

Medical Knowledge Self-Assessment Program®

# Performance Interpretation Guidelines with Norm Tables

# **MKSAP® 14**

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## **MKSAP 14**

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## ***Acknowledgements***

The American College of Physicians (ACP) gratefully acknowledges the special contributions to the development and production of the 14th edition of the Medical Knowledge Self-Assessment Program<sup>®</sup> of Scott Thomas Hurd (systems analyst/developer), Ricki Jo Kauffman (senior systems analyst/developer), and Michael Ripca (graphics technical design administrator). The CD-ROM and Online versions are developed within the Electronic Product Development department by Steven Spadt (Director) and Christopher Forrest, John McKnight, and Elijah Odumosu

(software developers). Computer scoring and reporting are being done by ACT, Iowa City, Iowa. The College also wishes to acknowledge that many other persons, too numerous to mention, have contributed to the production of this program. Without their dedicated efforts, this program would not have been possible.

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Credit is available from July 31, 2006 to July 31, 2009.

### ***Learning Objectives***

The learning objectives of the Medical Knowledge Self-Assessment Program are to assess the current state of your knowledge in clinical medicine, update your knowledge in key areas of internal medicine, apply new clinical problem-solving skills to improve the health of your patients, compare your performance on the self-assessment tests with that of your peers, and pursue in-depth study using critically reviewed evidence-based references.

### ***Target Audience***

- General internists and primary care physicians
- Subspecialists who need to remain up-to-date in internal medicine
- Residents preparing for the certifying examination in internal medicine
- Physicians participating in maintenance of certification in internal medicine (recertification)

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**ISBN: 1-930513-78-X**

Printed in the United States of America.

For order information in the US or Canada call 800-523-1546, extension 2600. All other countries call 215-351-2600. Fax inquiries to 215-351-2799, or email to [custserv@acponline.org](mailto:custserv@acponline.org).

## SECTION I. HOW DO YOU COMPARE TO YOUR PEERS?

Welcome to the new Medical Knowledge Self-Assessment Program (MKSAP) *Performance Interpretation Guidelines with Norm Tables*. The NORM TABLES were based on the results of pre-publication test-takers who did not have access to the syllabus, test answers, and critiques. The goal of this approach was to record test scores that realistically reflected physicians' knowledge.

This supplement will help you interpret your scores on the multiple-choice questions from the 14th edition of MKSAP, and, in conjunction with your performance report, can help you plan an individualized program of continuing education. MKSAP 14 can also help you identify strengths or weaknesses in specific subspecialty areas of internal medicine, enhance your general knowledge, keep you abreast of new developments, and prepare you for future examinations.

MKSAP 14 was composed of three program components, referred to as Parts A, B, and C. The first two components, Parts A and B, included *Syllabi, Bibliographies, and Multiple-Choice Questions* for 11 internal medicine subspecialty books. Part A was composed of six subspecialty test sections, and Part B was composed of five subspecialty test sections. For each part, *Individual Performance Reports* are sent to participants who submit answer sheets to ACT, the American College of Physicians' (ACP) scoring vendor, for CME credit. *Individual Performance Reports* are cumulative, presenting the total percent correct score and number of CME credits earned for both previous and current scorings. The test question numbers of all questions answered incorrectly are listed with currently awarded scores. These reports can aid you in determining your particular strengths and weaknesses. Parts A and B also included the *Answers, Critiques, Educational Objectives, and Bibliographies for Multiple-Choice*

*Questions.* Part C is this supplement, *Performance Interpretation Guidelines with Norm Tables*.

If you have not received individual performance reports, you may score your own tests by using the answer keys provided in the MKSAP 14 books and Section V of this supplement and the Self-Scoring Instructions provided in Section VI.

To achieve the maximal educational benefit from Parts A and B of MKSAP 14, you should rely on the materials listed below:

1. *Syllabus and Multiple-Choice Questions*
2. *Answers, Critiques, and Bibliographies*
3. *Your Individual Performance Reports*, after submitting tests for CME credit
4. This supplement, *Performance Interpretation Guidelines with Norm Tables*



This supplement contains five additional sections.

SECTION II. PARTICIPANT GROUPS. This section describes participants who submitted their tests for the analysis of data and norm groups.

