

2019-02-07: Teaching Clinical Reasoning in the Classroom & the Clinic

The following links were shared during the chat:

- Teaching Clinical Reasoning to Medical Students: A Case-Based Illness Script Worksheet Approach <https://www.mededportal.org/publication/10445/>
- Teaching clinical reasoning by making thinking visible: an action research project with allied health clinical educators <https://bmcmededuc.biomedcentral.com/articles/10.1186/1472-6920-14-20>
- Aquifer Sciences https://www.aquifersciences.org/learning_objectives_filters?q%5Bsd%5D%5B%5D=all
- Thinking critically about critical thinking: ability, disposition or both? <https://onlinelibrary.wiley.com/doi/full/10.1111/j.1365-2923.2010.03910.x>
- Twelve Tips for Teaching Expertise in Clinical Reasoning <https://www.tandfonline.com/doi/pdf/10.3109/0142159X.2011.558142>
- Can Think Aloud Be Used to Teach and Assess Clinical Reasoning in Graduate Medical Education? <https://jgme.org/doi/pdf/10.4300/JGME-D-14-00601.1>



MedEd Chat @MedEdChat9 hours ago

Welcome to the [#mededchat](#) (US) I am your moderator for the next hour [@alliance4clined](#) [#meded](#)



MedEd Chat @MedEdChat9 hours ago

The [#mededchat](#) topic & questions will be announced in a moment...for now, please introduce yourselves [#meded](#)



Gary Beck Dallaghan @GLBDallaghan9 hours ago

[@MedEdChat](#) Gary here in North Carolina! [#mededchat](#)



MedEd Chat @MedEdChat9 hours ago

If you are tuning in to the [#mededchat](#), remember to use the [#mededchat](#) hashtag and try to answer with the Topic numbers (T1, T2, T3)



Marty Muntz @mmteacherdoc9 hours ago

Hey everyone- Marty from [@MedicalCollege](#) of WI in Milwaukee. Excited for [#mededchat](#)!



Jay Loftus @jiloftus9 hours ago

Jay Loftus - London, Ontario Canada [#MedEdChat](#)



A.J. Kleinhessel @AJKleinhex9 hours ago

[@MedEdChat](#) [@Alliance4ClinEd](#) Good evening! A.J. here! I'm briefly suspending my vacation in Grand Cayman to talk about one of my favorite topics tonight. [#mededchat](#)



MedEd Chat @MedEdChat9 hours ago

We will assume that all of your tweets during the [#mededchat](#) are your own during this hour unless otherwise stated [#meded](#)



Marty Muntz [@mmteacherdoc9 hours ago](#)

[@AJKleinhex](#) [@MedEdChat](#) [@Alliance4ClinEd](#) What a [#mededchat](#) trooper! It's much colder here...



MedEd Chat [@MedEdChat9 hours ago](#)

T1 about to come up in a few moments [#meded](#) [#mededchat](#)



MedEd Chat [@MedEdChat9 hours ago](#)

Topic 1: What are the tenets of clinical reasoning that can be taught from day 1 of medical school? [#MedEdChat](#) [#meded](#)



Marty Muntz [@mmteacherdoc9 hours ago](#)

T1- I remember our first class of day 1 med school at [@siusom](#) was a clinical case presentation of an "unknown" with a challenge to us to figure it out. [#mededchat](#)



MedEd Chat [@MedEdChat9 hours ago](#)

RT Dean Parmelee MD [@parmelee_dean](#) Replying to [@MedEdChat](#) This is my first time! Staying up past my bedtime to see what it's about. [#mededchat](#)



Dr. Sateesh Arja [@ArjaSateesh9 hours ago](#)

[@MedEdChat](#) T1 The principles of clinical reasoning can be taught in clinical skills from day 1. We should teach the rationale behind each physical examination skill that they learn and interpretation of such physical examinations. [#mededchat](#)



A.J. Kleinheksel [@AJKleinhex9 hours ago](#)

T1 Since clinical reasoning is non-linear analytical reasoning, it requires a process of scaffolded knowledge acquisition. However, metacognition can help prepare students to process information at later stages. We have to teach how to think, not what. [#mededchat](#)



Alliance4ClinEd [@Alliance4ClinEd9 hours ago](#)

[@mmteacherdoc](#) [@siusom](#) T1 [#mededchat](#) How did you do with that?



