

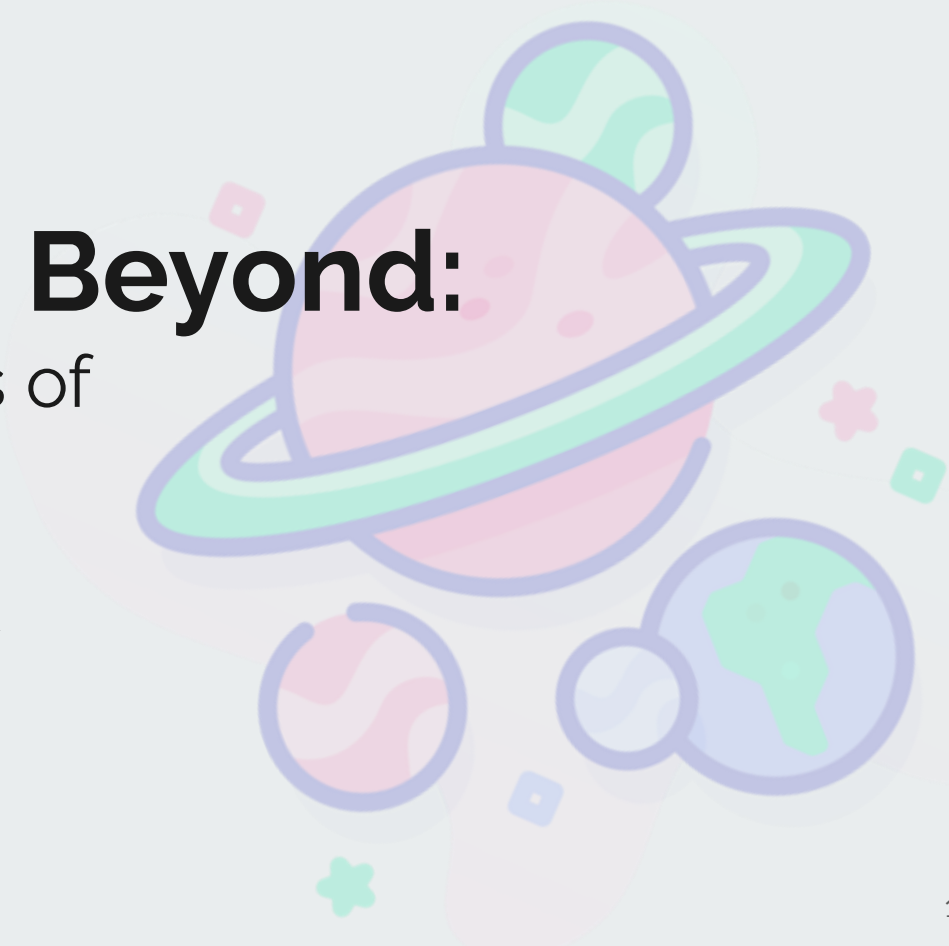


CSHP Banff Seminar 2025

To Infinity and Beyond:

Navigating the Cosmos of Clinical Questioning

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Speaker Disclosure

- Presenter's Name: Daniel Leung
- I have no current or past relationships with commercial entities
- I have received one night of accommodation, conference registration, and reimbursement of transportation to and from the conference from CSHP Banff Seminar for this learning activity



Commercial Disclosure

- This program has received no financial or in-kind support from any commercial or other organization



Land Acknowledgement



- We wish to honour and acknowledge that the land on which we gather is on Treaty 6, 7, and 8 territories.
- We acknowledge and respect the histories, language, and diverse cultures of the First Nations, Métis, and all First Peoples that have taken care of this land.



Learning Objectives / Outline

- Describe effective methods for clinical questioning and their role in pharmacy education.
- Describe strategies to create learner safety when using questions to assess knowledge, skills, and attitudes.
- Share an example of clinical questioning that supported student learning.

AUDIENCE POLL



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AUDIENCE POLL



How many formal learners (students/residents) have you precepted?