SECTION III. WHAT YOU NEED TO KNOW ABOUT YOUR SCORES. This section describes the steps taken to ensure the validity of the test questions and the scores. It also describes how the accuracy of the scores was evaluated and why this information is important.

SECTION IV. NORM TABLES. This section contains norm data for participants and instructions for using the norm tables.

SECTION V. ANSWER KEY, AND PERCENTAGE ANSWERING CORRECTLY. This section contains an answer key for each subspecialty section and defines the percentage of participants answering each test question correctly.

SECTION VI. SELF-SCORING INSTRUCTIONS. This information will help you compute your percent correct score.

## **SECTION II. PARTICIPANT GROUPS**

Before you interpret the statistics provided in Section III and use the NORM TABLES, it is important to know which participants' scores were used to develop the data. Groups were defined on the basis of information provided by participants on their answer sheets. These pre-publication participants, recruited through emails sent to ACP members and notices posted on the ACP Web site, were asked to use their existing knowledge to answer questions, without accessing clinical reference material. Subspecialists were asked to submit tests that were not in their primary areas of expertise.

## **SECTION III. WHAT YOU NEED TO KNOW ABOUT YOUR SCORES**

### **A. INTRODUCTION**

Participants in MKSAP 14 may note that their scores vary greatly from the NORM TABLES scores. There may be a variety of reasons for this discrepancy. One, of course, is that some participants are significantly more knowledgeable or less knowledgeable than other participants.

Other factors that could contribute to score variance:

- Participants who read the syllabus and soon thereafter answer the questions will do better on the test than someone who answers the questions without having read the syllabus.
- Those who read the test questions just before studying the syllabus may also score higher.
- Some participants take the test as a "closed book" exercise; others do not.
- Some participants seek consultation from content experts; others attend educational group meetings before taking the tests.
- Your own scores may be influenced by such factors.

## B. CONTENT VALIDITY

The validity of the scores relied on the expertise of distinguished clinicians and educators who selected the content presented in each syllabus. Syllabus content emphasized recent significant medical developments.

Test questions reflected primarily the material presented in each syllabus. After the questions were written, they passed through a series of editorial procedures designed to ascertain clarity, conciseness, and freedom from technical flaws. Even after the tests were administered, questions with unusual statistical performance were reviewed again by content experts. No questions in these tests were determined to be flawed, too ambiguous, or too subspecialized. All questions will be counted toward CME credit.

### C. RELIABILITY (REL)

It is important that test scores provide reliable estimates of ability. The reliability (REL) coefficient was a measure of internal consistency that provided an estimate of the accuracy or stability of the scores. An examination was reliable to the extent that, if the ACP were to re-examine participants with a comparable form of the test, scores would be about the same on the second test as on the first. The reliability coefficient may range from 0.00 to 1.00.

When scores are used to provide educational feedback for the assessment of strengths and weaknesses, as they are for MKSAP 14, it is recommended that the reliability be .70 or higher. For MKSAP 14, all subspecialty sections had reliability coefficients at or above this criterion, except Foundations of Internal Medicine which only had 23 items. For this length of test .60 reliability is considered high. Therefore the percent correct score provided a stable indicator of knowledge in the subspecialty. The table below shows the reliability for each subspecialty section.

<b>SUBSPECIALTY SECTION</b>	<b>REL</b>
Foundations of Internal Medicine	.60
Cardiovascular Medicine	.93
Gastroenterology and Hepatology	.95
Rheumatology	.94
Neurology	.94
Hematology and Oncology	.95
Infectious Disease	.95
Pulmonary and Critical Care Medicine	.92
General Internal Medicine	.94
Endocrinology and Metabolism	.97
Nephrology	.94

#### D. STANDARD ERROR OF MEASUREMENT (SEM)

Ideally, the ACP would like to create tests that provide perfectly accurate measurements of participants' knowledge. In practice, however, scores are never completely free of error; they are *estimates* of what might be called "true ability." The standard error of measurement (SEM) is an index that indicates how much error there is in test scores.

Using the SEM, it is possible to define a score interval that indicates how far a test score is likely to stray from a participant's true ability. The interval is found by adding the SEM to a score and subtracting it from that score.