MedEd Chat [@MedEdChat9 hours ago](#)

RT Dean Parmelee MD [@parmelee_dean](#) T1: first day of med school we assume student can use scientific reasoning or thinking. Not always a safe assumption. [#mededchat](#)



Gary Beck Dallaghan [@GLBDallaghan9 hours ago](#)

RT [@AJKleinhex](#): T1 Since clinical reasoning is non-linear analytical reasoning, it requires a process of scaffolded knowledge acquisition....



Marty Muntz [@mmteacherdoc9 hours ago](#)

[@Alliance4ClinEd](#) [@siusom](#) Pre-"good internet." Took forever. But felt good to find the answer. My first "a-ha" moment. [#mededchat](#)



Gary Beck Dallaghan [@GLBDallaghan9 hours ago](#)

[@AJKleinhex](#) T1 [#mededchat](#) I just saw a letter to the editor criticizing the over emphasis on curricular structure and not on critical thinking. Is that your stance as well?



Paul Haidet [@myheroistrane8 hours ago](#)

Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2) open mindedness 3) intellectual humility 4) balanced skepticism 5) metacognition [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Alliance4ClinEd [@Alliance4ClinEd8 hours ago](#)

T1 [#mededchat](#) [@mededportal](#) has a nice article describing a workshop for M2s....could probably be used throughout. <https://t.co/rjOSOOs7Jd>



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@Alliance4ClinEd](#): T1 [#mededchat](#) [@mededportal](#) has a nice article describing a workshop for M2s....could probably be used throughout. http...



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@AriaSateesh](#): [@MedEdChat](#) T1 The principles of clinical reasoning can be taught in clinical skills from day 1. We should teach the ration...



A.J. Kleinhexel [@AJKleinhex8 hours ago](#)

[@GLBDallaghan](#) I mean, you know me, I can criticize anything if you give me enough time. ;) But I'm in the grey area. There's clearly a need for curricular structure (as witnessed during my time as an instructional designer), but we definitely need to emphasize cognitive processes. [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT Dean Parmelee MD [@parmelee_dean](#) Considering the pretty extensive work on how one learns science reasoning, thru much 'argumentation,' I'm not sure it's teachable in trad sense. [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@Alliance4ClinEd](#): T1 [#mededchat](#) [@mededportal](#) has a nice article describing a workshop for M2s....could probably be used throughout. http...



A.J. Kleinhexel [@AJKleinhex8 hours ago](#)

[@myheroistrane](#) Sounds a lot like a growth mindset. [#mededchat](#) <https://t.co/cMcoBUykLU>



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@AJKleinhex](#): [@myheroistrane](#) Sounds a lot like a growth mindset. [#mededchat](#) <https://t.co/cMcoBUykLU>



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Gary Beck Dallaghan [@GLBDallaghan8 hours ago](#)

[@MedEdChat](#) [@parmelee_dean](#) T1 [#mededchat](#) How would you propose teaching be modified then?



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@Alliance4ClinEd](#) [@MedEdPORTAL](#) Like this. Teach terminology & process from day 1. Use cases to practice & build illness scripts. Then when they go to clinic/wards, they're speaking the language & can communicate with the team. [#MedEdChat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@mmteacherdoc](#): [@Alliance4ClinEd](#) [@MedEdPORTAL](#) Like this. Teach terminology & process from day 1. Use cases to practice & build illness sc...



Madhu Singh [@thinkalot8 hours ago](#)

RT [@mmteacherdoc](#): [@Alliance4ClinEd](#) [@MedEdPORTAL](#) Like this. Teach terminology & process from day 1. Use cases to practice & build illness sc...



Gary Beck Dallaghan [@GLBDallaghan8 hours ago](#)

[@mmteacherdoc](#) [@Alliance4ClinEd](#) [@MedEdPORTAL](#) T1 [#mededchat](#) Can teaching this way comeingle with the necessary basic sciences content that provides the foundation for clinical application?



