Teaching EBM During Clinical Rounds

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Conflicts of Interest

- We have no financial ties with industry that pose a conflict of interest regarding the content of this presentation
- We will not be discussing “off label” uses of any medications or devices
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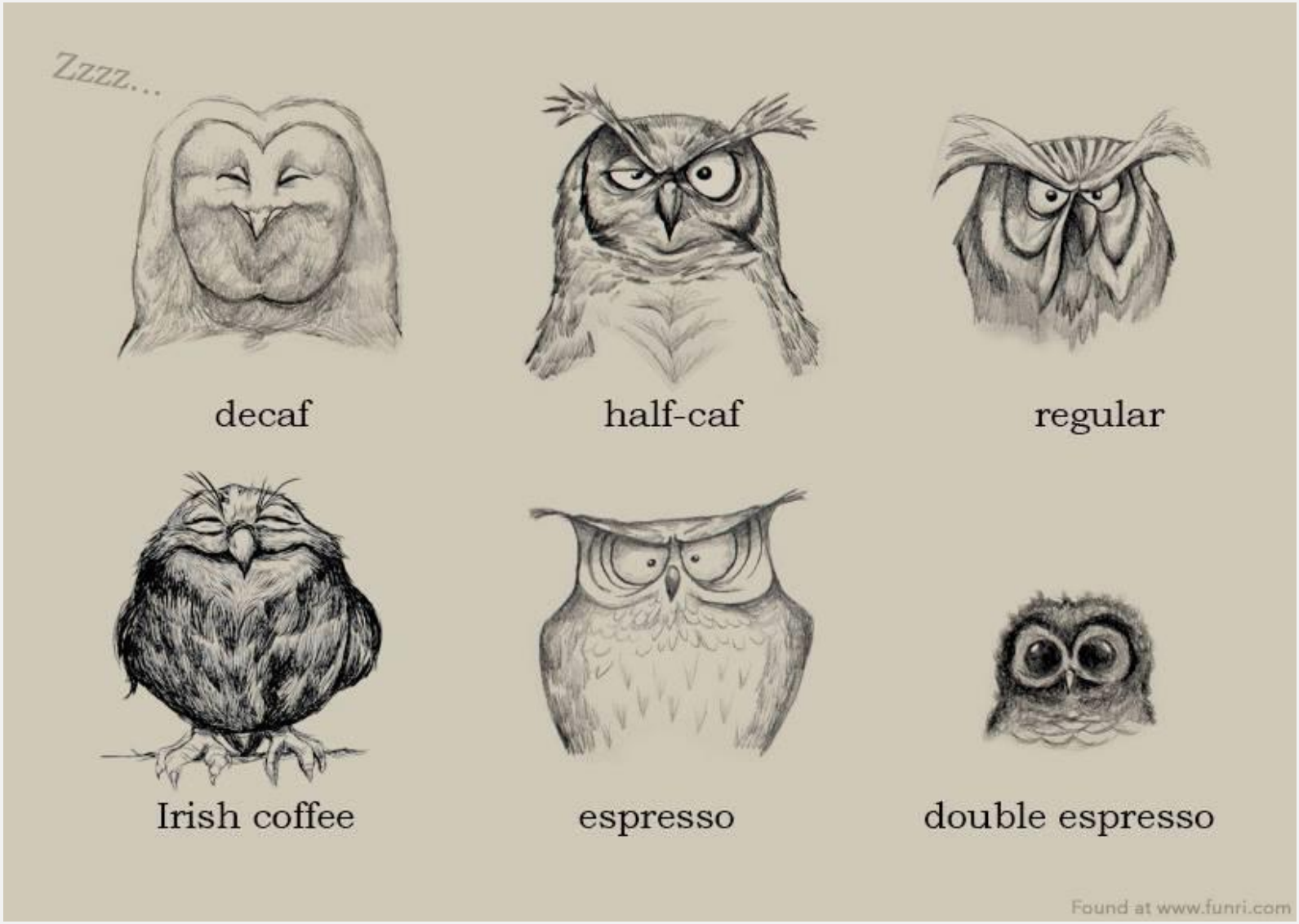
Our Aims …

- Introduce ‘teaching slices’
- Identify main skills for EBM
- Explore slices for teaching EBM
- Have some fun!

