Core Faculty Development
November 18, 2013

Chart Stimulated Recall

A means to assess clinical reasoning /judgment /medical knowledge/documentation

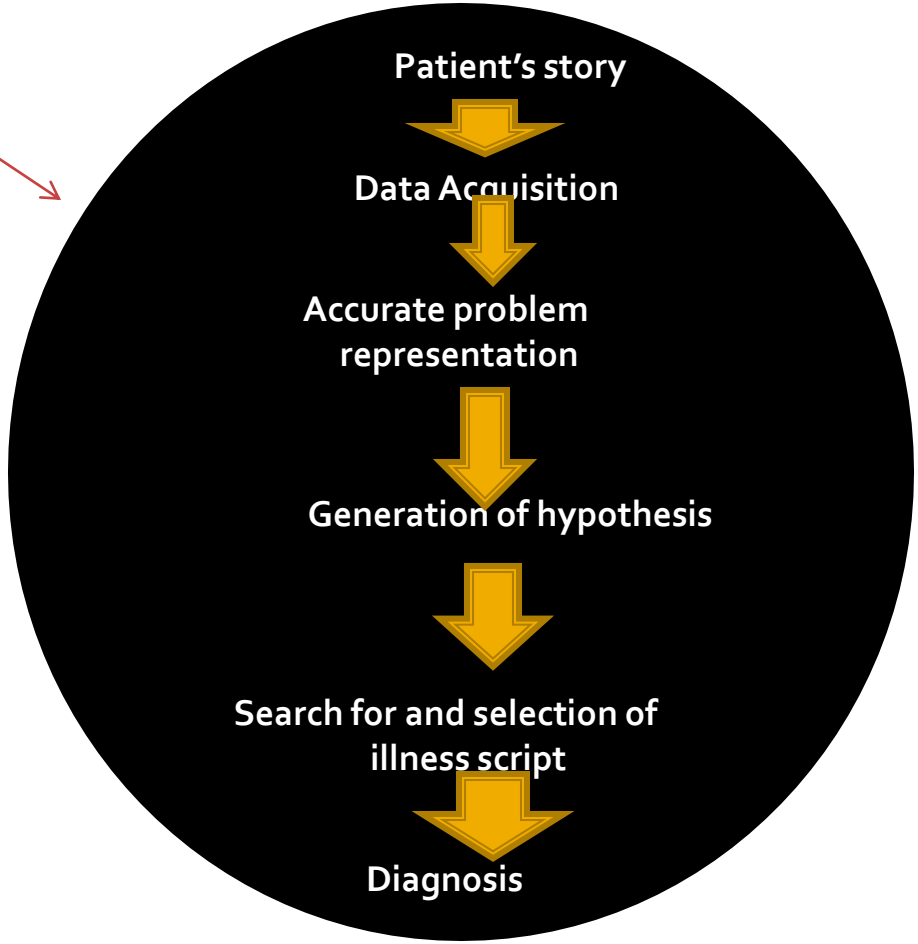
- Introduction to Clinical Reasoning
- Role of Chart Stimulated Recall (CSR)
- Demonstration and group activity exploring strategies and skills for CSR implementation

Clinical reasoning

- The cornerstone of clinical competence

- the reasoning underlying the steps taken and decisions made by the trainee in relation to their role in the work-up and management of the patient.