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@parmelee_dean](#) If you put the [#mededchat](#) hashtag at the end of your tweets, we can all see them!



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@GLBDallaghan](#) [@Alliance4ClinEd](#) [@MedEdPORTAL](#) T1 - yes. [#mededchat](#)



Andrew Olson [@andrewolsonmd8 hours ago](#)

[@MedEdChat](#) Chiming in intermittently with kid bedtime. But teach that it's a process and about practice. Lots of practice with feedback. [#MedEdChat](#)



A.J. Kleinhexel [@AJKleinhex8 hours ago](#)

T1 I'm also a fan of some of the simpler methods of teaching/modeling complex analytical processes. I think that cognitive coaching is an accessible and easy way to introduce students to the goal at which they should be aiming. [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

Topic 2: What are the best ways to teach in the preclinical curriculum? [#MedEdChat](#) [#meded](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@AJKleinhex](#): T1 I'm also a fan of some of the simpler methods of teaching/modeling complex analytical processes. I think that cognitive...



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@andrewolsonmd](#) [@MedEdChat](#) Love it - deliberate practice! [#mededchat](#)



Andrew Olson [@andrewolsonmd8 hours ago](#)

[@GLBDallaghan](#) [@AJKleinhex](#) There are very open questions here. But IMO and that of many others, critical thinking alone probably a minor part... [#MedEdChat](#)



Will Bynum [@WillBynumMD8 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



MedEd Chat [@MedEdChat8 hours ago](#)

RT Dean Parmelee MD [@parmelee_dean](#) T1 learning to think critically, scientifically (basic to clinical reasoning) best through rigorous discourse with others. We can create the learning environment that supports freq such discourse. [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

[#mededchat](#) [#clinicalreasoning](#) Apprpch to patient illness and proplems and not to patient diseas . Hx Examination Invest Lab ,rad ,Bx ,invasive Constructing a diff Dx Discussion with mentor Construct proplem lists



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@SalemSamer](#): [#mededchat](#) [#clinicalreasoning](#) Apprpch to patient illness and proplems and not to patient diseas . Hx Examination Invest L...



Marty Muntz [@mmteacherdoc8 hours ago](#)

T2- step 1 = there is NO "preclinical curriculum" - you are going to school to be a doctor. Patients/cases at the center of everything we teach. [#mededchat](#)



A.J. Kleinheksel [@AJKleinhex8 hours ago](#)
T2 With frequency and consistency. [#mededchat](#) <https://t.co/gW1zyyhaTM>



Dr. Sateesh Arja [@ArjaSateesh8 hours ago](#)
[@MedEdChat](#) T2 Even though PBL and case-based discussions in preclinical curriculum promote developing clinical reasoning, I found illness scripts is one of the best ways of developing clinical reasoning [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)
RT [@mmteacherdoc](#): T2- step 1 = there is NO “preclinical curriculum” - you are going to school to be a doctor. Patients/cases at the center...



Gary Beck Dallaghan [@GLBDallaghan8 hours ago](#)
[@mmteacherdoc](#) T2 Now there is some breakthrough thinking about medical school! [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)
[#mededchat](#) T2 proplrm based learning Integrative approach Community oriented learning One day a week in the hospital



MedEd Chat [@MedEdChat8 hours ago](#)
RT [@ArjaSateesh](#): [@MedEdChat](#) T2 Even though PBL and case-based discussions in preclinical curriculum promote developing clinical reasoning,...



Jo Anna Leuck [@JannaLuke8 hours ago](#)
RT [@mmteacherdoc](#): T2- step 1 = there is NO “preclinical curriculum” - you are going to school to be a doctor. Patients/cases at the center...



Jo Anna Leuck [@JannaLuke8 hours ago](#)
RT [@AJKleinhex](#): T1 Since clinical reasoning is non-linear analytical reasoning, it requires a process of scaffolded knowledge acquisition....



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)
RT [@SalemSamer](#): [#mededchat](#) [#clinicalreasoning](#) Apprph to patient illness and proplems and not to patient disese . Hx Examination Invest L...