Before we begin ...



& In case you missed it …

Teaching in ‘slices’ …

- Teaching while working can occur one ‘slice’ at a time, rather than ‘whole pie’
- Slice = short, time-efficient; yet → learn cumulatively
- “Bite off less than you can chew”

Teaching EBM ‘Slices’

- Buzz with neighbor
- When they work well, what specifically makes them work?
- When they don’t work as well, what specifically …?
- Report in 2 – 3 min

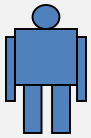
Teaching EBM Slices

- This
- That

Teaching EBM in slices

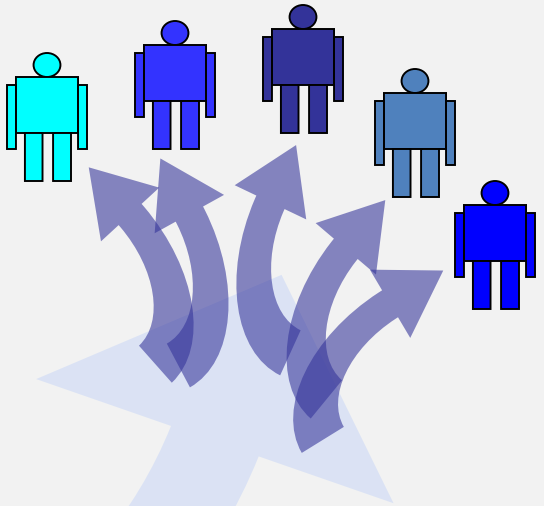
Process of EBCDM

Patient dilemma



Ask

Act & Assess



Acquire

Principles of evidence-based clinical decision making

Appraise

Evidence varies in risk for bias, error

Apply

Evidence alone does not decide – combine with other knowledge and values

Let's Venture onto My Ward Team (Take 1)

Mrs. Jones was transferred out to us from CVICU after urgent cath for severe CP & anterior ST elevations; normal cath and repeat EKG had diffuse ST elevations …

Resident: In addition to NSAID, I plan to start colchicine

Me: Hmmm … why don't you bring the best evidence about this tomorrow for the team

Why do faculty sometimes do this???

Let's Venture onto My Ward Team (Take 2)

Mrs. Jones was transferred out to us from CVICU after urgent cath for severe CP & anterior ST elevations; normal cath and repeat EKG had diffuse ST elevations …

Resident: In addition to NSAID, I plan to start colchicine

Me: Really … I don't recall anything about colchicine & pericarditis

Resident: It's common practice to use colchicine to prevent recurrence

Me: Really! Wow, do you recall any specifics about the added benefit?

Resident: No, but we always use it on Cards …

What If Our Cupboard Is Bare?

(i.e. we don't know everything … like answers to their questions!)

- **Affective Responses & Losing Control**
- **Or … Remain Ego Stable & Shift into a Cognitive Response**
- **Embrace that c/w 'Adaptive Expertise'**
  - Allows experts to continuously learn during the process of *problem-solving*
  - Unanticipated challenges become opportunities for learning

Physician Perceptions of Expert Professionals, Acad Med. 2012 87(10): 1413-17

Case 2

- 27M, fever, malaise, night sweats x 2 wk
- Previously well
- T 38.6 C
- Pharynx: no pus
- Nodes: cervical
- Spleen tip 4 cm below left costal margin

- ↑WBC, nl differential
- RBC, plts normal
- Bilirubin, AST, ALT, ALP, and GGT are normal
- ‘Monospot’ non-reactive
- Urine: normal

Test Accuracy: Splenomegaly

Maneuver (No. of Studies)	LR+ (95% CI)	LR– (95% CI)	DOR (95% CI)
Supine 1-handed palpation (4)	8.2 (5.8-12)	0.41 (0.30-0.57)	22 (13-38)
Percussion of Traube space (3)	2.3 (1.8-2.9)	0.48 (0.39-0.60)	4.8 (3.2-7.3)

ACP Journal Club®

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Therapeutics

Review: Enteral nutrition reduces mortality, multiple organ failure, and systemic infection more than TPN in acute pancreatitis

Hospitalists ★★★★★★ Gastroenterology ★★★★★★

About Star Ratings

ACP Journal Club. 2010 Jul 20;153:JC1-6.

