



**National Registry of
Emergency Medical Technicians®**
THE NATION'S EMS CERTIFICATION™

Registry Update Including Changes to the ALS Examinations

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Chief Science Officer



Who am I

- Professional Test Developer – Psychometrician
- PhD in Educational Psychology, measurement and evaluation
- MBA, leadership and operations
- Institute of Credentialing Excellence – Certified Credentialing Professional
- Former teacher, item writer, and Marine
- Consumer of 911 services



Disclosures

- National Registry of Emergency Medical Technicians (National Registry), Chief Science Officer
- Commission on Accreditation of Allied Health Education Programs (CAAHEP), commissioner
- National Commission on Certifying Agencies (NCCA) Guidelines Revision Main Committee, member
- American Association for the Advancement of Science (AAAS), member
- National Conference for Measurement in Education (NCME), member
- Volunteer psychometric reviewer for the Accreditation Board for Specialty Nursing Certification (ABSNC)



Guidelines

- Ask questions as they occur to you
- Think about the concepts and how they might affect you
- The goal is to leave with a better understanding of the changes to the ALS Examinations, how the design process is being conducted, and where to find more information when you want it



Brief History Lesson

- 2017 -2018 National Registry conducts a listening campaign
- 2019 – New and Improved ALS practice analysis conducted
- 2020 – Board of Directors launches a major update to Registry systems (Strengthening the Core) and discusses how to better measure the knowledge, skills, and abilities based on the practice analysis
- 2021 – ALS Redesign process is launched
- 2022 – Design and implementation work
- 2023 (expected) – launch extended cognitive examination with clinical judgment domain



2019 ALS Practice Analysis Findings

- What changed?
- Behavioral issues
- Clinical Judgment
 - Leadership
 - Communications
- Clinical Judgment Model
- Methods and Implementation of the 2019 EMS Practice Analysis

<https://www.tandfonline.com/doi/full/10.1080/10903127.2020.1856985>



Clinical Judgment

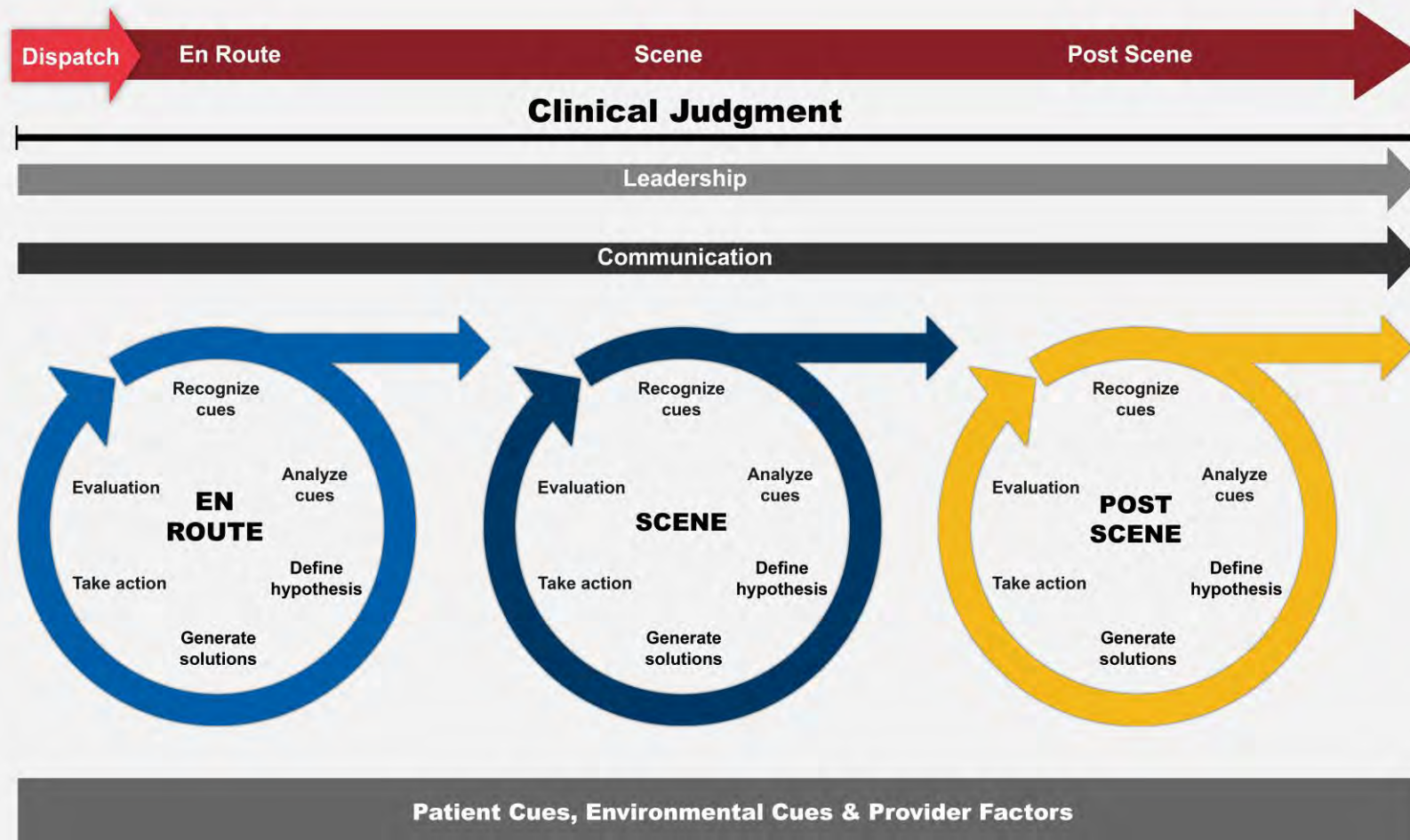
- “*Clinical reasoning*” is defined as a thought process a clinician uses to evaluate a problem. The conclusion of this thought process, or the choice made, is “*clinical decision-making*.” Finally, the overall process encompassing both clinical reasoning and clinical decision-making is represented by “*clinical judgment*.”
- A Proposed Theoretical Framework for Clinical Judgment in EMS
<https://www.tandfonline.com/doi/full/10.1080/10903127.2022.2048756>