Alliance4ClinEd [@Alliance4ClinEd8 hours ago](#)
T2 I like this article as it could be used from day one with [#medstudents](#) <https://t.co/tGURspXDu8> [#mededchat](#)



A.J. Kleinheksel [@AJKleinhex8 hours ago](#)
[@andrewolsonmd](#) [@GLBDallaghan](#) How minor? I agree that there are a lot of skills and knowledge to master. However, the content students learn may change with scientific progress, while knowing how to seek, evaluate, analyze, integrate, and process new information never goes out of style. [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@Alliance4ClinEd](#): T2 I like this article as it could be used from day one with [#medstudents](#) <https://t.co/tGURspXD8> [#mededchat](#)



Andrew Olson [@andrewolsonmd8 hours ago](#)

[@mmteacherdoc](#) [@MedEdChat](#) The limitation of course with this is context. That's why we need to ensure students see and know the common stuff over and over. We aren't good at that..[#MedEdChat](#)



Paul Haidet [@myheroistrane8 hours ago](#)

RT [@AJKleinhex](#): T1 Since clinical reasoning is non-linear analytical reasoning, it requires a process of scaffolded knowledge acquisition....



Gary Beck Dallaghan [@GLBDallaghan8 hours ago](#)

RT [@parmelee_dean](#) T2 Teaching clinical reasoning by making thinking visible: an action research project with allied health clinical educators [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

[#mededchat](#) when i go to surgical ward with my mentor And we discuss about the a patient for e.g. a pt with appendicitis The mentor learn us every thing abt app. But learn us no thing abt RLQ pain or acute abdomen TRAGEDY



Andrew Olson [@andrewolsonmd8 hours ago](#)

[@AJKleinhex](#) [@GLBDallaghan](#) Agree and there's a duality. But in daily practice pretty minor. Much more about robust scripts and then knowing pitfalls. [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@SalemSamer](#): [#mededchat](#) when i go to surgical ward with my mentor And we discuss about the a patient for e.g. a pt with appendicitis T...



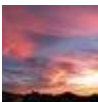
@DSchatteMD [@dschattemd8 hours ago](#)

[@myheroistrane](#) [@MedEdChat](#) T1 Do you have to bring students in who are curious, or do you foster that? How do you engage anything beyond study for STEP [#mededchat](#)



Andrew Olson [@andrewolsonmd8 hours ago](#)

[@mmteacherdoc](#) Love it. Weave it through. [#MedEdChat](#)



Paul Haidet [@myheroistrane8 hours ago](#)

[@AJKleinhex](#) [@GLBDallaghan](#) Yes, some baseline knowledge is required, but how to use and access the knowledge in a calibrated way is equally important. Not enough emphasis on how to teach/assess this IMO. [#MedEdChat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@myheroistrane](#): [@AJKleinhex](#) [@GLBDallaghan](#) Yes, some baseline knowledge is required, but how to use and access the knowledge in a calibra...



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@Alliance4ClinEd](#): T2 I like this article as it could be used from day one with [#medstudents](#) <https://t.co/tGURspXDu8> [#mededchat](#)



Jennifer K. Chen, MD FAAP [@DrJenChen4kids8 hours ago](#)

[@MedEdChat](#) [#mededchat](#) T1: Treat patients, not lab/imaging results. Every result has to be interpreted in its proper context. Better to start with a broad differential and narrow down rather than have anchoring bias, especially for cases where the course doesn't progress as expected.