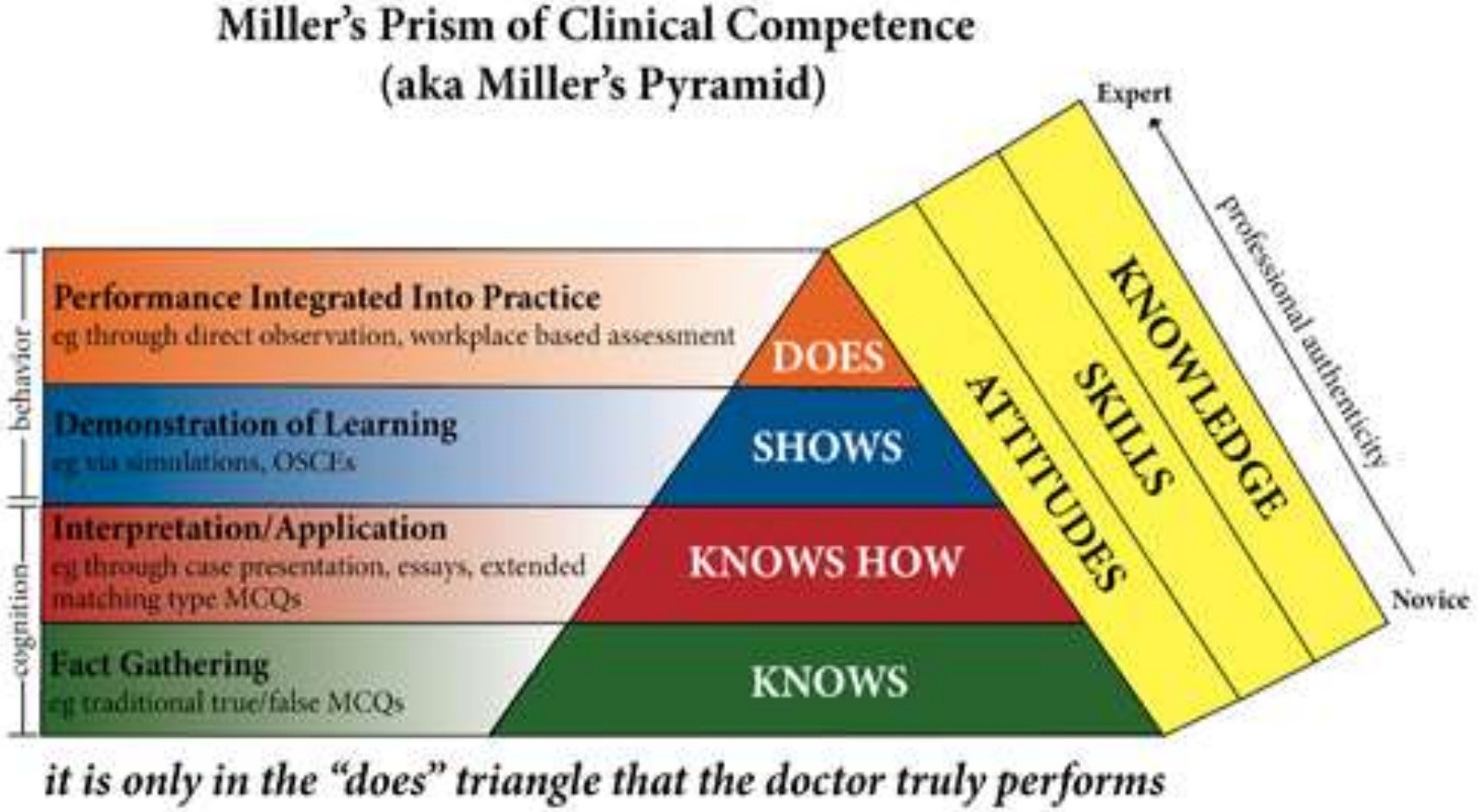
- Knowledge
- Context
- Experience



Correct diagnosis

Correct reasoning

Assessing competence



it is only in the "does" triangle that the doctor truly performs

How do we currently measure clinical reasoning ?

- Internal process
- Frequently inferred, not directly measured
- Need to externalize process to measure it
- New world of milestones requires us to measure

- Chart stimulated recall (CSR)

What is it?