Al-Omran M, Albalawi ZH, Tashkandi MF, Al-Ansary LA. **Enteral versus parenteral nutrition for acute pancreatitis.** Cochrane Database Syst Rev. 2010;(1):CD002837. [PubMed ID: 20091534]

Question

What is the relative effectiveness of enteral nutrition (EN) and total parenteral nutrition (TPN) in patients with acute pancreatitis?

Review scope

Included studies compared EN (delivered through a nasoenteric feeding tube placed into the jejunum at or below the level of ligament of Treitz) with TPN (delivered through a central or peripheral venous line) in patients with acute pancreatitis diagnosed by clinical presentation and increased serum amylase. Studies also had to include a recognized assessment of severity of pancreatitis. Outcomes included mortality, multiple organ failure (MOF), systemic infection, operative intervention, local septic complications, other local complications, and length of hospital stay.

Review methods

MEDLINE (to wk 3, Nov 2008), EMBASE/Excerpta Medica (to wk 49, 2008), Cochrane Library (4th quarter, 2008), SciSearch, ClinicalTrials.gov,

infections, and operative interventions compared with TPN (Table); EN and TPN did not differ for local septic complications, other local complications, or length of hospital stay (Table).

Enteral nutrition (EN) vs total parenteral nutrition (TPN) for acute pancreatitis*

Outcomes	Number of trials (*n*)	Weighted event rates		RRR (95% CI)	NNT (CI)
		EN	TPN		
Mortality	8 (348)	7.8%	16%	50% (9 to 72)	13 (7 to 50)
MOF	6 (278)	19%	35%	45% (19 to 63)	7 (4 to 17)
Systemic infection	7 (259)	11%	31%	61% (35 to 77)	5 (4 to 10)
Operative intervention	7 (316)	14%	34%	56% (33 to 71)	5 (4 to 10)
Local septic complications	5 (246)	13%	18%	26% (–35 to 60)	Not significant
Other local complications	5 (230)	19%	27%	30% (–13 to 57)	Not significant
		Mean		Mean difference (CI)	
Length of hospital stay (d)	4 (145)	71	74	–2.37 (–7.18 to 2.44)	

**MOF = multiple organ failure; other abbreviations defined in Glossary. RRR, NNT, and CI calculated from data in article using a fixed-effect model. Length of follow-up in trials not reported.*

Despite these limitations, the meta-analysis by Al-Omran and colleagues provides compelling support for the routine use of EN in patients with acute pancreatitis. Current recommendations advocate early refeeding to reduce the catabolic state and metabolic disturbances and to aid in recovery (2). In patients with mild pancreatitis, oral refeeding can be resumed once acute symptoms have resolved. In patients with moderate-to-severe pancreatitis, early nutritional support using the enteral route should be the primary method of providing nutrition and can be achieved effectively with nasojejunal tube-feeding using an elemental or semielemental formula.

TPN might still have a role in the management of acute pancreatitis as second-line treatment for select patients in whom EN has failed or who cannot tolerate enteral feeding due to severe ileus.

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References

1. **Sun X, Briel M, Walter SD, Guyatt GH.** Is a subgroup effect believable? Updating criteria to evaluate the credibility of subgroup analyses. BMJ. 2010;340:c117.
2. **Forsmark CE, Baillie J, AGA Institute Clinical Practice and Economics Committee, AGA Institute Governing Board.** AGA Institute technical review on acute pancreatitis. Gastroenterology. 2007;132:2022-44.