Andrew Olson [@andrewolsonmd8 hours ago](#)

Food for thought [#MedEdChat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@SalemSamer](#): [#mededchat](#) T2 proplrm based learning Integrative approach Community oriented learning One day a week in the hospital



Anne Micheaux Akwari [@amakwari8 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



A.J. Kleinheksel [@AJKleinhex8 hours ago](#)

T2 We don't have to explicitly teach students cognitive flexibility if we model it for them consistently and supplement earlier stages of learning with cognitive coaching. [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT Dean Parmelee MD [@parmelee_dean](#) T2 'pre clinical' is anachronistic. The early learning should be foundational to clinical practice. [#mededchat](#)



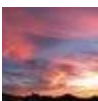
MedEd Chat [@MedEdChat8 hours ago](#)

RT Dean Parmelee MD [@parmelee_dean](#) T1 cannot divorce biomedical science. The thinking/reasoning it requires transforms, if guided, into clinical reasoning. [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

[#mededchat](#) The patient is my faculty of medicine [#clinicalreasoning](#)



Paul Haidet [@myheroistrane8 hours ago](#)

[@dschattemd](#) [@MedEdChat](#) Way to call out the elephant in this room, Dawnelle! [#MakeUSMLEPassFail](#) [#MedEdChat](#)



@DSchatteMD [@dschattemd8 hours ago](#)

RT [@Alliance4ClinEd](#): T2 I like this article as it could be used from day one with [#medstudents](#) <https://t.co/tGURspXD8> [#mededchat](#)

Marty Muntz [@mmteacherdoc8 hours ago](#)



[@dschattemd](#) [@myheroistrane](#) [@MedEdChat](#) Did someone say [#makeusmlepassfail?](#)
[#mededchat](#)



Alliance4ClinEd [@Alliance4ClinEd8 hours ago](#)

RT [@dschattemd](#): [@myheroistrane](#) [@MedEdChat](#) T1 Do you have to bring students in who are curious, or do you foster that? How do you engage any...



Andrew Olson [@andrewolsonmd8 hours ago](#)

RT [@mmteacherdoc](#): [@dschattemd](#) [@myheroistrane](#) [@MedEdChat](#) Did someone say [#makeusmlepassfail?](#) [#mededchat](#)



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@dschattemd](#) [@myheroistrane](#) [@MedEdChat](#) Yes and yes! [#mededchat](#)



Jennifer K. Chen, MD FAAP [@DrJenChen4kids8 hours ago](#)

[@MedEdChat](#) [#MedEdChat](#) T2: I personally learn better through doing, eg physical exam rounds as we learned about each system (cardio, pulm, etc). Standardized pts helped develop history-taking skills. Talking through cases in small groups made safe space to ask “dumb” preclinical

Qs



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@DrJenChen4kids](#): [@MedEdChat](#) [#MedEdChat](#) T2: I personally learn better through doing, eg physical exam rounds as we learned about each sys...



Dr. Sateesh Arja [@ArjaSateesh8 hours ago](#)

[@MedEdChat](#) T2 [#mededchat](#) Case-based discussions around the learning objectives and curricular database developed by Aquifer Sciences is also an interesting way of promoting clinical reasoning in the first two years <https://t.co/kAy5BP3lyp>



Andrew Olson [@andrewolsonmd8 hours ago](#)

[@dschattemd](#) [@Alliance4ClinEd](#) [@myheroistrane](#) [@MedEdChat](#) I think a key step (ha ha) is to expose them to substantive patient encounters early on. Hard not to be curious then. And they don't have MCQ answers... [#MedEdChat](#)



Paul Haidet [@myheroistrane8 hours ago](#)

[@mmteacherdoc](#) Going on right now at the University Park Campus at Penn State. Students in clinics from day 1; create their own PBL-like cases. Total integration, and content follows process. [@mbstephensmd](#) [@DrJeffreyP](#) [#MedEdChat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@AriaSateesh](#): [@MedEdChat](#) T2 [#mededchat](#) Case-based discussions around the learning objectives and curricular database developed by Aquife...



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@MedEdChat](#): RT Dean Parmelee MD [@parmelee_dean](#) T1 cannot divorce biomedical science. The thinking/reasoning it requires transforms,...



