

i The Alliance for Academic Internal Medicine Faculty Development Toolbox provides peer-reviewed tools to enhance faculty written qualitative feedback and assessment of learners.

For a complete list of resources, visit www.im.org/qualfeedback

Title: Society to Improve Diagnosis in Medicine – Assessment of Reasoning Tool

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The ART was developed by the Assessment Subcommittee of Education Committee of the Society to Improve Diagnosis in Medicine:

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Brief Description: The Society to Improve Diagnosis in Medicine – Assessment of Reasoning Tool (ART), user's guide, and faculty development videos are intended to help clinical teachers assess student and resident oral presentations for clinical reasoning content and provide structure for a guided feedback conversation.

Background of SIDM Assessment of Reasoning Tool:

The Society to Improve Diagnosis in Medicine Education Committee developed an easy-to-use [tool](#) that clinical teachers can use to assess the clinical reasoning conveyed during a learner's oral presentation. The formative feedback conversation that follows is a key opportunity for teachers and learners to discuss clinical reasoning and diagnostic decision-making and improve the overall effectiveness of the teaching interaction.

The ART is a one-page tool that identifies key domains of the clinical reasoning process: data gathering, problem representation, prioritization of the differential diagnosis, diagnostic evaluation, and reflection on the diagnostic process. Teachers can use the ART to reinforce strengths and give learners a detailed assessment of their clinical reasoning with specific feedback for improvement.

The SIDM Education Committee developed a schematic [user's guide](#) and five short, engaging faculty development [videos](#). Each video highlights one of the five domains covered in the ART and gives examples of high- and low-performing learners to help guide and standardize faculty assessments of learners. These videos review important clinical reasoning concepts and equip faculty members who may not feel prepared to provide specific feedback about clinical reasoning.

Learning Objectives

- Describe 5 domains of clinical reasoning outlined in the ART
- Differentiate a high and low performer in each of the domains of the ART
- Provide structured and specific feedback to a learner about the clinical reasoning conveyed in her or his oral presentation
- Name a specific strategy for improving learners’ clinical reasoning abilities

Equipment Required: AV equipment to display on-line videos

Setting: Faculty development session

Total preparation time: For session instructor, 1 hour

Total time commitment for learner: 90 minute in-person session (learner = faculty member attending the session)

Ideal audience size: 5-10 faculty members

Is activity a one-time activity or a series of activities? -- one time, although a follow-up session after the ART has been used by faculty members would be beneficial

Intended Faculty Audience:

• Community Faculty	• University Faculty
• Volunteer Faculty	• Hospitalist
• General Internist	• Specialist
• New Faculty	• Experienced Faculty
• Outpatient Faculty	• Inpatient Faculty

Comments: The ART is intended for any faculty member who analyzes oral presentations for clinical reasoning and decision making.

Delivery Type:

- Didactic training
- Self-directed
- One-on-one coaching
- Other (please describe): _____

PREPARATION

Desired Background/Qualifications for Instructor or Facilitator:

A facilitator of a faculty development session that introduces the ART and provides practice opportunities to use the ART should have a basic understanding of clinical reasoning concepts including hypothesis-driven data collection, problem representation, illness scripts, prioritized differential diagnosis, high-value testing, and metacognition.

A faculty developer can learn about these concepts from resources in the [SIDM Clinical Reasoning Toolkit](#). Additional training and experience with cases of diagnostic error can be sought from the [ACP-SIDM Getting It Right](#) virtual patient cases to improve diagnosis.

In addition, the faculty developer leading the session should be skilled in small group facilitation techniques and the delivery of real-time feedback to faculty participants.

Preparatory Steps

Preparations and Considerations	Description
1.	There are no required preparatory activities for this workshop for the faculty attendees.
2.	An optional activity would be to review the resources in the SIDM Clinical Reasoning Toolkit

ACTIVITY

Didactic Training

Steps	Description	Estimated Time	Slide Number
1	Welcome participants and introduce clinical reasoning and diagnostic error as a quality and safety issue	5 minutes	
2	Introduce ART and review 5 clinical reasoning concepts	10 minutes	
3	Hypothesis directed data collection – review ART anchors, watch video, and then role play (in pairs) providing verbal feedback to learner.	15 minutes	Video #1
4	Problem representation – same procedure	10 minutes	Video #2
5	Prioritized differential diagnosis – same procedure	10 minutes	Video #3
6	High value testing – same procedure	10 minutes	Video #4
7	Metacognition – same procedure	10 minutes	Video #5
8	Conclusion – each attendee provides reflection and verbal commitment on where and how they will use the ART to facilitate a feedback conversation on clinical reasoning	20 minutes	

Self-Directed

Steps	Description	Estimated Time
1	Faculty member reads overview of ART and user's guide at www.improvediagnosis.org/page/art	5 minutes
2	Faculty member studies ART's 5 domains and anchors	5 minutes

3	Review video #1 – Hypothesis directed data collection	5 minutes
4	Review video #2 – Problem representation	5 minutes
5	Review video #3 – Prioritized differential diagnosis	5 minutes
6	Review video #4 – High-value testing	5 minutes
7	Review video #5 – Metacognition	5 minutes
8	Plan next teaching encounter and incorporation of ART to facilitate a feedback conversation on clinical reasoning	5 minutes

One-on-one coaching

Step	Description	Estimated Time
1	A one-on-one coaching session between two faculty members would follow a similar approach as Didactic Training (above), although given the customized nature of the meeting, specific aspects of the ART could be emphasized selectively.	
2	Alternatively, a faculty coach could observe the teaching interaction between a faculty member and learner, using the ART to emphasize the teacher's strengths and areas for improvement.	

FOLLOW UP

Didactic Training

Steps	Description	Estimated Time
Evaluation and Assessment	A fully developed faculty development program will ideally include workplace-based assessment of faculty teachers using the ART during clinical teaching sessions. This could be part of a broader faculty coaching program.	
Dissemination of Results		

EVALUATION AND OUTCOMES

Source	Description
	A validation study of the tool is currently being conducted by Satid Thammasitboon, MD, MHPE, Associate Professor of Pediatrics at Baylor

	College of Medicine and chairman of the SIDM Education Committee's Subcommittee on Assessment.
	In addition to this study, SIDM faculty with expertise in clinical reasoning education have employed the ART as a teaching tool at their institutions. Faculty and learners identified the ART as effective at improving assessment and feedback.

FURTHER STUDY/REFERENCES:

Ilgen JS, Humbert AJ, Kuhn G, Hansen ML, Norman GR, Eva KW, Charlin B, Sherbino J. Assessing diagnostic reasoning: a consensus statement summarizing theory, practice, and future needs. *Acad Emerg Med*. 2012 Dec;19(12):1454-61.