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Scenario

- *You are a staff pharmacist on the general internal medicine team.*
- *It's your first time precepting and you have a 4th-year student, Andy, with you for the last couple of weeks.*
- *He is an engaged learner, and he has been able to manage some straightforward DRPs that he has seen multiple times before.*



Scenario

- *However, you notice he struggles with independently identifying and managing new DRPs he hasn't seen before, even when you tell him what to look for.*
- *When you ask him questions about his care plans, he doesn't seem able to "connect the dots" and requires a lot of support.*
- *He especially has difficulty with deciding the optimal therapy to recommend and what to monitor for.*



Scenario

- *You begin to wonder,*
*"How do I help build Andy's **patient care process** so that he can be prepared to handle whatever DRPs come his way?"*



AUDIENCE POLL



How comfortable do you feel providing effective questioning to learners?



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Effective Questioning

TAKE HOME POINTS



Effective Questioning

- Be **curious**
- Be **adaptable**
- Be **patient**

AUDIENCE POLL



What is the most important role in clinical questioning?



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Role of Clinical Questioning in Education

- Uncover and explore the learner's **knowledge/skill gaps**
- **Assess** the learner's understanding
- Develop clinical reasoning skills ("**adaptive expertise**")
- Assist learners to accomplish goals beyond their current capacity via "**scaffolding**"

Adaptive vs. Routine Expertise

Adaptive Expertise

- Conceptual knowledge
- “Knowing WHY”
- Useful for novel tasks; slow



Routine Expertise

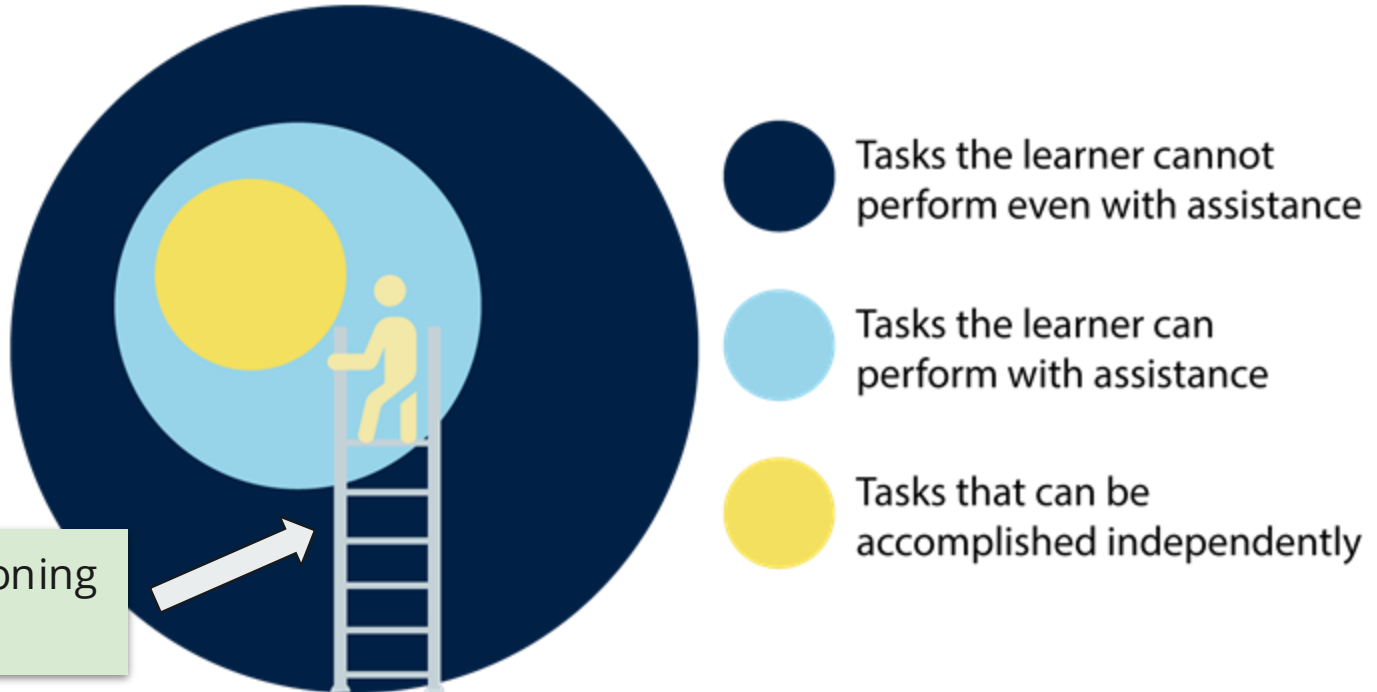
- Procedural knowledge
- “Knowing HOW”
- Useful for routine tasks; quick