MedEd Chat [@MedEdChat8 hours ago](#)

Topic 3: What are methods of assessing clinical reasoning and in what settings? [#mededchat](#) [#meded](#)



Gary Beck Dallaghan [@GLBDallaghan8 hours ago](#)

[@andrewolsonmd](#) [@dschattemd](#) [@Alliance4ClinEd](#) [@myheroistrane](#) [@MedEdChat](#) T2 [#mededchat](#) That is true, but at the end of the day they still have to take the test.....which oftentimes overrides the true reason for medical school...which is to learn to be a doctor....not a test taker [#MakeUSMLEPassFail](#)



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@SnayThinks](#) Love this! [#MedEdChat](#) <https://t.co/v2jlwb6HNT>



Paul Haidet [@myheroistrane8 hours ago](#)

[@dschattemd](#) [@MedEdChat](#) Ya know, the nature vs nurture question is an important question in this space, and heartens to Ed Krupat's work to explore the intersection btw critical thinking and the growth mindset. [#mededchat](#) <https://t.co/vqDa0tM5qZ>



A.J. Kleinheksel [@AJKleinhex8 hours ago](#)

[@andrewolsonmd](#) [@dschattemd](#) [@Alliance4ClinEd](#) [@myheroistrane](#) [@MedEdChat](#) I agree that moving away from MCQ-style thinking is critical. And promoting self-regulated learning through early exposure to the complexity and humanity in medicine is a great way to do that. [#mededchat](#)



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@myheroistrane](#) [@mbstephensmd](#) [@DrJeffreyP](#) Exciting! [#MedEdChat](#) <https://t.co/fk99EXVJnJ>



Michael McShane [@mikepmcshane8 hours ago](#)

RT [@myheroistrane](#): [@mmteacherdoc](#) Going on right now at the University Park Campus at Penn State. Students in clinics from day 1; create the...



A.J. Kleinhexel [@AJKleinhex8 hours ago](#)

T3 Virtual patient simulations are cited as good way to assess clinical reasoning because there is a transparency of thought process in a participant's transcript. But we need to move beyond "I know it when I see it" as an assessment strategy. [#mededchat](#)



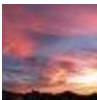
Marty Muntz [@mmteacherdoc8 hours ago](#)

[@myheroistrane](#) [@dschattemd](#) [@MedEdChat](#) How about nature AND nurture? [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@AJKleinhex](#): T3 Virtual patient simulations are cited as good way to assess clinical reasoning because there is a transparency of though...



Paul Haidet [@myheroistrane8 hours ago](#)

[@GLBDallaghan](#) [@andrewolsonmd](#) [@dschattemd](#) [@Alliance4ClinEd](#) [@MedEdChat](#) Agree, and it causes ripple effects later on. I encounter many residents who focus too much on binary thinking (eg test positive = disease present & vice versa) rather than thinking probabilistically (eg pre/post test probability). The legacy of simplistic MCQs... [#MedEdChat](#)



ShereeseM, MS/MBA [@ShereesePubHlth8 hours ago](#)

RT [@AJKleinhex](#): T1 Since clinical reasoning is non-linear analytical reasoning, it requires a process of scaffolded knowledge acquisition....



Alliance4ClinEd [@Alliance4ClinEd8 hours ago](#)

T3 Here are some resources for teaching as well as ideas for assessment <https://t.co/0R7BxpAVAH> <https://t.co/cCMgZdzNVE> [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@Alliance4ClinEd](#): T3 Here are some resources for teaching as well as ideas for assessment <https://t.co/0R7BxpAVAH> <https://t.co/cCMgZdzN...>



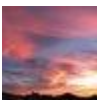
MedEd Chat [@MedEdChat8 hours ago](#)

RT [@myheroistrane](#): [@GLBDallaghan](#) [@andrewolsonmd](#) [@dschattemd](#) [@Alliance4ClinEd](#) [@MedEdChat](#) Agree, and it causes ripple effects later on. I enc...



A.J. Kleinhexel [@AJKleinhex8 hours ago](#)

T3 I've had success constructing a conceptual framework and measuring discrete components of clinical reasoning in simulation, either to provide a cumulative assessment or as isolated instruments. [#mededchat](#)



Paul Haidet [@myheroistrane8 hours ago](#)

RT [@AJKleinhex](#): [@andrewolsonmd](#) [@dschattemd](#) [@Alliance4ClinEd](#) [@myheroistrane](#) [@MedEdChat](#) I agree that moving away from MCQ-style thinking is c...