Case 4

- 53M, L neck lump
- Previously well
- VS, general – nl
- Oropharynx: nl
- Node: L anterior cervical, 2 x 2.5 cm
- Remainder normal

- CBC, differential, smear – normal
- Chemistries – nl
- CXR – nl

Findings of serious disease:

Finding	LR+
• Age ≥40 years	2.4
• Weight loss	3.4
• Generalized pruritus	4.9
• Supraclavicular nodes	3.2
• Node size ≥ 9 cm^2	8.4
• Node texture = hard	3.2
• Node mobility = fixed	10.9

‘Lymph Node Score’

Finding	Points
Age > 40 years	+5
LN tenderness	- 5
LN size	
Size < 1 cm^2	0
Size 1 – 3.99 cm^2	+4
Size 4 – 8.99 cm^2	+8
Size ≥ 9 cm^2	
Generalized pruritus	+4
Supraclavicular node +	+3
Lymph node is hard	+2
Correction factor	- 6

Score Result	LR
≤ - 3	0.04
-2 or -1	0.1
0 – 4	~1.0
5 or 6	5.1
≥7	21.9

- Higher the score, the more likely the patient’s lymphadenopathy is due to serious underlying disease like cancer or chronic infection

Mr. Cox – 80y/o

- Exasperated daughter brought to ED because “he hurts all over and can’t hardly move”
- Doctors & PT not helping with his C3-4 spinal stenosis (mod to severe) or known bilat rotator cuff disease
- Hgb 11; Na 126; LFTs nl, but Alb 2.2
- ESR = 120
- RF = 774 IU/ml
- ED also got Anti-CCP = 300U/ml (nl <3)

Mr. Cox – 80y/o

- New Rheum Fellow called by ED …
  "Sounds like he's got RA; we'll see him in consult"
- **Overnite Admitting Assessment:** RA, needs NHP
- **<u>At 7:30am</u>:** Diffuse aches, especially in shoulders and some hips; Fell on ice & broke left humerus; managed with immobilization; Declining, especially past 2months
- Retired machinist for John Deere; Lives alone; HTN; DM; No h/o periodic joint swelling

Mr. Cox – 80y/o

- **40# wt loss past 6mon**
  daughter wonders if: **"cause he can't barely feed himself"**
- Difficulty raising hands out of lap; hurts to gently shake hands; some thenar wasting; Dupuytren contracture
- Moderate tenderness across shoulder muscles, but NT with gentle passive ROM; no effusions or warmth
- **No other joint warmth, swelling, or chronic changes of RA; DTRs 2+**
- **We started therapeutic trial 15mg pred/d;** CXR; & requested outside cervical MRI

Mr. Cox – 80y/o

Rheum Evaluation: Believes all from spinal stenosis, rotator cuff, fracture, immobility. Agrees no synovitis, **but "worried about the high Anti-CCP so consider starting hydroxychloroquine". "<u>Doubt PMR</u>."**

<u>Results of Therapeutic Trial</u>

- **Next morning:** Best night of sleep in long time. Helped feed self. Participated with PT evaluation
- **Following morning:** bright affect and feeds self; can raise hands to shoulders without pain
- **Following days – while awaiting Rehab placement – eating like a horse; takes laps in hallways with walker**
- Daughter tearfully exclaims: "It's a miracle"

Mr. Cox – 80y/o

Think Out Loud with Me …

WHY was it so hard for our rheum colleagues to let go of RA?

What aspects of diagnostic reasoning in this case would you teach about?

