

CATALYST THE CONTINUOUS ASSESSMENT PLATFORM FOR PHYSICIAN LEARNING

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NBOME
NATIONAL BOARD OF OSTEOPATHIC MEDICAL EXAMINERS

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INTRODUCTION TO CATALYST



CATALYST - A Continuous Assessment and Learning Platform

- Accessible on smartphones/tablets
- Email notification of new questions
- Short questions fit busy schedules
- Immediate performance feedback
- Directed to improvement resources
- Content determined by Board/Client
- Exploring adaptive learning engines

The screenshot displays the NBOME Learning Center interface. At the top, there's a navigation bar with 'futs' logo, 'Free Tutorials', 'Courses', 'eBooks', 'Jobs', and 'Blog'. A 'Free Trial' button and 'Create Account' link are visible. The user is logged in as 'Abe Learner'. The main content area shows a 'QUIZ NAVIGATION' section with 'Question 1' selected. The question text describes a 24-year-old male with a 7-day history of anorexia, malaise, and vague abdominal pain. Below the text are two tables: 'Vital signs are:' and 'Laboratory evaluation reveals:'. The vital signs table shows Temperature (38.0°C), Blood pressure (118/72 mmHg), Heart rate (88/min), and Respiratory rate (20/min). The lab results table shows Aspartate aminotransferase (460 U/L), Alanine aminotransferase (522 U/L), Total bilirubin (3.8 mg/dL), Direct bilirubin (1.8 mg/dL), and Amylase (52 U/L). The interface also includes a 'QUIZ NAVIGATION' section and a 'Question 1' header.

Vital signs are:

Temperature	38.0°C (100.4°F)
Blood pressure	118/72 mmHg
Heart rate	88/min
Respiratory rate	20/min

Laboratory evaluation reveals:

Test	Patient's Value	Reference Range
Aspartate aminotransferase	460 U/L	< 35 U/L
Alanine aminotransferase	522 U/L	<45 U/L
Total bilirubin	3.8 mg/dL	0.3-1.2 mg/dL
Direct bilirubin	1.8 mg/dL	0.0-0.2 mg/dL
Amylase	52 U/L	28-100 U/L

The most likely diagnosis is



Learning can be accelerated by:

- Providing immediate feedback
- Providing spaced repetition
- Interleaving topics
- Asking learners to retrieve previous learning
- Spacing questions over time

1)References:

2)Roediger HL & Karpicke JD. Test-Enhanced Learning: Taking Memory Tests Improves Long-Term Retention. *Psychol Sci* 2006; 17: 249 – 255.

3)Brown PC, Roediger HL, & McDaniel MA. *Make it Stick: The Science of Successful Learning*. Cambridge MA: Harvard University Press, 2014

4)Moulton CA, Dubrowski A, MacRae H, Graham B, Grober E, & Reznick R. Teaching Surgical Skills: What kind of Practice Makes Perfect? A Randomized, Controlled Trial. *Ann Surg* 2006; 244 (3), 400- 409.



Pilots Completed to Date:

- Staff Education (BCP) – 87 Employees
- SOAP Note Rater Training – 45 Physicians
- AOBIM – 69 Internists
- AOBP – 38 Pediatricians
- AOBOG – 108 Ob/Gyns



NBOME Resources for AOA's OCC

C2: Lifelong Learning/ CME

- Self-assessments – pre and post tests for on-line or traditional CME courses or modules
- NBOME's **Learning Center**, CME

C3: Cognitive Assessment

- Secure, proctored examinations
- Test development: Item development, computerized item banking, customer service/administrative support
- Customized score reporting
- Psychometric consulting
- **CATALYST**- continuous assessment program

C4: Practice Performance Assessment and Improvement

- Performance Testing and Clinical Skills assessments
- **OPAIM** practice assessment and improvement program



Goals for AOBIM, AOBP & ABOBOG Pilots:

- Gather data on Participants' perceptions of the face validity of the CATALYST assessment.
- Collect Participants' feedback on the assessment process (convenience, relevance, usefulness, comparison to traditional secure MCQ examination).
- Collect initial data in preparation for associating (correlating) Participants' performance on CATALYST to traditional certification/recertification examination performance as an indication of learning.