- Uses a medical chart to stimulate the resident's recall of a particular case and its management
- Targets clinical reasoning / judgment
- Uses the note as a reference point for structured clinical questioning
- Ongoing dialogue between learner and teacher

Where it originated

- Developed in 1970s for EM physician training
- Chart review followed by discussion
- Examiner probes clinical reasoning
- Range of settings and level of trainee
- Valuable for addressing ACGME competencies
  - Patient care - Medical knowledge
  - Systems-based practice -Practice-based learning

What can it do?

- Enables faculty to assess a trainee's rationale
  - Diagnostic and treatment decisions
  - Other options considered, but disregarded
  - Reasons why the other options were ruled out.
- Allows faculty to investigate other factors that influenced clinical decision-making
  - (e.g. environmental factors, family dynamics, etc.)

Competency Evaluation / Documentation

- Milestones / EPA's
- Supervision / Documentation Review
- Direct observation of the Learning Process
- Enhances educational mission of rotation that have generally been service-based (e.g. Night Float)

The Process – CSR Session

- Face-to-face meeting
- Faculty does initial review of chart
- Resident "presents" the note
- Relevant open-ended questions guide the interaction
- Probing questions to investigate knowledge, reasoning, and judgment
- CSR Worksheet Completion

Implementation

- Post encounter presentation – inpatient or ambulatory
- End of rotation discussion
- Baseline / annual review /promotion
- Remediation
- After direct observation

Two ways to do it…

- Allow resident to present parts of the case and probe after each major section (e.g. HPI, PE, A+P) and then review the note in total.
  - Good for the struggling or novice learner
- Allow the resident to complete the full presentation and then focus on the A+P and note as a whole
  - Better for the advanced learner.

Advantages

- Timely feedback in authentic practice
- Explore reasoning in diagnostic and treatment decisions
- Probe for advanced level understanding
- Appropriate for formative and summative assessment

CSR evaluation can reveal

- Gaps in knowledge and reasoning ability
- Premature diagnostic closure
- Inappropriate management choices
- Poor organization
- Lack of patient-centered care
- Incomplete documentation

Practical Professor, Chart Stimulated Recall, http://www.praxcticalprof.ab.ca/teaching_nuts_bolts_chart-stimulated_racall.html

The Uses of CSR Results

- Formative:
  - An excellent source of feedback to trainees on performance on a case
  - Feedback that is 'in context', specific to a case, based on what the trainee did in a real practice situation – the very best way for new learning to be understood and remembered
- Summative:
  - Requires deliberate sampling over several cases (cases selected by age, gender, problem, clinical task, …) – a 'blueprint'
  - Sample size – likely 8-12 cases over a period of time

Bringing it all together

- Start with relevant, open-ended questions
- Assess understanding of H+P / diagnostics
- Assess clinical reasoning and synthesis (A+P)
- Assess for completeness
- Check for internal consistency and discordance
- Review the CSR Worksheet

- Complete CSR worksheet to see if all elements present
- Evaluate the quality of job done by use of a CSR evaluation

Small group Learning Exercise Evaluation of the Novice Learner

- CSR exercise in a woman with back pain

- “The Novice Learner”

History of Present Illness

- CC: Back pain
- HPI:
- 44 year-old woman with HTN, diet-controlled diabetes, remote breast cancer, and asthma who was in her usual state of health until 2 days ago. While getting up from the couch, she experienced significant pain in mid/lower back.
  - Pain was severe enough to cause her to sit right back down
  - Pain mostly in mid-line with some radiation across to left flank.
  - The pain was mildly improved with 600 mg of ibuprofen
  - Able to ambulate, but difficult because of the pain.
  - Standing for long periods of time worsens the pain.
  - Lying down may improve pain, but can only lie on her side to sleep
  - Pain slightly improved over past 2 days, but still rated as a 7/10

Review of Systems

- No f/c/n/v/d
- No CP/SOB/ orthopnea
- 20 lbs of weight loss over the past 3 months, but she has been "watching her diet."
- No change in bowel or bladder habits, except a bit more constipation than normal
- "All other systems were reviewed and were negative"