Both are important and have their roles, but **effective questioning helps to develop a learner's adaptive expertise**



“Scaffolding” & the Zone of Proximal Development





Psychological Safety

- An environment where learners

*"...sense interpersonal **trust**, enjoy mutual **respect**, feel **valued**, and are **comfortable** being themselves because the threats of humiliation and hostility are minimized."*

Psychologically
Safe
Environment



Effective
Probing
Questions



Learners identify their own
knowledge gaps and are
motivated to learn

Psychological Safety

- Psychological safety does NOT mean
 - accepting substandard performance
 - coddling the learner
- Balance letting the learner show what they know vs. challenging their reasoning skills



Psychological Safety - How to Create It

Develop an “educational alliance”

- Be explicit about intent of questioning
- Reduce the power gap (model a growth mindset)
- Use “I” language instead of “you”
- Check for their thoughts after giving feedback
- Do not interrupt - allow the learner to speak fully
- Consider the environment for the type of feedback



Methods of Effective Clinical Questioning



AUDIENCE POLL



What makes a clinical question effective?



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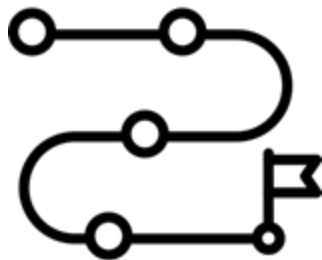
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Effective Clinical Questioning

Effective scaffolding requires two components:

- The learning objective
- The learner's current level of knowledge



Ask **CLEAR** questions:

1. Know the **purpose** of your question (i.e., what is the teaching point?)
2. Determine the learner's **baseline knowledge**
3. Ask questions to **guide them** to the teaching point

Effective Clinical Questioning Strategies



- **Be curious**
- **Be adaptable**
- **Be patient**

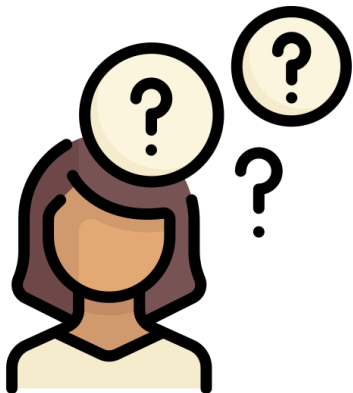


Be Curious

Elaboration

- Ask “WHY”, “WHY NOT”, “WHAT IF”, “HOW” questions

Use advocacy-inquiry method



Advocacy-Inquiry:

1. State an objective observation
(advocacy)
2. Ask a genuinely curious question about contributing factors or rationale
(inquiry)



Be Curious

"I noticed you had recommended apixaban for this patient's AFib, what led you to decide on that option?"

