in diagnosing cancer.

• Wrong-site/patient surgery.

• Surgical complications/errors.

• Failure to accurately diagnose cardiac and abdominal conditions.
Failure to Accurately Diagnose Cardiac and Abdominal Conditions.

- Cardiac disease mimicking GI.
- GI mimicking Cardiac.
- C. difficle vs “other”.
- AAA/Thoracic Aneurysm.
- Other.
Root Cause Analysis
Joint Commission Requirement for Sentinel Event

- Sentinel Event - unexpected occurrence - death or serious physical or psychological injury, or the risk thereof.

- Sentinel Event and Error - not synonymous.

- Sentinel event may not be triggered by an error and an error may occur - not cause a sentinel event.

- RCA looks beyond immediate result - identifies chain of events/contributing factors that led to adverse event.

Root Cause Analysis
Joint Commission Requirement for Sentinel Event

• Focused framework to analyze errors, identify what, why, and prevention.

• “Why?” continually asked - in effort to identify most basic issues or contributing factor.

• Avoids the tendency of assigning individual blame.

• An RCA must be credible and thorough to be effective. The factors necessary for both elements are described in the table below.

Root Cause Analysis Must Be Credible and Thorough

Goal is to avoid the culture of blame.

To encourage open examination.

Foster patient safety

www.jointcommission.org
Root Cause Analysis

- Communication
- Lines of authority – clear?
- Highly variable physical settings
- Variable healthcare process
- Time pressured environments
- System deficiencies
- Vulnerable defense barriers
- Human fallibility
Revealing their medical errors: Why three doctors went public.

http://m.amednews.com

“To err is human. To tell the world about the cases when things went wrong requires courage”
National Patient Safety Goals 2015

- Correct patient- ID patient and surgeon
- Correct surgery
- Correct site- marked pre-op
- Correct anatomical place
- Pause before surgery to assure correct patient, procedure and site.
- Hand cleaning guidelines from the CDC or WHO.
- Use proven guidelines to prevent infections that are difficult to treat.
- Use proven guidelines to prevent infection of the blood from central lines.
- Use proven guidelines to prevent infection after surgery.
- Use proven guidelines to prevent infections of the urinary tract that are caused by catheters.
Preventing Medical Errors

Physician Leadership

Culture

Competence

Empathy

Humility

Principles

Policies

Procedures

Practices

James Reason Building a Safe Healthcare System
Bottom Line

• Safety is everyone’s concern.

• Past events reviewed changes made.

• Root Cause Analysis is in place and implemented.

• Messengers are rewarded not “shot”

• Protocols exist for various positions

• Procedures are established and agreed upon
Bottom Line

• All humans will error – it is part of human condition.

• We may not change the human condition.

• We cannot Name, Blame, Shame – does not work.*

• We can change conditions under which people work.
  • Incompetence
Disclosing Medical Errors

- Physician’s duty to inform the patient of a medical error. Under Florida Statute 456.0575

- Practitioner must inform the patient, or the patient’s legal representative, in person about adverse incidents that result in serious harm to the patient.

- Notification of outcomes of care that result in harm to the patient governed by the disclosure statute shall not constitute an acknowledgment of admission of liability, nor can such notification be introduced as evidence.
Adverse Incident Reporting
Florida Statute 395.0197(5) states:

(5) For purposes of reporting to the agency pursuant to this section, the term “adverse incident” means an event over which health care personnel could exercise control and which is associated in whole or in part with medical intervention, rather than the condition for which such intervention occurred, and which: (a) Results in one of the following injuries:

1. Death;

2. Brain or spinal damage;

3. Permanent disfigurement;

4. Fracture or dislocation of bones or joints;

5. Resulting limitation of neurological, physical, or sensory function which continues after discharge from the facility;

6. Any condition that required specialized medical attention or surgical intervention resulting from nonemergency medical intervention, other than an emergency medical condition, to which the patient has not given his or her informed consent; or

7. Any condition that required the transfer of the patient, within or outside the facility, to a unit providing a more acute level of care due to the adverse incident, rather than the patient’s condition prior to the adverse incident.
Disclosing Medical Error

- Obtain legal/risk management advise
- Communicate
- Express concern – empathy
- No blame
- Present Plan
- Confirm Understanding
- Document above
“Second Victim”

- 250 physician suicides annually.
- Physician who believe they have made an error three times more likely to attempt suicide.
- Emotional turmoil even if right in presence of bad outcome.
- Multiple hospitals have developed outreach for physicians.

Archives of Surgery, January 2011
BMJ, March 18, 20000
“All men make mistakes, but a good man yields when he knows his course is wrong, and repairs the evil. The only crime is pride.” — Sophocles, Antigone”
FDA’s MedWatch

- www.fda.gov/medwatch
- Gateway for medical product safety information
- Can send out urgent safety alerts via e-mail
- Allows adverse reporting of adverse events
- 1-800-FDA-1088
Website for Patients


www.ismp.org/pressroom/Patient_Broc.pdf

References


• http://www.amednews.com/article/20110815/profession/308159942/4/

• The 64B15-14.006 Standards of Practice for Surgery/Procedure.

References

- Journal of Gerontology A: Biological Science, Medical Science 2015(Aug);70(8): 989-95
- Agency for Healthcare Research and Quality. Impact of Medical Errors on 90-Day Cost and Outcomes: An Examination of Surgical Patients. (July 2008)
- Clinics in Chest Medicine Volume 32, Issue 4, Pages 605–644