Observed scores are expected to fall within one SEM of the true ability of participants two times out of three, or approximately 67% of the time. For example, the SEM for Endocrinology and Metabolism scores was 4.94 percentage points. A participant whose true ability was 70 would usually receive a score between 65 and 75 ( $70 - 5$  and  $70 + 5$ ) in this subspecialty section. The table below shows the SEM for each subspecialty section.

<b>SUBSPECIALTY SECTION</b>	<b>SEM</b>
Foundations of Internal Medicine	2.05
Cardiovascular Medicine	4.72
Gastroenterology and Hepatology	5.00
Rheumatology	3.81
Neurology	4.12
Hematology and Oncology	4.40
Infectious Disease	4.96
Pulmonary and Critical Care Medicine	4.75
General Internal Medicine	5.13
Endocrinology and Metabolism	4.94
Nephrology	4.21

## SECTION IV. NORM TABLES

The NORM TABLES are useful for determining your standing relative to that of participants who completed tests before the program was published.

Norm data are provided for each group of participants. The first column contains PERCENT CORRECT SCORES. The remaining columns contain PERCENTILE RANKS. The percentile rank indicates the percentage of the group that scores lower than the corresponding percent correct score.

To use the NORM TABLES, first choose a percent correct score from either your *Individual Performance Report* or your own hand score computations. Then select the table for the norm group with which you would like to compare yourself. In the first column, locate your PERCENT CORRECT SCORE. Then read across the table to find your PERCENTILE RANK.

For example, suppose that your score was 90% correct in Endocrinology and Metabolism. At the percent correct score of 90 on the NORM TABLE, read across the page to find your percentile rank of 85.4. Your percentile rank means that 85.4 of the group scored lower than you in Endocrinology and Metabolism.

For each norm table, the *N* under the subspecialty section indicates the number of participants who completed tests for that subspecialty before the program was published. Please note that separate norm data were not compiled for subspecialists and generalists, as has been done in the past, because there were too few participants in these subgroups to produce meaningful data.

### NORM TABLES FOR MKSAP 14

Percent Correct Score	Foundations of Internal Medicine (N=716)	Cardiovascular Medicine (N=249)	Gastroenterology and Hepatology (N=153)	Rheumatology (N=123)	Neurology (N=135)	Hematology and Oncology (N=115)
99 and above	97.9	98.0		95.1	94.8	93.0
97-98		96.8	96.7	92.7		92.2
95-96	96.9	94.8	95.4	91.1	94.1	
93-94		92.8	94.8	90.2	92.6	91.3
91-92	96.4	91.6	94.1	88.6	91.9	87.8
89-90		89.6	90.8	86.2	88.9	85.2
87-88	95.4	88.4	89.5	83.7		
85-86		87.6		82.9		82.6
83-84	93.9	85.5		80.5	87.4	80.9
81-82		84.3	88.9	79.7	85.9	80.0
79-80		82.3	86.3	74.0	83.7	78.3
77-78	93.0	79.5	85.0	71.5	80.7	
75-76		76.7	81.7	69.1	78.5	77.4
73-74	92.7	71.9	80.4	62.6	74.1	74.8
71-72		63.9	79.7	56.1	68.1	72.2
69-70	90.8	55.0	75.2	52.8		69.6
67-68		48.2	68.0	45.5	63.0	65.2
65-66	88.0	44.2	66.7	43.1	53.3	60.0
63-64		37.3	61.4	37.4	51.1	57.4
61-62	81.4	31.7	52.3	32.5	50.4	55.7
59-60		27.3	47.7	26.0	43.0	51.3
57-58	72.6	20.1	39.2	22.0	36.3	44.3
55-56		16.1	34.0	21.1	31.1	37.4
53-54		14.1	25.5	19.5	25.2	33.9
51-52	62.0	10.0	22.2	16.3	18.5	28.7
49-50		9.2	17.0	13.8	17.0	23.5
47-48	49.9	6.8	13.1	10.6	14.8	20.9
45-46		6.0	11.8		14.1	13.0
43-44	34.5		11.1	9.8	12.6	8.7
41-42		5.6	10.5	8.1		
39-40	20.8	5.2	9.8			7.8
37-38		4.8	8.5		11.1	
35-36	12.0	3.2	7.8			7.0
33-34			7.2	6.5		
31-32		2.4	6.5			5.2
29-30	6.1	1.6	5.2	4.9	8.9	
27-28		1.2	4.6		7.4	4.3
25-26	2.1		3.3		5.9	1.7
23-24			0.7	2.4	4.4	
21-22	0.7	0.8		1.6	3.7	0.9
Below 20						

