

# USMLE Score Interpretation Guidelines\*

## *Description of Examinations*

Step 1 assesses whether the examinee understands and can apply important concepts of the sciences basic to the practice of medicine, with special emphasis on principles and mechanisms underlying health, disease, and modes of therapy. Step 1 ensures mastery of not only the sciences that provide a foundation for the safe and competent practice of medicine in the present, but also the scientific principles required for the maintenance of competence through lifelong learning.

Step 2 Clinical Knowledge (CK) assesses whether the examinee can apply medical knowledge, skills, and understanding of clinical science essential for the provision of patient care under supervision and includes emphasis on health promotion and disease prevention. Step 2 ensures that due attention is devoted to principles of clinical sciences and basic patient-centered skills that provide the foundation for the safe and competent practice of medicine.

Step 3 assesses whether the examinee can apply medical knowledge and understanding of biomedical and clinical science essential for the unsupervised practice of medicine, with emphasis on patient management in ambulatory settings. The inclusion of Step 3 in the USMLE sequence of licensing examinations ensures that attention is devoted to the importance of assessing the knowledge and skills of physicians who are assuming independent responsibility for providing general medical care to patients.

## *Understanding Your Score*

Reported scores for Step 1, Step 2 CK, and Step 3 range from 1 to 300. Small differences in difficulty across forms and years are adjusted for using statistical procedures; thus, scores for a given Step are comparable across years and across forms. However, it is important to note that all USMLE examinations evolve over time in terms of test content, and that examinations taken at two substantially different points in time may vary somewhat in terms of inclusion or emphasis of certain content areas. USMLE stakeholders should avoid comparing scores that were obtained at dramatically different points in time. Because the content and format of each examination change over time, comparisons should not be made of individual scores separated in time by more than 3-4 years. **Table 1** shows the mean and standard deviation (SD) for first-takers from US/Canadian medical schools who tested over the past 3 years.

\*This is a score interpretation guide for computer-based Step 1, Step 2 CK and Step 3 examinations. The Step 2 CS examination is reported as pass or fail only.

<b>Table 1. Means (SDs) First Takers from the US/Canadian medical schools</b>	
<b>Step 1</b>	
<i>Calendar Year</i>	<i>Mean (SD)</i>
2016	228 (21)
2017	229 (20)
2018	230 (19)
<b>Step 2 Clinical Knowledge</b>	
<i>Academic Year</i>	<i>Mean (SD)</i>
2016-2017	242 (17)
2017-2018	243 (17)
2018-2019	243 (16)
<b>Step 3</b>	
<i>Calendar Year</i>	<i>Mean (SD)</i>
2016	225 (15)
2017	226 (15)
2018	226 (15)

The norm table (**Table 2**) enables you to determine the percentage of first-takers from US/Canadian medical schools testing between January 1, 2016 and December 31, 2018 for Step 1 and Step 3, and between July 1, 2016 and June 30, 2019 for Step 2 CK who scored lower than a given USMLE Step Examination score. For example, to compare a given score with the scores of US/Canadian first-takers on Step 1, locate the score in the column labeled **USMLE Score**. Read across the table to the percentile rank column labeled **Step 1**. An examinee with a Step 1 score of 225 is at the 37<sup>th</sup> percentile. The 37<sup>th</sup> percentile means that 37% of the Step 1 first-takers from US/Canadian medical schools in the three-year cohort described previously scored lower than 225.

Norm tables are updated annually by dropping earlier groups of examinees and adding newer ones. Because the data can change through this update process, you should use the most recent norm table available on the USMLE website to obtain percentile ranks. Using the most recent norm table avoids confusion and ensures that everyone is viewing the same, current data.

Although percentile ranks for Step 1, Step 2 CK, and Step 3 are shown in the same norm table, it is important to note that scores on the three Steps are not directly comparable. For example, a score of 220 on Step 1 is not equivalent to a score of 220 on Step 2 CK or on Step 3. A comparison of scores across Steps is not appropriate.

**Table 2. Norm Table: Based on First-takers From US and Canadian Medical Schools Testing Between January 1, 2016 – December 31, 2018 for Step 1 and Step 3 and July 1, 2016 – June 30, 2019 for Step 2 CK**

USMLE Score	Step 1 (N=72,473)	Step 2 CK (N= 71,795)	Step 3 (N=58,425)
300	100	100	100
295	100	100	100
290	100	100	100
285	100	100	100
280	100	100	100
275	100	99	100
270	100	97	100
265	99	92	100
260	96	84	99
255	91	74	98
250	84	63	95
245	76	51	90
240	66	39	82
235	56	29	72
230	47	21	60
225	37	14	47
220	29	9	34
215	22	6	23
210	16	3	15
205	11	2	8
200	8	1	4
195	5	1	2
190	4	0	1
185	2	0	0
180	2	0	0
175	1	0	0
170	1	0	0
165	0	0	0
160	0	0	0
155 and below	0	0	0

### ***Passing Scores***

A pass or fail result is provided, as a USMLE recommendation, for each exam administration. Passing results are based on achievement of specified levels of proficiency established prior to administration of examinations. Statistical procedures are employed to ensure the level of proficiency required to pass remains uniform across forms of the examination. As noted in the *USMLE Bulletin of Information*, the score required to meet the recommended level of proficiency is reviewed periodically and may be adjusted without prior notice. Notice of adjustments is posted in the Announcements section of the USMLE website. Information about the current minimum passing scores is available at <http://www.usmle.org/transcripts/> and information about passing rates is available at <http://www.usmle.org/performance-data/>.

### ***Precision of Scores***

Measurement error is present on all tests, and the standard error of measurement (SEM) provides an index of the imprecision of scores. Using the SEM, it is possible to calculate a score interval that indicates how much a score might vary across repeated testing using different sets of items covering similar content. Plus and minus one SEM represents an interval that will encompass about two thirds of the observed scores for an examinee's given true score. Currently, the SEM is approximately 6 points for Step 1, Step 2CK, and Step 3.

The standard error of difference (SED) in scores is an index used to assess whether the difference between two scores is statistically meaningful. If the scores received by two examinees differ by two or more SEDs, it is likely that the examinees are different in their proficiency. Currently, the SED is approximately 8 points for Step 1, 8 points for Step 2CK, and 8 points for Step 3.

The standard error of the estimate (SEE) is an additional index of the amount of uncertainty in the scores used to gauge the likelihood of performing similarly on a repeat attempt. If an examinee tested repeatedly on a different set of items covering the same content, without learning or forgetting, their score would fall within one SEE of their current score two thirds of the time. Currently, the SEE is approximately 8 points for Step 1, Step 2 CK, and Step 3.

### ***Guidelines for Use of USMLE Step Scores for Selection Decisions***

When comparing examinee performance, it is generally appropriate to consider Step examination scores in conjunction with other criteria such as course grades and faculty evaluations, rather than using test scores as the sole basis for decisions. Test scores should be viewed as approximate rather than exact measures of medical knowledge. Small differences in Step examination scores alone should not be used as the basis for selection decisions about examinees, and scores that are relatively old may not accurately reflect current knowledge and ability.