CATALYST FINAL EVALUATION SURVEY SUMMARY OF RESPONSES



Evaluation Question	AOBIM		AOBP	
	Final Survey Strongly Agree n (%)	Final Survey Agree n (%)	Final Survey Strongly Agree n (%)	Final Survey Agree n (%)
	Strongly Agree % + Agree %		Strongly Agree % + Agree %	
The process for answering the questions was convenient.	36 (69%)	16 (31%)	25 (69%)	11 (31%)
	52 (100%)		36 (100%)	
....rather answer a fixed number of CATALYST questions periodically ... than take the traditional high-stakes certification/recertification exam	42 (81%)	8 (15%)	31 (86%)	5 (14%)
	50 (96%)		36 (100%)	
Participation in the CATALYST program will help me provide better care to my patients.	30 (58%)	15 (29%)	19 (53%)	15 (42%)
	45 (87%)		34 (94%)	
Participation in the CATALYST program will help me stay current in my specialty.	34 (65%)	18 (35%)	23 (64%)	13 (36%)
	52 (100%)		36 (100%)	
I would recommend CATALYST to others in my specialty.	34 (65%)	18 (35%)	25 (69%)	11 (31%)
	52 (100%)		36 (100%)	

CATALYST – AOBOG



Evaluation Question	Final Survey Strongly Agree n (%)	Final Survey Agree n (%)
	Strongly Agree % + Agree %	
The process for answering the questions was convenient.	78 (72%)	26 (24%)
104 (96%)		
....rather answer a fixed number of CATALYST questions periodically ... than take the traditional high-stakes certification/recertification exam	101 (93.5%)	6 (5.6%)
107 (99.1%)		
Participation in the CATALYST program will help me provide better care to my patients.	73 (68%)	26 (24%)
99 (92%)		
Participation in the CATALYST program will help me stay current in my specialty.	78 (72%)	21 (19%)
99 (92%)		
I would recommend CATALYST to others in my specialty.	79 (73%)	25 (23%)
104 (96%)		



AOBIM, AOBP and AOBOG Pilot Take Aways:

- Boards provided items; NBOME wrote rationales.
- Feedback from both pilots was incredibly positive
 - CATALYST would help provide better care to patients (**92+%**)
 - Would recommend CATALYST to my colleagues (**96+%**)
 - CATALYST is convenient to use (**92+%**)
- Will analyze AOBOG pilot results with 2018 recertification exams to determine correlations.
- AOBIM pilot revealed a statistically significant positive correlation with recent Certification Exam



What did you like about CATALYST?

I thought the format of CATALYST is an excellent idea. I enjoyed doing the questions each week and it was readily accessible. I think it is an excellent alternative to the traditional MOC requirements.

It was easy to use and kept my medical knowledge up-to-date over a long period of time rather than cramming for an exam.

The material was clinically significant.

The ease to answer questions was extremely helpful with my busy work schedule. Allowed me to answer questions when I had free time quickly and review at that time or later.

The questions were diverse and informative.



What did you like about CATALYST?

Low time commitment. I MUCH prefer the idea of regular questions and information to keep current in pediatrics as opposed to the stress and time commitment of studying and traveling for a high-stakes exam. This is a better way to learn, and would be much less interruption to my practice/income (no need to take off work for study or the test).

I enjoyed the ease of use and that with less than 5 minutes weekly, I was able to stay current on topics that I don't see daily within my specialty.

I knew that 2 questions would be coming every Monday and it was easy to find the 5 minutes of peace and quiet to get them done.

Great way to test knowledge and stay current.



What did you like about CATALYST?

...It helped keep me up to date with the most current recommendations.

Very convenient and the questions were relevant to day-to-day practice. I hope this will be an option in place of the standardized recertification exam.

...The format is definitely more relevant to the life of a practicing physician...I must say that this is a very rational and practical solution for an important competency maintenance/development plan. Well done!

Great learning tool!

The ease of using CATALYST was great. The referenced bulletins helped to clarify the answer to questions in which I answered incorrectly.



COMSAE BETA Study:

- Items were secured from two COMSAE exams
- Rationales and references developed by our NF
- Plan for Study
 - Invited **6,400** students who are eligible for Level 2CE
 - Students will receive one item a day for **70** days
 - First item was released on March 12th and will end in May
 - Students pay \$12 to participate to cover basic cost
- To date over **400** students are participating
- We will analyze student results with 2018 L2CE exams to determine correlations.



COMSAE BETA Study Demographics:

- 422 students had registered
- 380 (93%) have begun answering questions
- ~80% correct rate
- Students come from 35 COMs (Liberty, Michigan, WVSOM & AT Still)
- Students come from 41 states (NC, NJ, MI, TX, WV, and FL)
- Of students responding, 43% female & 57% male



QUESTIONS?



THANK YOU!