Purpose of this report

The purpose of this report is to provide feedback to the pediatric critical care medicine community regarding content areas of strength and weakness, information which may be useful for identifying potential gaps in knowledge and guiding the development of educational materials. Using data from the American Board of Pediatrics' (ABP) Maintenance of Certification Assessment for Pediatrics (MOCA-Peds), this report summarizes diplomate performance on the questions within each of the 48 content areas assessed in 2022.

MOCA-Peds content areas

In 2022, MOCA-Peds—Pediatric Critical Care Medicine consisted of questions from a total of 48 content areas, broken down as follows:

- 45 learning objectives¹ Each diplomate initially received one question from each of the 45 specific content areas drawn from the pediatric critical care medicine content outline.
- Three featured readings¹ Each diplomate also received two questions per featured reading (eg, clinical guidelines, journal articles) for a total of six featured reading questions.

A pool of questions was developed for each learning objective and for each featured reading. Questions were then drawn from the pool and administered to diplomates throughout 2022 according to the specifications described in the bulleted list above.

Understanding this report

This report provides a graphical summary of diplomate performance on each of the 48 content areas assessed in 2022. Within the graphic and in the example below, the point (•) reflects the average percent correct for all questions within that learning objective or featured reading. The bar (—) reflects the range of percent correct values for the questions within that learning objective or featured reading. More specifically, the bar's lower endpoint indicates the most difficult question (ie, answered correctly by the lowest percentage of diplomates) and the bar's upper endpoint indicates the easiest question (ie, answered correctly by the highest percentage of diplomates).



¹Each diplomate also received 15 "repeat" questions selected from their original subset of learning objective and featured reading questions. Performance on the repeat administrations is not included in this report.

A note of caution

Many factors (eg, specific content of the question, wording of the question, plausibility of the incorrect answers) can impact diplomate performance on any question. It is thus difficult to determine if poor performance on a single question, or small set of questions, within a given content area reflects a true gap in diplomate knowledge or if the question(s) associated with that content area were difficult for other reasons (or some combination of both). Collectively, the entire set of MOCA-Peds questions (across all content areas) constitutes a psychometrically valid assessment of the diplomate's overall level of knowledge. Performance within a given content area is based on fewer questions, however, and is therefore less useful for making inferences about diplomate knowledge in that specific content area.

It is important to note again that for security reasons, a pool of questions was developed for each content area so that each diplomate received a unique set of questions. In addition, the number of questions can vary from one content area to the next. In cases where a content area had a relatively large pool of questions, the number of diplomates who answered each question was reduced, which diminished the statistical precision of each question's percent correct value. In cases where a content area had a relatively small number of questions, each question was answered by a larger number of diplomates, but the overall breadth of the content being assessed within that content area was constrained, which limits the generalizability of the results.

In other words, MOCA-Peds was designed to assess individual diplomates with respect to their overall level of knowledge in pediatric critical care medicine. It was not designed to provide the pediatric community with diagnostic feedback pertaining to specific content areas within pediatric critical care medicine. The results within this report may be informative and useful for that secondary purpose, but they should be interpreted with a degree of caution.

Additional notes

- To protect the security of the content of the assessment, the questions themselves, along
 with information about the number of questions in the pool for any particular learning
 objective or featured reading, are not provided in this report.
- This report contains data aggregated across many diplomates participating in the MOCA-Peds program and cannot be used to make inferences or draw conclusions regarding any particular diplomate.

2022 Content Area Feedback Report Pediatric Critical Care Medicine

			Percent Correct			
	Learning Objective	0	25 — 	50	75 	100 ——
1.	Interpret measures of association and effect size in research.		-	•		
2.	Plan the management of metabolic disturbances in critical illness.			-	—	
3.	Know the emergent treatment options for intracranial hypertension.				•	_
4.	Interpret basic hemodynamics of cardiac catheterization.			-	•	_
5.	Understand and interpret mechanisms of tonicity.			_	•	
6.	Recognize the extrarenal manifestations of hemolytic–uremic syndrome.		· ·	_	•	
7.	Understand the factors that influence serum drug half–life.				•	_
8.	Understand the factors that influence volume of distribution.			_	→	
9.	Interpret clinical signs to guide prognosis after drowning.			-	-	_
10.	Know the available methods and associated principles for monitoring intracranial pressure.			_	-	
11.	Surviving sepsis campaign international guidelines for the management of septic shock and		:	:		
	sepsis-associated organ dysfunction in children (Featured Reading)				•	
12.	Recognize the clinical presentation of Graves disease.				•	_
13.	Appraise study methods and results for threats to their validity.				-	_
14.	Describe the differences in the infant airway and respiratory physiology and the consequent effects on		·	·		_
	airway management.				•	
15.	Plan the clinical management after suicide attempts.					
16.	Develop a differential diagnosis for a child with the new onset of neuromuscular weakness.				-	_
17.	Understand the mechanism for determining oxygen saturation of hemoglobin by pulse oximetry.				_	
18.	Understand the effects of pH on protein binding of drugs.		•	•	-	_
19.	Recognize anticholinergic overdose.				-	_
20.	Consensus recommendations for RBC transfusion practice in critically ill children from the Pediatric		•	•		_
	Critical Care Transfusion and Anemia Expertise Initiative (Featured Reading)			_	•	_
21.	· · · · · · · · · · · · · · · · · · ·		:	:	-	
22.	Understand the mechanism of normal neuromuscular transmission.		:	:	•	_
23.	Understand the indications for central venous catheterization.				-	
24.					-	_
25.	Understand principles of oxygen delivery in ECMO.				-	
26.	Develop a treatment plan for a child presenting with status epilepticus.		•		_	_
27.	Plan the management of life-threatening complications of malignancies.		:	:	-4	
28.	Diagnose portal hypertension.				-	
29.	<u> </u>		:	:	•	
30.	Describe when to perform chest compressions in a patient with ventricular fibrillation.				<u> </u>	
31.						
01.	filtration rate as it increases in severity.				-)
32.	Understand the factors that affect preload and afterload.		•	•		
33.	Understand the mechanism of action of loop diuretics and their effects on acid/base balance.		:	:	:	
34.	Understand the epidemiology of community–acquired and nosocomial sepsis in children.		:	:	: : <u>-</u>	
35.	Explain the changes in blood pH associated with acute versus chronic hypercapnia.		:	:		
36.	Clinical practice guideline: maintenance intravenous fluids in children (Featured Reading)		:	:		
37.	Understand the difference between assent and consent.			:		
38.	Know the signs and symptoms of professional burnout.		:	:		
39.	Understand the indications for various sedative agents to facilitate endotracheal intubation.					
40.	Describe the indications and uses for methods of noninvasive ventilatory support in a patient with					
40.	bronchiolitis, including high-flow oxygen via nasal cannula.					•
41.						
	Describe the appropriate treatment plan for primary or secondary adrenal insufficiency. Manage the common toxicities appointed with frequently utilized characterized to approximate approximate and the common toxicities appointed with frequently utilized characterized.					
42. 43.	Manage the common toxicities associated with frequently utilized chemotherapeutic agents. Know the effect of oxygenation and ventilation on cerebral blood flow following brain trauma					
	Know the effect of oxygenation and ventilation on cerebral blood flow following brain trauma.					
44.	Understand the appropriate clinical indications for continuous renal replacement therapy. People of the supplementation of the supplemen					-
45.	Recognize differences between withholding and withdrawing life–sustaining therapies.					
46.	Understand the treatment of corrosive ingestions (acid and alkali).					•
47.	Know the risk factors for delirium in the critically ill child.					
48.	Know the definition and components of medical malpractice.					•