Clinical Judgement Model



The paper, “A Framework for Clinical Judgement in EMS” authored by the Mihaiela R. Gugiu, PhD, Ashish R. Panchal, MD, PhD, Thomas E. Platt, EdD, and Kim Mckenna, PhD, MEd, BSN, NRP defines and explains the clinical judgement domain and how it works in EMS.





Examination Design Process

- Requirements
 - Valid, reliable, and legally defensible
 - Protect the public
 - Meet the needs of the EMS community
 - Cost effective
- Constraints
 - The Standards for Educational and Psychological Testing
 - The National Commission for Certifying Bodies (NCCA) accreditation guidelines



ALS redesign major components

1

Replacing the current portfolio requirement with an eligibility requirement.

2

Strengthening and Expanding the Cognitive Examination.

3

Sunsetting the Psychomotor Examination.

4

Communication and Community Involvement.



Community-Led Design Process

- Advantages
 - Realtime feedback
 - Authentic content
 - Stronger validity and legal defensibility
- Disadvantages
 - Slower
 - More expensive
 - Communication can be frustrating



ALS Redesign Expert Panel

Topics our panel has covered thus far

- ALS Redesign timeline
- Domain Level Feedback
- Professional Peer Organizations
- Sunsetting the psychomotor examination
- Retest Policy
- Clinical Judgment Framework Model



Curious how the conversation went?

You can read all the panel summary recaps and notes on our website at nremt.org/ALS-Redesign.

ALS Redesign Panel

The Registry wanted to ensure this project had input from many different areas of expertise. This multidisciplinary panel was created with one goal in mind, inclusivity and diversity of thought.

The members of ALS Redesign Expert Panel are:

Tom Platt, Chair	Jeff Anderson	Travis Baker	Amanda Bates
Paul Berlin	Nichole Bosson	Terrell Buckson	Carol Cunningham
Philip Dickison	Bryan Ericson	Bruce Evans	Dawn Felt
Art Hsieh	Ryan Kerr	Sahaj Khalsa	Jeffery Lindsey
Connie Mattera	Chris Mercer	Mike Miller	Kenneth Navarro
Todd Nicholson	Aarron Reinert	Ritu Sahni	Lindsey Simpson
Matt Zavadsky			



Continuing feedback (ad hoc panels)

- Item design
- Item scoring
- Examination design
- Examination scoring
- Examination administration (policies)
- Score reporting



Design Elements – Reading Level

- Focus on EMS content (not a reading test)
- Paramedic and AEMT are written to a 12th grade level
- Medical Terminology



Design Elements - Accommodations

- Compliant with ADA
- Formative Educational vs. Summative Certification
- Accommodations requests:
<https://www.nremt.org/Policies/Examination-Policies/ADA-Accommodations>



Design Elements – Best Practices

- Items referenced to EMS medical literature
- Pre-hospital Guidelines Consortium
- <http://prehospitalguidelines.org/>



Design Elements – Vendors

- Vendor Summit to be held in late summer/early fall 2022
- Provide information so publishers, software makers, and other EMS support organizations can develop tools to help prepare students and programs for the new test