History (cont'd)

- PMH:
  - HTN (well-controlled)
  - DM (diet-controlled)
  - Hypercholesterolemia
  - Asthma since childhood (4 admissions / year)
  - Breast cancer 1997- s/p lumpectomy and XRT
  - Mild depression
- PSH:
  - s/p T+A as child, lumpectomy (1997)
- FHx:
  - No early CAD or cancers
- SHx:
  - Negative x 3

History (cont'd)

- Allergies : PCN (rash)
- Meds:
  - Red yeast rice
  - Lisinopril 20 mg qd
  - Levothyroxine 88 mcg qd
  - Fluticasone/ Salmeterol Disk 250/50 BID
  - MVI
  - ASA 81 qd
  - Ibuprofen prn

The Novice - Analysis of the Historical Components

- Is there a clear CC?
- Is the HPI consistent with the CC?
- Is the HPI clearly communicated?
- Is there an appropriate/thorough ROS?
- Are there any PMH/PSH components that are of special interest to you?
- What sort of things should you focus on in your physical exam?

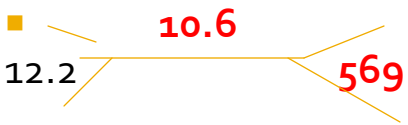
Physical exam

- T: 97.9 BP: 148/86 P:96 RR: 20 SaO2: 99%
- Gen : Patient sitting somewhat uncomfortably (2/2 pain)
- HEENT: Atraumatic, PERRLA, EOMI, OP benign
- Neck: Supple, no LAN
- CV: Mildly tachy, +S1, +S2, 1/6 SEM at RUSB
- Resp: Decreased breath sounds at left base. o/w CTA
- Abd: Soft, NT,ND, BS+
- Ext: No C/C/E
- Back: Midline tenderness noted lower thoracic/upper lumbar spine. Mild paraspinal tenderness bilaterally
- Neuro: CN 2-12 intact, BUE with 5/5 strength, DTRs 2 + and
- symmetric. LE strength 4/5 bilaterally (? secondary to pain), 3+ DTRs bilateral patellar tendon, ankles 2+ and symmetric.
- Rectal: not done

Analysis of the physical exam

- Is the physical complete and appropriate?
- Are all pertinent history elements thoroughly evaluated by the physical exam?
- Are there any elements of the physical exam you would have liked to have added?
- What are the "pertinent positives" and "negatives?"
- What diagnostics are appropriate and why?

Diagnostics



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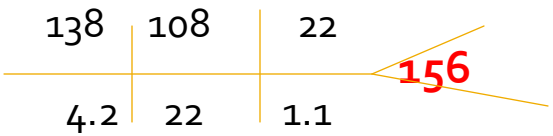

- AST **45** Alk Phos **324**
- ALT **66** T. Bili 1.2
- Albumin **2.8**
- Calcium 8.9

- EKG – Sinus tachy. Nonspecific ST/TW changes

- CXR (PA/lat) –Mild to moderate-sized left pleural effusion with mild compressive atelectasis . Lungs are clear otherwise. Incidental note made of a compression fracture at L2 with moderate wedge defect. Could be osteoporotic in nature, but cannot rule out pathologic fracture.

- Clinical correlation suggested.

Assessment and Plan

1. Back pain – X-ray revealed compression fracture at T12. Will attempt to get better pain control with IV morphine. We will consult Orthopedics to assess need for brace. Consider MRI to better evaluate for cord compression and need for surgical intervention. PT/OT. Given the patient's age, we will need to evaluate for causes of premature osteoporosis. She does have frequent asthma flares which likely are treated with prednisone. Will check TSH, PTH, celiac antibodies.
2. Elevated LFT's. Check Hep panel and RUQ U/S.
3. Anemia – Check iron studies, B12, folate, retic count
4. Thrombocytosis – likely reactive. Will follow.
5. Diabetes - Diabetic diet and QID fingersticks. If sugars are elevated consider sliding scale insulin. We will check a hemoglobin A1C to get a sense of outpatient control. If suboptimal, will consider adding metformin.
6. HTN – Continue lisinopril for now. It may be elevated by pain. If BP continues to be elevated despite adequate pain control, consider adding HCTZ.
7. GI Prophylaxis – omeprazole 40 qd
8. DVT Prophylaxis – As the patient not very ambulatory, we will use SQ low molecular-weight heparin