**NORM TABLES FOR MKSAP 14 (continued)**

Percent Correct Score	Infectious Disease (N=154)	Pulmonary and Critical Care Medicine (N=115)	General Internal Medicine (N=208)	Endocrinology and Metabolism (N=123)	Nephrology (N=150)
99 and above	97.4	97.4	98.1	93.5	95.3
97-98	95.5	95.7		92.7	93.3
95-96		94.8	97.1	91.9	92.7
93-94	93.5	92.2	96.2	87.8	92.0
91-92	92.9		95.2	87.0	91.3
89-90	91.6		94.7	85.4	90.7
87-88		91.3	93.8	84.6	89.3
85-86	89.6	90.4		83.7	88.0
83-84	89.0	88.7	92.8	82.9	86.7
81-82	88.3	87.8	90.9	77.2	84.7
79-80	86.4	83.5	88.5	74.8	81.3
77-78	83.1	81.7	84.1		78.7
75-76	82.5	79.1	82.2	71.5	75.3
73-74	79.2	77.4	79.8	69.1	70.0
71-72	77.3	70.4	76.0	66.7	68.0
69-70	73.4	65.2	70.2	61.0	60.0
67-68	72.7	63.5	63.9	55.3	57.3
65-66	66.2	53.0	60.6	49.6	53.3
63-64	62.3	46.1	55.8	48.0	47.3
61-62	57.8	38.3	45.7	43.1	39.3
59-60	50.0	31.3	38.0	36.6	32.0
57-58	44.8	21.7	31.7	35.8	30.0
55-56	39.0	19.1	26.9	32.5	26.0
53-54	29.2	13.9	23.6	30.1	23.3
51-52	26.0	13.0	18.8	26.0	20.7
49-50	18.8	10.4	14.4	22.8	14.0
47-48	16.2	8.7	12.5	22.0	13.3
45-46	14.3	6.1	11.1	18.7	11.3
43-44	11.7	5.2	7.7	17.1	9.3
41-42	9.7			14.6	8.0
39-40	9.1	4.3	7.2	12.2	7.3
37-38	7.8		6.3		6.0
35-36					5.3
33-34	5.8	2.6	4.3		4.7
31-32		0.9		11.4	4.0
29-30			3.8	10.6	
27-28			3.4	6.5	1.3
25-26	4.5		2.9	3.3	0.7
23-24	2.6		1.9	0.8	
21-22	0.6		1.4		
Below 20					



**SECTION V. ANSWER KEY AND PERCENTAGE ANSWERING  
CORRECTLY**

This section contains an answer key for each subspecialty section and the percentage of participants who answered each test question correctly. As noted previously, subspecialists were asked to not take tests in their primary areas of expertise to ensure a more realistic measurement of the general knowledge of all participants.

<b>FOUNDATIONS OF INTERNAL MEDICINE</b>		
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	E	52
2	D	76
3	C	72
4	D	18
5	C	29
6	C	61
7	D	37
8	C	58
9	A	52
10	A	88
11	A	26
12	C	80
13	B	86
14	A	33
15	A	61
16	D	72
17	C	37
18	C	53
19	B	13
20	D	26
21	C	31
22	B	28
23	C	23