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@AJKleinhex](#): T3 I've had success constructing a conceptual framework and measuring discrete components of clinical reasoning in simulati...



Faraz Jaffer [@fjaffer888 hours ago](#)

[@mmteacherdoc](#) Foundations are essential. I agree that using clinical vignettes to drive home the point, but understanding of Glucose metabolism through aerobic and anaerobic conditions is essential to comprehending the disease state of diabetic ketoacidosis [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@fjaffer88](#): [@mmteacherdoc](#) Foundations are essential. I agree that using clinical vignettes to drive home the point, but understanding of...



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@fjaffer88](#) Agreed. Yes, and! Not either or. [#mededchat](#)



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@mmteacherdoc](#): [@fjaffer88](#) Agreed. Yes, and! Not either or. [#mededchat](#)



Andrew Olson [@andrewolsonmd8 hours ago](#)

RT [@Alliance4ClinEd](#): T2 I like this article as it could be used from day one with [#medstudents](#) <https://t.co/tGURspXDdu8> [#mededchat](#)



Rebecca Jaffe [@RJmdphilly8 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Marty Muntz [@mmteacherdoc8 hours ago](#)

[@fjaffer88](#) And understanding glucose metabolism = good. Memorizing the steps/enzymes = basically worthless. [#mededchat](#)



LAS Medical & LAS Scholastic [@LAS_Inc 8 hours ago](#)

RT [@fjaffer88](#): [@mmteacherdoc](#) Foundations are essential. I agree that using clinical vignettes to drive home the point, but understanding of...



LAS Medical & LAS Scholastic [@LAS_Inc 8 hours ago](#)

RT [@myheroistrane](#): [@GLBDallaghan](#) [@andrewolsonmd](#) [@dschattemd](#) [@Alliance4ClinEd](#) [@MedEdChat](#) Agree, and it causes ripple effects later on. I enc...



MedEd Chat [@MedEdChat8 hours ago](#)

We have about 5 more minutes left in our discussion. Please feel free to give some final thoughts [#meded](#) [#mededchat](#)



Paul Haidet [@myheroistrane8 hours ago](#)

T3, if you must use MCQs, please please PLEASE make students write an explanation of why they chose a particular answer. And while you're at it, how about throwing in the occasional MCQ that DOESN'T have a "right" answer? [#mededchat](#)



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

RT [@Alliance4ClinEd](#): T3 Here are some resources for teaching as well as ideas for assessment <https://t.co/0R7BxpAVAH> <https://t.co/cCMgZdzN...>



ShereeseM, MS/MBA [@ShereesePubHlth8 hours ago](#)

[@lorenlas1](#) Any final thoughts on this? [#mededchat](#)



Gary Beck Dallaghan [@GLBDallaghan8 hours ago](#)

Final Thought: [@mmteacherdoc](#) gets the best Tweet of the night...There is no pre-clinical curriculum....it's all medical school. So simple but so radical! [#mededchat](#)



ShereeseM, MS/MBA [@ShereesePubHlth8 hours ago](#)

RT [@myheroistrane](#): T3, if you must use MCQs, please please PLEASE make students write an explanation of why they chose a particular answer....



MedEd Chat [@MedEdChat8 hours ago](#)

RT [@myheroistrane](#): T3, if you must use MCQs, please please PLEASE make students write an explanation of why they chose a particular answer....



Dr Samer Al-Bothaigi [@SalemSamer8 hours ago](#)

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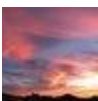
MedEd Chat [@MedEdChat8 hours ago](#)

Join us again next week at 9 pm Thursday. Don't forget to suggest topics by DM or email [#meded](#) [#mededchat](#)



Loren [@lorenlas18 hours ago](#)

RT [@MedEdChat](#): We have about 5 more minutes left in our discussion. Please feel free to give some final thoughts [#meded](#) [#mededchat](#)



Paul Haidet [@myheroistrane8 hours ago](#)

Critical thinking test: 1) answer these 10 questions 2) you have 100 points to work with 3) now, YOU (student) decide how much each question is worth- min 5 max 15 points. Tests knowledge AND calibration. [#mededchat](#)



Loren @lorenlas18 hours ago

RT @ShereesePubHlth: @lorenlas1 Any final thoughts on this? #mededchat <https://t.co/oOQf4XZQLv>



MedEd Chat @MedEdChat8 hours ago

RT @myheroistrane: Critical thinking test: 1) answer these 10 questions 2) you have 100 points to work with 3) now, YOU (student) decide h...