Analysis of the note / reasoning

- Based on the H+P, is the patient sick or not sick?
- What is the leading diagnosis of the patient's symptoms?
- Does the information in the H+P / Diagnostics support the diagnosis?
- What else is on the differential diagnosis?
- What features in this case led you to believe that the leading diagnosis is correct?
- How might you definitively make your diagnosis?

- ANY OTHER QUESTIONS???

Analysis/Probing for Knowledge

- Where is your plan for the pleural effusion?
- What are some causes of pleural effusions?
- What are causes of anemia in a patient like this?
- Does this patient need a PPI for GI prophylaxis?
- Does anyone need GI prophylaxis?
- Does the document allow the cross-cover team to respond to unexpected changes in the patient's clinical status?
- Time for the Form

- See CSR worksheet

Small Group Exercise
Evaluation of the Advanced Learner

- Break up into groups of three
- Learner (intern), examiner, and observer
- Use H&P in your packet
- CSR Worksheets (questions , evaluation sheet)
- The Advanced Learner
  - Review the note in its entirety (not in sections)
  - Use CSR question sheet
  - Complete evaluation

Small Group Exercise Report Out

- Was it easy to identify "teaching moments?"
- Were you able to develop an accurate assessment of knowledge, clinical reasoning, and application?
- Was the note clear and could it function as a "stand-alone document?"

Large group Exercise

- Chart stimulated recall in action

- http://www.practicaldoc.ca/teaching/practical-prof/teaching-nuts-bolts/chart-stimulated-recall/

Demonstration of CSR Evaluation

- What is the format for the dialogue?
- What type of questions are asked?
- How does the attending probe reasoning?
- What additional questions would you ask?

Summary of Benefits to Chart Stimulated Recall (CSR)

- Inexpensive and easy to teach
- Uses patients/clinical scenarios that are relevant, in "semi-real time" and familiar to the trainee
- Allows faculty to assess clinical reasoning / judgment, knowledge, and documentation
- Great for identifying errors from…
  - Knowledge deficits
  - Recognition / identification of important historical/PE clues
  - Premature closure
  - Inappropriate synthesis
  - Inappropriate management choices
- Adaptable to learners at multiple levels (Novice/Advanced)

Example of a CSR rating form

CSR Rating Form

Doctor Assessor
- (please print name) (please print name)

Doctor's level of appointment (e.g., PGY1) Setting _____ Problem complexity (check one) ____ Low ___ Moderate ___ High
Patient Problem/Dx(s) Age Gender
Discipline _____

Following your discussion of this case with the doctor, circle the rating which matches your assessment of their performance.

1. Clinical record keeping

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

2. Clinical Assessment (including diagnostic skills)

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

3. Medical treatment

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

4. Investigations and Treatment

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

5. \ollow-up and Management Plan

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

6. Clinical Reasoning

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

7. Overall Clinical Care

1 2 3	4 5 6	7 8 9
Unsatisfactory	Satisfactory	Superior

References and resources

Select References:

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Select Resources

Practical Professor, CSR Overview and Video Demonstration
http://www.practicalprof.ab.ca/teaching_nuts_bolts/chart_stimulated_recall.html

Learning Strategies Chart Stimulated Recall
http://www.academicsupportplan.com/(S(gvnf5nalc1fgiz55eszhf5mc))/LearningStrategies.aspx?panel=chartstimulated