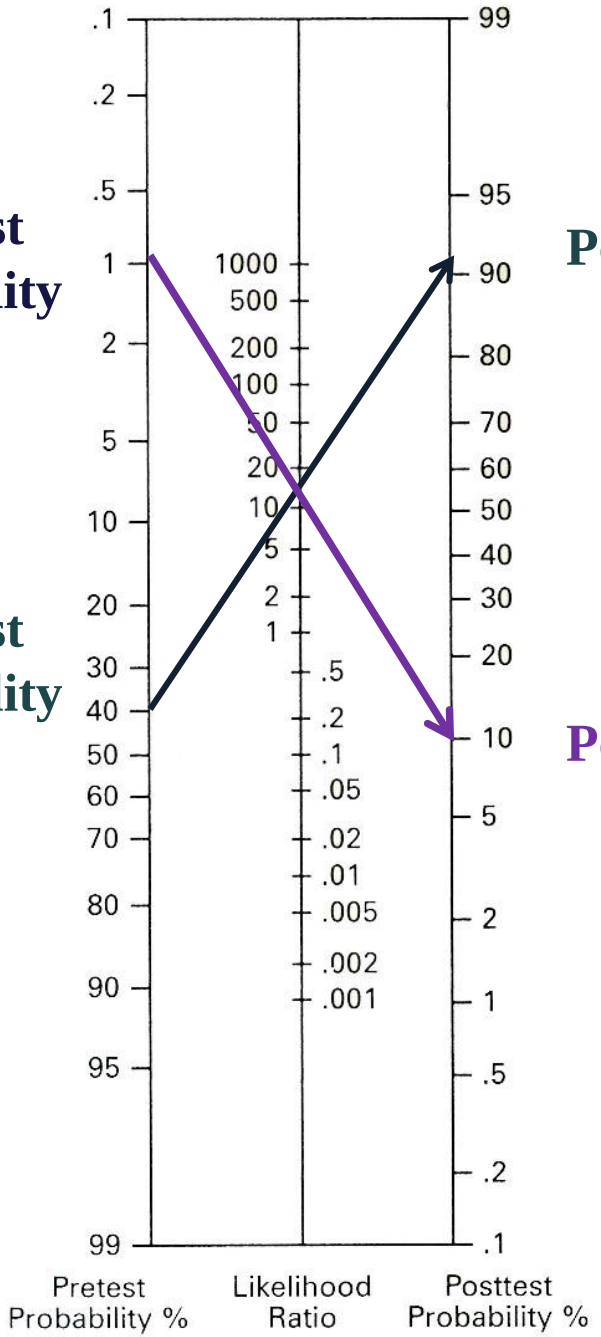
Mr. Cox – 80y/o

- **Anti-CCP has a sensitivity of 58%**
  and specificity of 96%
- **LR(+) = 14.5**
- **Remember LR > 10 Result in large changes in post-test probability**

Systematic Review: Accuracy of Anti-CCP for Diagnosing RA
Ann Int Med 2010; 152:456-464

