




*Quality Begins with
An Accurate
Diagnosis*

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Conflict Statement

A founder and Chief Scientific Officer of Logical Images the developer of VisualDx.
No financial relationships with the pharmaceutical industry



Cases

Each of the following cases was initially misdiagnosed.

What is your diagnosis?



Case 1: What is this?



Case 2: What is this?



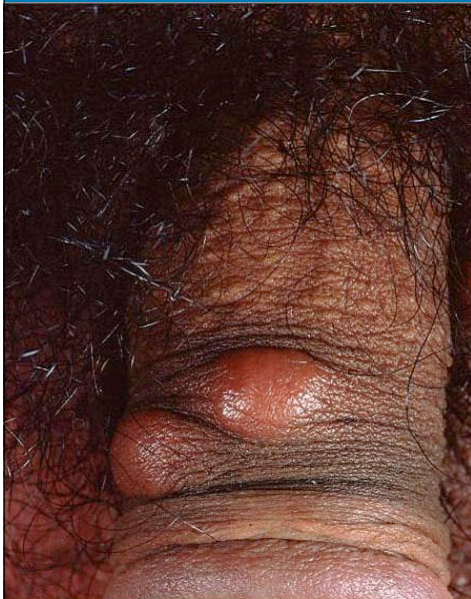
Case 3: What is this?



Case 4: What is this?



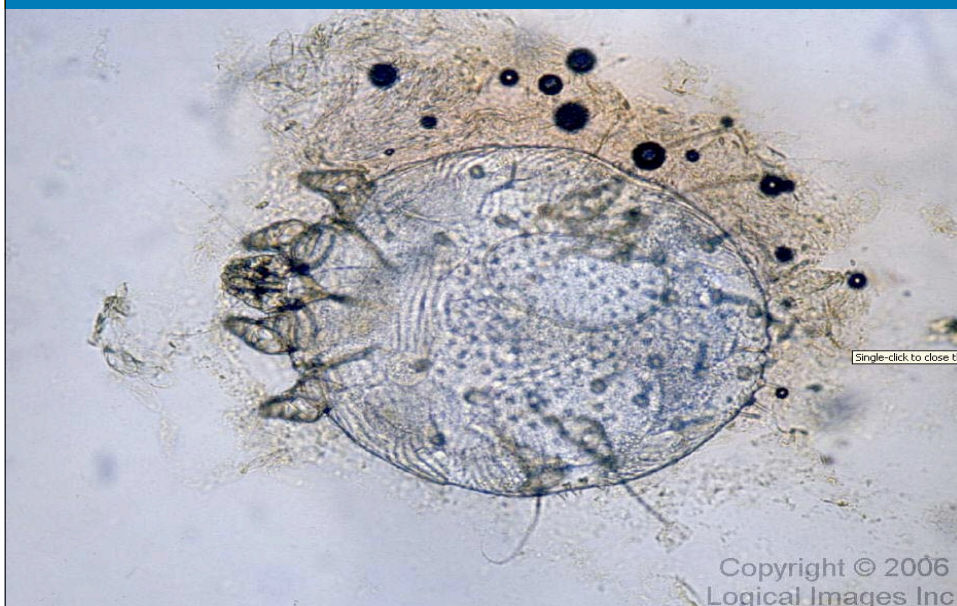
Case 5: What is this?



Case 6: What causes this?



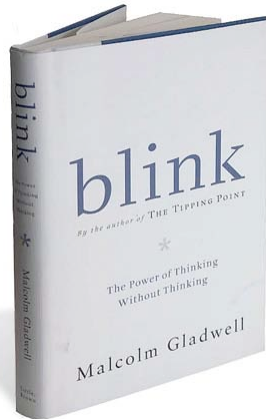
Case 7: Scabies Mite



Variations of a common disease

- 1. scabies (crusted scabies aka..”norwegian”)
- 2. scabies (papular)
- 3. scabies (pustular)
- 4. scabies (diaper area)
- 5. scabies (nodular)
- 6. scabies mite burrow
- 7. scabies mite





A little more serious than scabies



A little more serious than scabies



A little more serious than scabies

Acute Meningococemia in dark skin. Purpura and erythema is very difficult to see in dark skin





Are medication errors truly the leading medical errors?

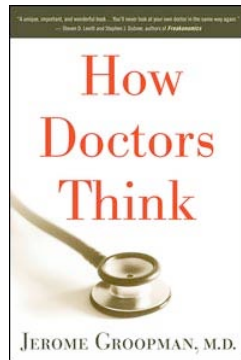
Easy concepts for the media and public to understand:

- Illegible prescriptions leading to wrong dose and death
- Wrong limb amputated or organ (kidney) removed at surgery

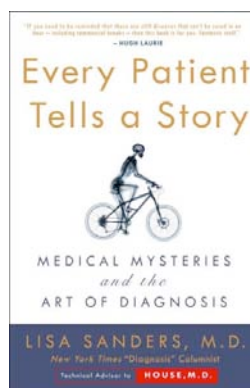
Dennis Quaid testifying before Congress



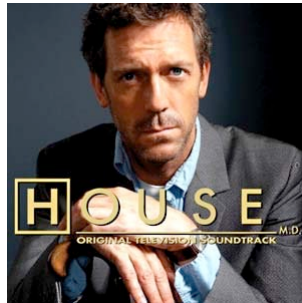
Shining a spotlight on Diagnostic Error 2008



Shining a spotlight 2009



Selling Diagnostic Dilemmas



Variation of Common More Frequent than Rare Diagnoses. Causes:

- Immunocompromised patients (HIV, chemotherapy, malignancy, immunosuppressives)
- Temporal (Timeline of disease)
- Innate causes of variation
- Severity
- Skin Color



Common Costly Diagnostic Error

Bilateral Cellulitis? How often do we make the diagnoses we “know” fit the patient we are seeing?

- One of the leading causes for inpatient admission

- 240,000 US admissions in 2005



Diagnostic Error and Decision Support

- VisualDx www.visualdx.com
- Simulconsult www.simulconsult.com
- Isabel www.isabelhealthcare.com
- DxPlain <http://dxplain.org/dxp/dxp.pl>
- PKC www.pkc.com



VisualDx Clinical Decision Support used in 1300 sites and 20 medical schools

Diagnostic decision support

- Search by patient factors
- Develop a *visual* differential diagnosis
- Capture variation
- Graphical representation of knowledge
- 10,000,000 images viewed in 2009 across sites



Information Strategies



- Pull –vs- Push
- Pull: Physician initiated search
- Push: EHR automated alert

Danger Zone! Alert Fatigue



Mobile is the workflow for many physicians

Lets clinicians search a diagnosis or build a visual differential at the Point of Care

- Search by disease for next steps on management, patient care, and more
- See the differential as user enters patient's symptoms and key findings
- Provide on-the-spot patient education with real medical images they can relate to



The 3 Types of HIT users (and non-users)

- Type A Clinician: Poweruser!... Uses the best digital sources available. Doesn't cut corners. Uses evidence and knowledge tools to deliver optimal care on a daily basis, uses tools in front of patient etc....
- Type B Clinician: Goodenough!..... Uses only what is free (Google searches etc.....)
- Type C Clinician: Laggard!..... Does not use information technology ... believe HIT is their brain

Question: How can we move all clinicians to Type A and why is Type B insufficient?



Three Somewhat Separate Worlds

Diagnosis Errors
HIT (AMDIS, AMIA)
Patient Safety (IHI)

**The Diagnostic Errors in
Medicine 3rd Annual
Meeting**

October 25-27, 2010
Sheraton Centre Toronto
Hotel
Toronto, Ontario, Canada



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