- *"Why not rivaroxaban or edoxaban?"*
- *"What if this patient was also on phenytoin for a seizure disorder?"*
- *"How would your recommendation change if they were on dialysis?"*

Be Curious

How NOT to respond to a poor answer:





Be Curious

CAUTIONS:

- Avoid the “toddler syndrome” → too many “why” questions can be frustrating
- Avoid higher-level questions if learner is unable to answer lower-level questions → see next section
- Time and labour intensive → use judiciously

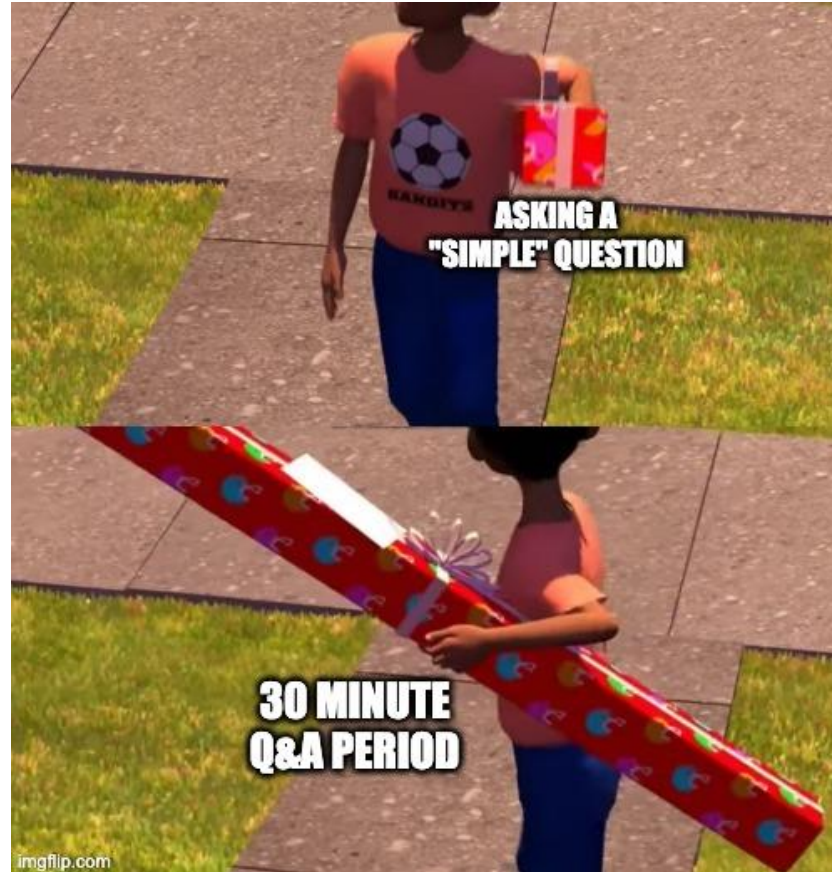


Be Curious





Be Curious



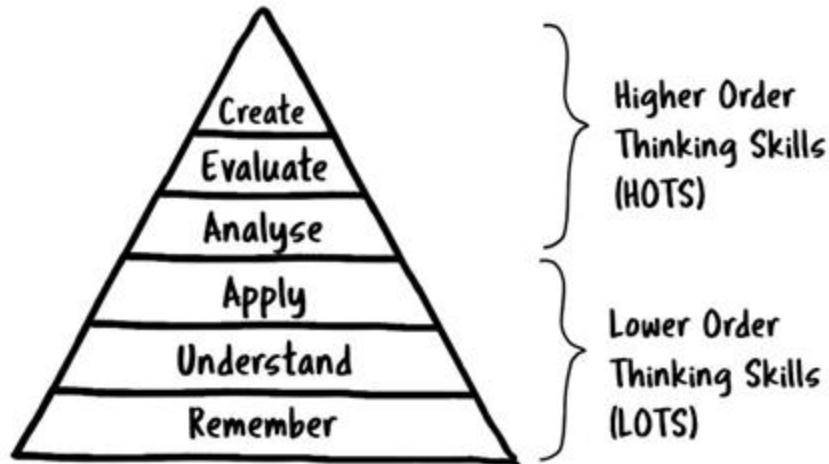
Be Adaptable

Individualize questions to the learner's needs and responses

Modify the cognitive level of the question (e.g., Bloom's taxonomy)

- Establish lower-order thinking skills → expand to higher-order
- Learners can be at different levels for different tasks/concepts