Pre-test probability 1%

Pre-test probability 40%



Post-test probability >90%

Post-test probability ~10%

Assess IVC Volume

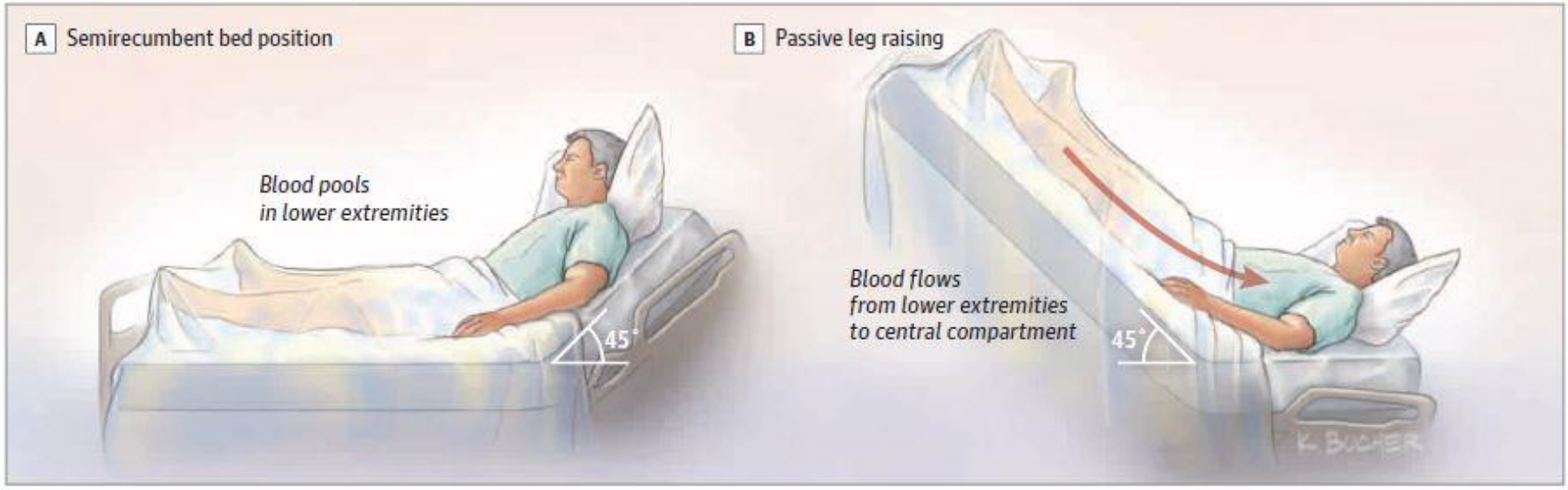
- VS: HR, BP, supine & postural
- Mucous membranes
- Skin temperature, color, feel, pattern
- ‘Capillary refill’
- Axillary moisture
- Mentation, urine output
- Passive leg elevation*

- BUN, Cr, ratio
- U [Na]
- FE Na
- Central venous pressure
- Pulmonary capillary wedge pressure

→ Each has limits, so use composite of all

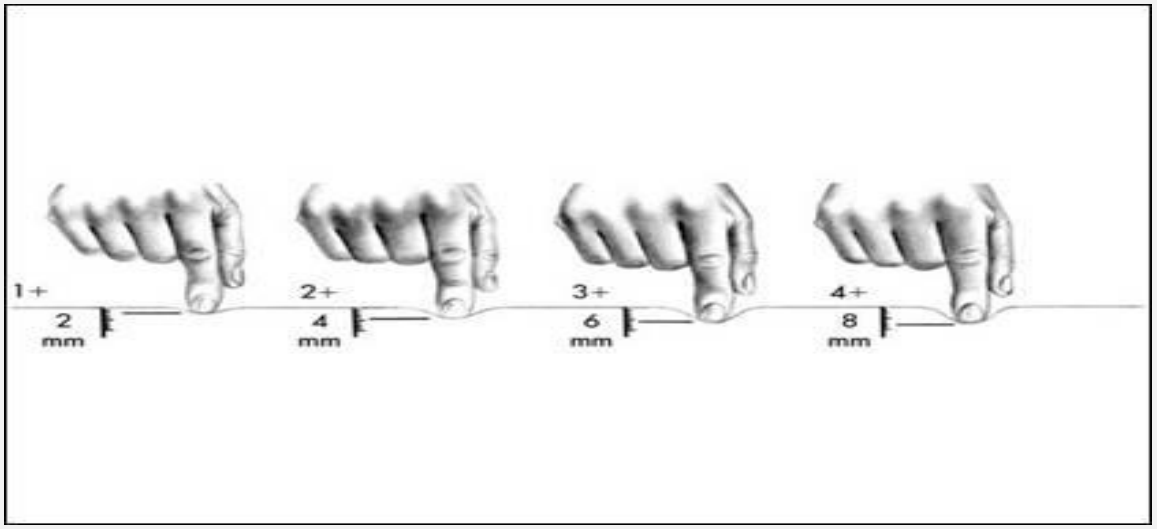
Passive Leg Elevation

Figure 2. Performance of a Passive Leg-Raising Test



- Change in cardiac output: LR+ 11, LR- 0.13
- Change in pulse pressure: LR+ 3.6, LR- 0.45

Assess ISC Volume



Body Weight
Skin turgor

Edema

- Edema is the abnormal collection of excess fluid within the interstitial spaces in tissues; can occur in either or both the systemic and pulmonary micro-circulatory systems