**CARDIOVASCULAR MEDICINE**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	D	75	67	B	83
2	C	69	68	A	78
3	E	14	69	C	71
4	C	61	70	B	47
5	D	73	71	C	83
6	C	51	72	C	65
7	A	67	73	B	65
8	C	87	74	A	51
9	B	34	75	B	55
10	A	37	76	B	71
11	C	26	77	B	43
12	A	79	78	B	74
13	E	47	79	C	73
14	B	42	80	D	58
15	C	83	81	A	72
16	A	41	82	D	66
17	A	63	83	C	72
18	A	71	84	A	50
19	E	73	85	B	56
20	E	58	86	D	59
21	A	87	87	D	71
22	E	73	88	C	47
23	C	81	89	D	73
24	B	92	90	C	82
25	D	51	91	A	61
26	E	54	92	A	30
27	A	90	93	D	80
28	D	91	94	B	39
29	B	91	95	D	81
30	D	86	96	A	54
31	D	88	97	C	33
32	D	53	98	B	25
33	A	41	99	D	86
34	A	53	100	A	70
35	B	90	101	B	52
36	D	85	102	E	78
37	D	84	103	D	65
38	D	41	104	B	61
39	C	80	105	B	59
40	C	78	106	C	80
41	E	84	107	A	91
42	E	90	108	D	71
43	C	89	109	A	63

<b>CARDIOVASCULAR MEDICINE (continued)</b>					
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	B	74	110	B	23
45	D	73	111	D	83
46	B	57	112	C	87
47	D	94	113	D	59
48	D	88	114	C	64
49	B	69	115	D	67
50	C	69	116	A	77
51	C	32	117	D	52
52	B	63	118	D	88
53	D	84	119	D	87
54	A	68	120	C	72
55	C	84	121	C	62
56	D	69	122	C	57
57	B	84	123	C	61
58	D	88	124	B	30
59	A	86	125	A	61
60	E	52	126	C	53
61	C	73	127	C	73
62	A	86	128	D	80
63	C	88	129	A	45
64	B	65	130	D	53
65	C	26	131	B	88
66	A	69	132	D	68

**GASTROENTEROLOGY AND HEPATOLOGY**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	A	69	72	D	82
2	B	53	73	D	78
3	A	88	74	B	44
4	C	78	75	D	52
5	D	90	76	A	86
6	A	44	77	C	65
7	C	84	78	B	65
8	C	52	79	D	66
9	A	69	80	C	82
10	B	87	81	A	73
11	C	69	82	D	88
12	C	81	83	C	75
13	E	82	84	D	24
14	C	70	85	D	28
15	B	29	86	C	45
16	A	65	87	C	31
17	D	63	88	B	27
18	B	34	89	C	69
19	E	54	90	E	60
20	C	35	91	A	90
21	E	24	92	C	58
22	C	25	93	C	43
23	D	69	94	D	65
24	E	64	95	D	61
25	E	47	96	B	76
26	B	85	97	D	43
27	B	29	98	C	80
28	D	63	99	C	41
29	D	85	100	B	65
30	B	58	101	C	63
31	A	30	102	C	84
32	B	30	103	D	27
33	B	35	104	D	86
34	E	33	105	C	34
35	E	87	106	A	82
36	A	51	107	D	71
37	B	76	108	B	39
38	C	80	109	C	39
39	A	71	110	D	84
40	D	41	111	D	60
41	A	73	112	D	69
42	B	56	113	D	53
43	E	67	114	D	68

**GASTROENTEROLOGY AND HEPATOLOGY (continued)**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	A	82	115	E	62
45	A	76	116	B	67
46	A	61	117	D	75
47	C	63	118	B	57
48	B	32	119	C	59
49	A	44	120	E	73
50	A	91	121	D	65
51	C	84	122	A	41
52	C	46	123	E	62
53	B	71	124	D	78
54	C	65	125	D	54
55	C	61	126	D	18
56	D	71	127	C	73
57	A	35	128	D	26
58	A	48	129	A	60
59	E	67	130	E	49
60	C	70	131	B	25
61	B	71	132	C	80
62	D	27	133	B	51
63	B	44	134	C	54
64	C	80	135	C	73
65	D	25	136	B	76
66	E	52	137	D	25
67	E	34	138	E	82
68	D	82	139	C	58
69	A	68	140	D	85
70	C	75	141	D	85
71	D	83	142	E	59