Paul Haidet @myheroistrane8 hours ago

RT @GLBDallaghan: Final Thought: @mmteacherdoc gets the best Tweet of the night...There is no pre-clinical curriculum....it's all medical...



MedEd Chat @MedEdChat8 hours ago

That's a wrap...I will post the #mededchat transcript tomorrow morning on <https://t.co/mJivoKroXx> on the Resources page. Thanks everyone for participating! #meded



Loren @lorenlas18 hours ago

RT @myheroistrane: T3, if you must use MCQs, please please PLEASE make students write an explanation of why they chose a particular answer....



Rebecca Jaffe @RJmdphilly8 hours ago

RT @AJKleinhex: T1 Since clinical reasoning is non-linear analytical reasoning, it requires a process of scaffolded knowledge acquisition....



A.J. Kleinheksel @AJKleinhex8 hours ago

Great chat on one of my favorite topics tonight! Knowing how to think is the best! #mededchat



Marty Muntz @mmteacherdoc8 hours ago

Ok I'll do one: #MakeUSMLEPassFail #mededchat



Rebecca Jaffe @RJmdphilly8 hours ago

RT @AJKleinhex: T1 I'm also a fan of some of the simpler methods of teaching/modeling complex analytical processes. I think that cognitive...



Stephanie Starr, MD @StephRStarr7 hours ago

RT @mmteacherdoc: T2- step 1 = there is NO "preclinical curriculum" - you are going to school to be a doctor. Patients/cases at the center...



MedEdBot @MedEdBot7 hours ago

RT @MedEdChat: That's a wrap...I will post the #mededchat transcript tomorrow morning on <https://t.co/mJivoKroXx> on the Resources page. Tha...



Rebecca Jaffe [@RJmdphilly7 hours ago](#)

RT [@myheroistrane](#): [@dschattemd](#) [@MedEdChat](#) Ya know, the nature vs nurture question is an important question in this space, and heartens to E...



Dr. Samantha Lemus-Martinez [@DrLemusMartinez6 hours ago](#)

RT [@ArjaSateesh](#): [@MedEdChat](#) T2 [#mededchat](#) Case-based discussions around the learning objectives and curricular database developed by Aquife...



Flora Smyth Zahra [@HumanitiesinHPE6 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Dr Javeed Sukhera [@javeedsukhera6 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Adam Hoverman DO [@ahoverman6 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Tara Zarry [@TaraZarry6 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



TAN KENG TENG [@keng_teng4 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Isobel Hambridge [@TwoCows_Tweet3 hours ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...



Andrew Baldwin [@DrAndrewBaldwin2 hours ago](#)

[@MedEdChat](#) Think big picture then focus (echoing anchor bias avoid) and dual processing - teach that to understand more [#MedEdChat@UK_CReME](#)



CReME [@UK_CReMEan hour ago](#)

RT [@MedEdChat](#): Topic 1: What are the tenets of clinical reasoning that can be taught from day 1 of medical school? [#MedEdChat](#) [#meded](#)



CReME [@UK_CReMEan hour ago](#)

RT [@DrAndrewBaldwin](#): [@MedEdChat](#) Think big picture then focus (echoing anchor bias avoid) and dual processing - teach that to understand mor...



CReme [@UK_CReMEan hour ago](#)

RT [@Alliance4ClinEd](#): T2 I like this article as it could be used from day one with [#medstudents](#) <https://t.co/tGURspXDu8> [#mededchat](#)



Rhea Liang [@LiangRheaan hour ago](#)

RT [@myheroistrane](#): Clinical reasoning is built on a foundation of critical thinking, which is fostered by 5 habits of mind: 1) curiosity 2...