- Edema can result from: 1. altered hydrostatic pressures, 2. altered oncotic pressures, 3. altered capillary permeability, 4. altered ISC contents, or 5. altered lymphatic drainage

Assess Status: ICF Water

Serum sodium concentration:

[Na+]

~ 140 mEq/L

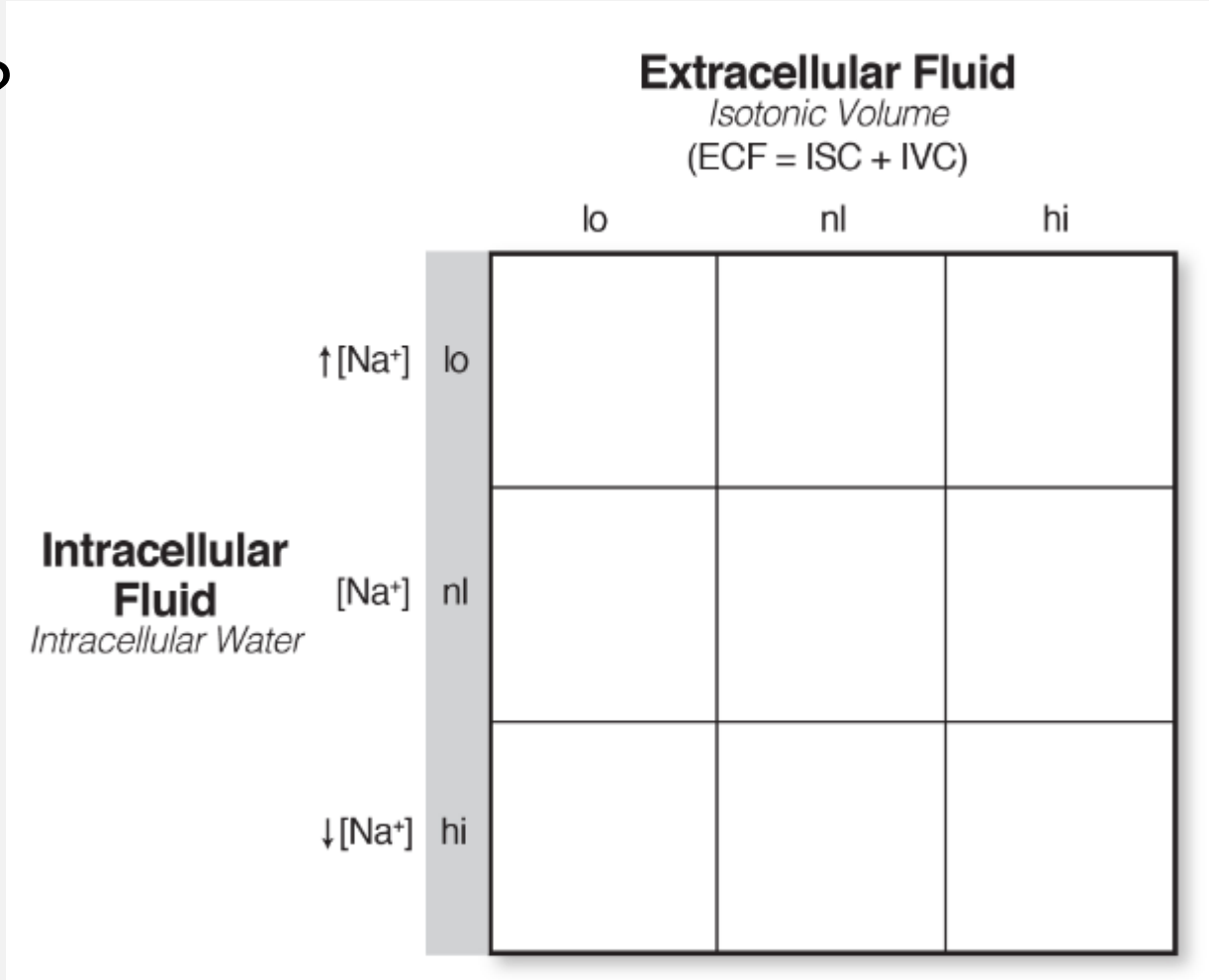
(Concentration does not equal mass)