RHEUMATOLOGY					
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	C	79	46	C	69
2	E	69	47	B	77
3	C	62	48	C	86
4	D	88	49	D	43
5	D	78	50	B	61
6	C	86	51	D	80
7	D	54	52	C	65
8	A	67	53	A	68
9	C	40	54	C	72
10	A	89	55	B	72
11	C	80	56	B	81
12	D	56	57	D	85
13	C	71	58	B	36
14	B	28	59	D	41
15	C	80	60	A	60
16	B	54	61	C	66
17	C	80	62	B	70
18	D	90	63	C	41
19	C	76	64	D	46
20	B	67	65	A	62
21	B	78	66	B	80
22	A	46	67	B	70
23	B	91	68	B	94
24	A	66	69	C	81
25	B	58	70	B	37
26	B	63	71	E	76
27	C	74	72	A	76
28	B	71	73	A	72
29	B	73	74	C	76
30	C	37	75	D	80
31	B	93	76	A	32
32	B	34	77	A	67
33	B	83	78	D	83
34	B	41	79	A	69
35	D	89	80	D	65
36	C	32	81	D	81
37	C	78	82	A	77
38	C	51	83	B	56
39	C	33	84	B	73
40	A	82	85	C	73
41	C	79	86	C	71
42	A	87	87	C	80
43	B	52	88	A	77
44	D	63	89	C	59
45	A	46	90	B	52

**NEUROLOGY**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	D	77	49	C	79
2	C	81	50	C	62
3	D	28	51	D	53
4	C	78	52	D	65
5	B	84	53	B	81
6	B	64	54	C	59
7	C	84	55	D	67
8	A	74	56	D	70
9	B	49	57	B	83
10	C	71	58	B	45
11	A	42	59	C	48
12	B	73	60	B	43
13	A	60	61	C	32
14	D	54	62	C	56
15	A	85	63	A	79
16	C	50	64	A	68
17	C	82	65	C	47
18	E	77	66	C	67
19	A	67	67	A	81
20	A	47	68	B	54
21	C	41	69	C	59
22	D	77	70	D	52
23	E	43	71	B	81
24	A	27	72	E	39
25	B	57	73	D	47
26	C	79	74	C	74
27	D	73	75	B	77
28	E	59	76	D	82
29	A	69	77	D	43
30	D	57	78	C	50
31	B	58	79	C	73
32	D	69	80	D	56
33	D	36	81	A	46
34	A	66	82	E	46
35	C	49	83	B	68
36	C	73	84	A	72
37	D	70	85	D	80
38	D	36	86	B	61
39	A	62	87	C	41
40	A	81	88	B	46
41	D	19	89	D	91
42	A	53	90	A	38
43	D	76	91	D	75

<b>NEUROLOGY (continued)</b>					
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	B	70	92	B	76
45	A	55	93	A	56
46	C	79	94	B	51
47	E	73	95	B	47
48	E	36	96	B	81



**HEMATOLOGY AND ONCOLOGY**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	C	37	56	D	77
2	A	57	57	D	66
3	B	61	58	A	70
4	D	63	59	A	91
5	C	54	60	D	77
6	D	77	61	C	66
7	C	23	62	C	46
8	D	66	63	B	57
9	C	62	64	B	62
10	C	71	65	C	61
11	C	31	66	C	87
12	D	50	67	B	63
13	B	57	68	D	46
14	D	46	69	C	68
15	A	91	70	A	69
16	B	74	71	D	88
17	A	70	72	B	71
18	D	63	73	B	75
19	C	63	74	B	43
20	D	70	75	E	23
21	C	76	76	C	65
22	B	43	77	A	60
23	D	69	78	D	84
24	C	86	79	A	46
25	D	70	80	A	68
26	D	56	81	C	44
27	D	60	82	E	88
28	C	35	83	E	46
29	B	70	84	A	75
30	D	63	85	B	89
31	C	81	86	C	50
32	C	76	87	A	36
33	C	79	88	B	68
34	A	64	89	A	90
35	D	36	90	C	77
36	C	82	91	C	57
37	B	77	92	B	39
38	B	58	93	C	76
39	E	45	94	C	27
40	B	55	95	D	82
41	D	57	96	D	40
42	A	51	97	A	23
43	D	62	98	B	76

<b>HEMATOLOGY AND ONCOLOGY (continued)</b>					
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	C	62	99	3	62
45	D	57	100	A	75
46	A	51	101	D	68
47	C	53	102	C	47
48	D	83	103	E	56
49	A	48	104	E	75
50	B	59	105	D	87
51	C	44	106	D	56
52	C	70	107	D	64
53	C	63	108	E	67
54	C	72	109	A	56
55	B	43	110	B	45