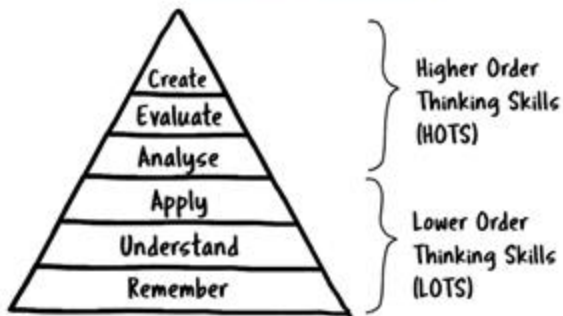
Bloom's Taxonomy



Be Adaptable

***“Meet the learner
where they are”***

Bloom's Taxonomy



Hierarchical Questioning:

- As learners become more proficient, move towards higher-order thinking questions
- If the learner is struggling, ask more lower-order thinking questions then build on them



Be Adaptable

E.g., Andy has a patient on metoprolol and diltiazem for AFib rate control is admitted for syncope due to bradycardia

01 *Creating*

"How would you manage this patient's antihypertensives?"

02 *Evaluating*

03 *Analyzing*

04 *Applying*

05 *Understanding*

06 *Remembering*



Be Adaptable

E.g., Andy has a patient on metoprolol and diltiazem for AFib rate control is admitted for syncope due to bradycardia

01	Creating	<i>"How would you manage this patient's antihypertensives?"</i>
02	Evaluating	<i>"What are the benefits and risks of using metoprolol and diltiazem together?"</i>
03	Analyzing	<i>"When would you use metoprolol over diltiazem?"</i>
04	Applying	<i>"What would happen if these medications were combined?"</i>
05	Understanding	<i>"What is the mechanism of action of metoprolol and diltiazem?"</i>
06	Remembering	<i>"What classes of medication are metoprolol and diltiazem?"</i>

Be Adaptable

Encourage the learner to answer their own questions

- Use appropriate resources

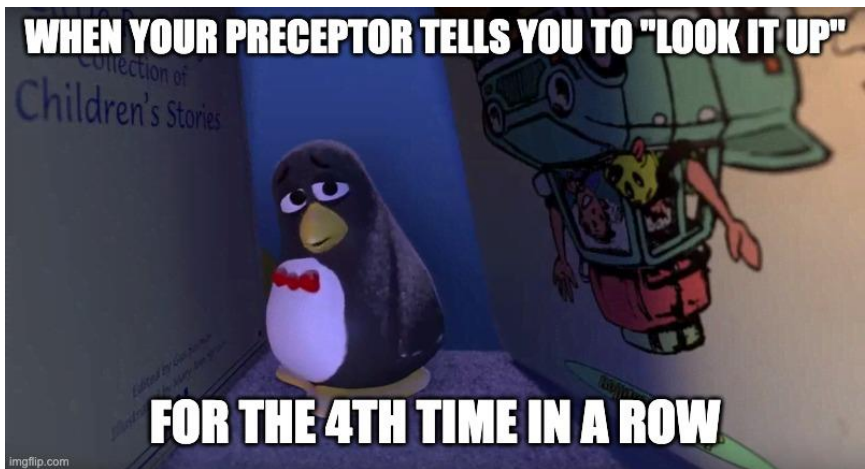


“Excellent question - if I weren’t here, how would you go about answering that?”

Be Adaptable

CAUTIONS with overuse/misuse:

- Can demotivate students from asking further questions (i.e., if time intensive or unable to find answers)
- Can decrease preceptor "credibility"
 - i.e., "they don't know how to answer my questions"





The Proficient Learner

1. Create more **desirable difficulties**

- Ask more higher-order thinking / "what if" questions
- Include controversial areas OR areas with less supporting literature
 - e.g., "what if this patient with AFib has had multiple strokes on different DOACs, how would that change your antithrombotic management?"