- Normal sodium concentration means normal amount of water in ICF
- High [Na+] = low amount of ICF water
- Low [Na+] = high amount of ICF

Assess Body Fluid Status

- ECF volume?
- ICF water?
- Classify:

- Caveats:
- Estimate
- Re-examine
- Re-test
- Get help



Hedge Apples, Horse Apples, Osage Oranges

EBM Slices Plus …

- Be Present
- 1 on 1 on 1
- Build enduring clinical skills

Will create opportunity to use teaching slices

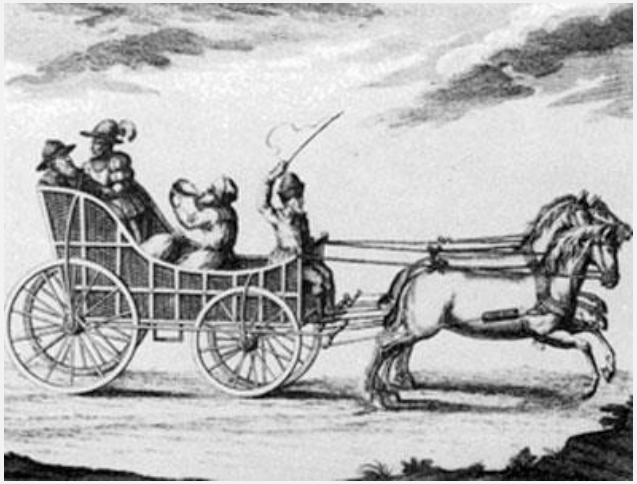
Coach Etymology

The Word ‘Coach’

Arises from horse-drawn wagons or carriages (huh???)

- To help take or move someone from *where they are to where they want to be*
- It’s a process of guiding to promote improvement

Coach from Kocs, Hungary



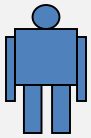
Clinical Coaching

- Helps take or move someone from *where they are to where they want to be*
- It's a guiding process to promote improvement
- Focused on improving performance of specific skills/tasks/capabilities
- A shift from Assessment *of* Learning to Assessment *for* Learning

Chris Watley, MD
London, Ontario

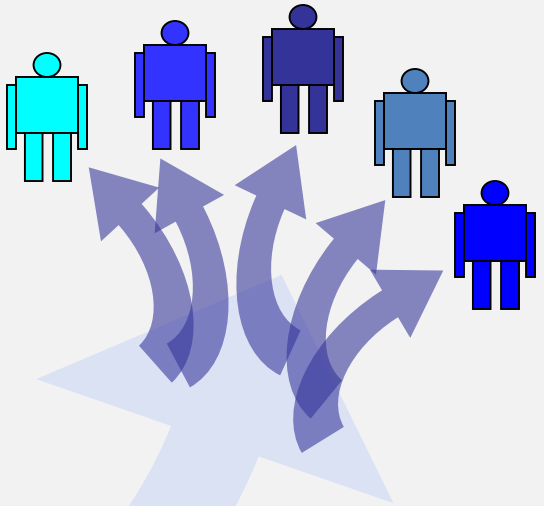
Process of EBCDM

Patient dilemma



Ask

Act & Assess



Acquire

Principles of evidence-based clinical decision making

Appraise

Evidence varies in risk for bias, error

Apply

Evidence alone does not decide – combine with other knowledge and values

Take Home: Integrate EBM on Rounds

- Believe in teaching slices

(slices over time = whole pies)

- Modulate affective responses when we don't know
- Watch & listen for clinical uncertainty or disagreement
- Patient-centered teaching
- Don't whack the mole
- Start somewhere, anywhere, but not everywhere

Taking flight with 'slices' …