Design Elements – Item Validation

- Written by EMS Clinicians, Educators, Medical Directors, and State Officials
- Referenced to EMS medical literature
- Edited by professional editor
- Reviewed by independent panel of EMS Clinicians, Educators, Medical Directors, and State Officials
- Tested before they are used for scoring



Design Elements – Adaptive Testing

- Basketball Court
- Provides better security and measurement
- Need to prepare students ahead of time



Design Elements - New Item Types

- Authentic content and situations
- Experience with multiple response
- Interactive

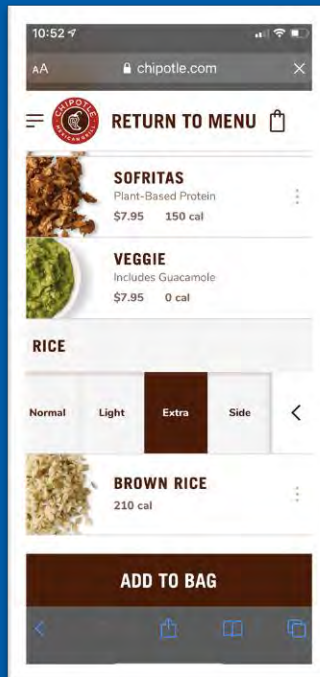


Technology Enhanced Items (TEIs)

Technology Enhanced Items reflect real life ... They are all around you in your everyday life.

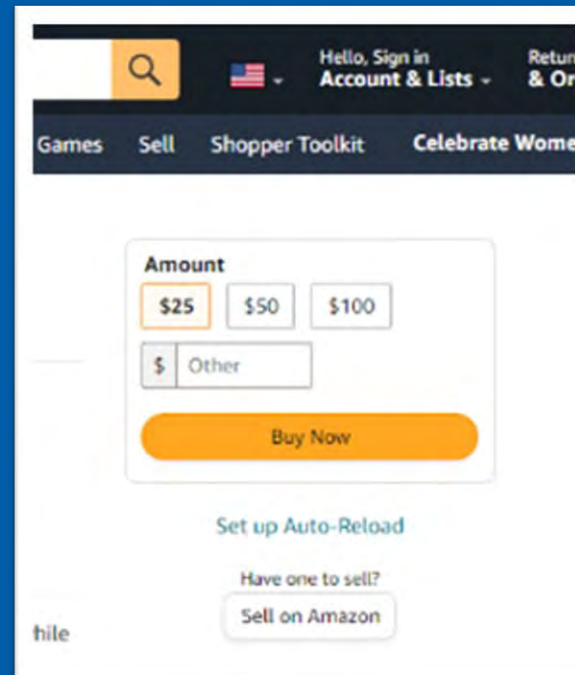
Ever order online
from Chipotle?

This is a TEI

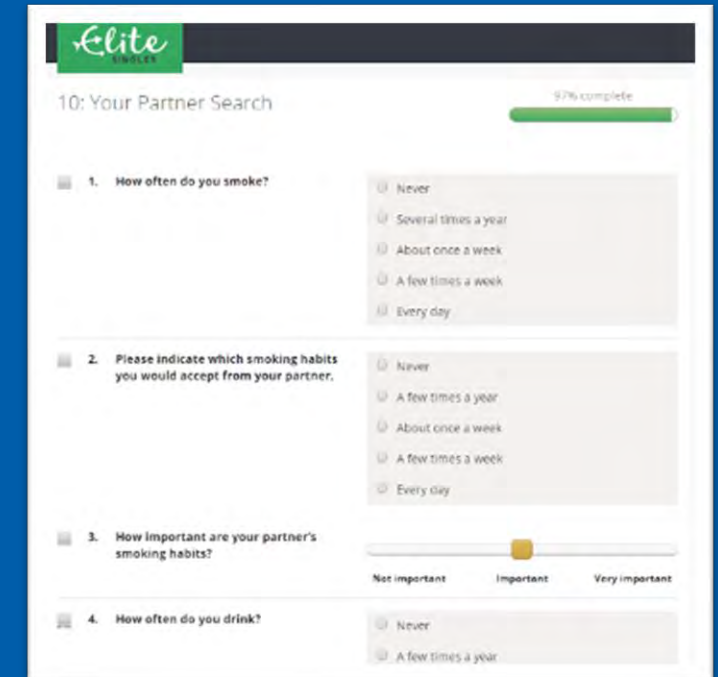


How about order from Amazon?

This example of a TEI that uses the digital number entry along with the potential function of highlighting and manipulating the text



This dating website example of a TEI uses the multiple-choice function as well as a interactive sliding scale function to acquire information from the use





Milestone Tracker

- Three of 12 milestones have been reached so far
- Leading with Transparency and leaning on community feedback and involvement along the way
- Next up is working with States to ensure legislation is not a barrier for adoption

ALS Redesign Milestones





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webpage!**