2. Incorporate more **primary literature** appraisal

- Investigate and incorporate the supporting primary literature for their plan

3. Intensify the **practice conditions** to increase performance

- Increase patient workload/complexity and independence
- Have a shorter deadline for patient workup

Be Patient



Allow uninterrupted "think-time"

- Wait at least 3 seconds after asking a question



Allow learners to say "I don't know"

- Encourage them to make an "educated guess" beginning with what they do know and walk through their thought process



Asking effective questions take time

- E.g., asking further questions, rephrasing, providing explanations

What is NOT Effective Questioning





“Pimping”

AKA “toxic quizzing” as the term “pimping” has inherent hierarchical, misogynistic, and exploitative connotations

*“...the practice of asking trainees questions in a manner that establishes and reinforces a dominant intellectual **hierarchy** and stresses the trainee.”*

*“Pimping aims to induce **shame, humiliation, or distress**, and often involves asking difficult questions (sometimes in rapid succession) about **recall of facts** rather than clinical reasoning”*

AUDIENCE POLL



If you have experienced "toxic quizzing", did it help develop your knowledge & skills?



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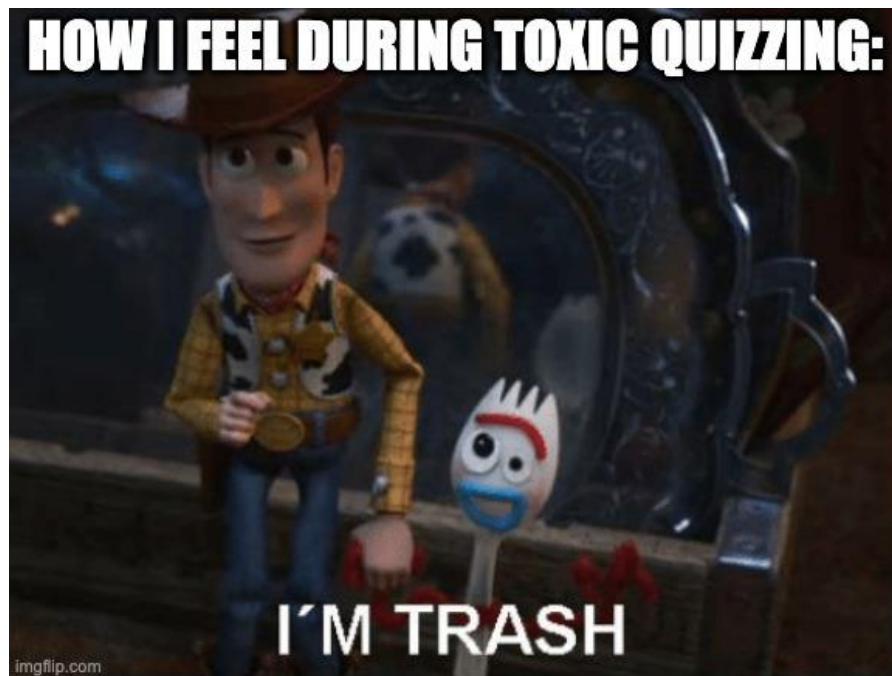


“Pimping” aka “Toxic Quizzing”

- Proponents state these **high-stress, rapid-fire questions** will ensure retention of key concepts (i.e., a "vaccine" that will prepare them for the future)
 - Does NOT increase learner retention/recall
 - Learner tends to remember the humiliation and shame associated with that experience, rather than the information
 - Reduces desire to ask further questions
- Focuses on the **wrong type** of questions
 - Frequently esoteric questions that rely on rote memorization

“Pimping” aka “Toxic Quizzing” – Story Time

- Benazepril
- Captopril
- Cilazapril
- Enalapril
- Fosinopril
- Lisinopril
- Perindopril
- Quinapril
- Ramipril
- Trandolapril





Example of Effective Questioning

Scenario: Andy's patient is on ramipril and was recently started on eplerenone for heart failure.

Preceptor (P): I noticed you only had hypotension listed in your monitoring plan, which is a good thing to watch for with these meds. What other parameters would you want to monitor for?

- **Advocacy-inquiry method to gain an understanding of the learner's rationale of their monitoring plan**

Andy (A): I'm not sure.



Example of Effective Questioning

P: Other than hypotension, what are some of the risks of using ramipril and eplerenone together?

- **Higher-order level question (Evaluating level)**

A: I don't know – maybe hypokalemia?

P: Ok, that's a good thought about the electrolytes – what led you to think that?

- **Advocacy-inquiry to probe for rationale about their answer**



Example of Effective Questioning

A: I'm not sure, I remember there being something about electrolytes with eplerenone, but I don't really recall.

- **Potential knowledge gap identified but we need to determine its extent**

P: Ok, let's work through this together – how does eplerenone work?

- **Hierarchical questioning → reduce the complexity of questions to determine the knowledge gap boundary (Understanding level)**



Example of Effective Questioning

A: I'm not quite sure.

P: What class of medication is eplerenone?

- **Further reduction in question complexity (Remembering level)**

A: It is a mineralocorticoid receptor antagonist.



Example of Effective Questioning

P: Correct, how familiar are you with the effects of blocking the mineralocorticoid receptor?

A: I'm not sure.

- **The full knowledge gap has been identified (i.e., MoA of eplerenone)**

P: That's ok, mechanisms of action can be difficult to recall. Where would you find this information?

- **Provide encouragement and support the appropriate use of drug information resources**



Example of Effective Questioning

A: I guess I could look in Lexi-Drug.

P: Sure, let me know what you find.

- **Encourage the learner to find the information themselves**

A: Ok, I found out it blocks the effect of aldosterone in the nephron.

P: Exactly, and what effects would we see with blocking aldosterone there?

A: I'm not sure, it doesn't say.

- **Another knowledge gap about the physiology of aldosterone (Remembering level)**



Example of Effective Questioning

P: Let's think about what the usual effects of aldosterone are in the kidneys. Normally, it will increase sodium reabsorption and increase potassium excretion in the urine. So, if we block this effect with a medication, what would we expect to see with the sodium and potassium?

- **Provides some support to move teaching point along**

A: Less sodium reabsorption and less potassium excretion?

Example of Effective Questioning

P: Good, and if we have less potassium excreted in the urine, then where does the potassium go?

- Assist in having the learner "connect the dots" themselves

A: Oh, it gets reabsorbed and increases the serum potassium!

P: Correct, now combine that with ramipril which also blocks the effect of aldosterone and what adverse effect would we likely see?

A: Hyperkalemia!



Example of Effective Questioning

P: Exactly! It's important to understand a medication's mechanism of action and how it works within the body. This can help us determine what to monitor for and help anticipate drug interactions.

- **Explain the rationale behind the questioning and the teaching point**



Example of Effective Questioning

This method is effective for 2 reasons:

- 1. Improves learner's retention and recall due to active and effortful learning.**
- 2. Develops adaptive expertise.**



AUDIENCE Q & A



...to be followed by Take Home Points

TAKE HOME POINTS



Effective Questioning



- Be **curious** – ask “why...”, “why not...”, “what if...”
- Be **adaptable** – individualize to the learner’s needs & responses
- Be **patient** – allow “think-time” after questions



THANK YOU!

***"Good coaching is about
asking the right questions,
not telling the right answers"***

For comments, questions, or feedback:
dsleung@ualberta.ca





Preceptor Development Conference



WHEN: Saturday, May 3, 2025

- 10:30am - 3:30pm: Sessions
- 3:30pm - 4:30pm: Networking & Snacks

WHERE: Edmonton Clinic Health Academy (ECHA), Edmonton, Alberta

HOW: Online registration (\$25) open until April 18: uab.ca/PDC



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the survey today

PRECEPTOR ENGAGEMENT SURVEY

We would love your feedback!

We are so grateful to have you as part of our program and are looking for some feedback to help us better understand preceptor needs regarding appreciation and development! The survey is anonymous and we look forward to your feedback.





REFERENCES

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