INFECTIOUS DISEASE					
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	D	75	68	B	79
2	C	76	69	D	53
3	B	44	70	D	49
4	D	88	71	A	68
5	A	38	72	D	77
6	A	55	73	A	76
7	D	62	74	D	49
8	A	62	75	B	80
9	D	63	76	D	49
10	A	68	77	C	78
11	A	71	78	B	61
12	D	71	79	C	58
13	D	78	80	D	64
14	C	55	81	C	42
15	E	65	82	D	42
16	D	63	83	C	40
17	C	44	84	D	66
18	C	76	85	D	58
19	B	59	86	E	69
20	D	90	87	B	66
21	A	85	88	D	40
22	A	37	89	B	40
23	B	62	90	C	87
24	D	40	91	D	43
25	C	38	92	E	78
26	C	73	93	E	81
27	D	64	94	D	27
28	C	79	95	D	33
29	E	61	96	B	43
30	B	39	97	C	45
31	B	91	98	C	57
32	D	34	99	B	23
33	D	37	100	C	47
34	C	47	101	A	30
35	C	62	102	D	92
36	E	50	103	E	42
37	C	93	104	A	32
38	C	48	105	C	66
39	B	67	106	D	69
40	E	72	107	A	58
41	D	50	108	E	44
42	A	79	109	B	63
43	D	54	110	B	66

**INFECTIOUS DISEASE (continued)**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	A	45	111	E	58
45	C	70	112	B	49
46	A	51	113	B	44
47	B	69	114	D	73
48	D	82	115	A	82
49	B	68	116	C	68
50	D	84	117	C	80
51	C	74	118	C	45
52	B	75	119	A	59
53	B	81	120	D	59
54	B	53	121	C	33
55	A	69	122	A	49
56	D	82	123	C	47
57	B	41	124	E	75
58	C	58	125	A	42
59	C	72	126	B	62
60	D	79	127	B	73
61	C	44	128	B	73
62	A	69	129	D	42
63	E	67	130	B	74
64	A	34	131	C	58
65	B	21	132	C	58
66	D	32	133	B	68
67	D	80			

**PULMONARY AND CRITICAL CARE MEDICINE**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	C	61	65	D	48
2	C	87	66	C	74
3	C	58	67	B	83
4	D	48	68	B	81
5	D	71	69	B	58
6	B	72	70	C	92
7	D	64	71	B	68
8	C	80	72	C	85
9	E	48	73	C	53
10	C	66	74	C	53
11	D	83	75	B	91
12	C	77	76	E	75
13	B	47	77	C	59
14	A	77	78	C	84
15	D	39	79	A	46
16	B	98	80	B	41
17	C	65	81	A	58
18	A	82	82	A	92
19	C	47	83	A	43
20	D	70	84	C	60
21	B	50	85	B	79
22	C	87	86	A	33
23	B	76	87	B	82
24	B	89	88	D	19
25	C	89	89	C	71
26	E	68	90	C	94
27	D	71	91	B	94
28	A	93	92	D	78
29	C	53	93	E	43
30	B	51	94	C	90
31	B	46	95	C	92
32	A	83	96	D	82
33	D	40	97	C	77
34	A	40	98	A	49
35	C	70	99	A	69
36	B	32	100	C	68
37	C	80	101	A	62
38	B	70	102	D	86
39	D	65	103	C	69
40	D	70	104	B	53
41	B	86	105	C	62
42	C	77	106	C	63
43	E	85	107	B	87

**PULMONARY AND CRITICAL CARE MEDICINE (continued)**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	D	55	108	D	56
45	C	74	109	B	55
46	D	75	110	C	79
47	B	63	111	B	48
48	C	59	112	A	42
49	D	88	113	A	26
50	C	38	114	D	65
51	A	59	115	D	30
52	B	50	116	D	55
53	C	63	117	D	47
54	E	78	118	C	43
55	D	70	119	A	77
56	B	19	120	D	73
57	B	83	121	B	74
58	C	51	122	A	60
59	B	69	123	A	35
60	B	82	124	B	52
61	B	41	125	D	38
62	A	50	126	B	51
63	E	76	127	A	72
64	B	40			

**GENERAL INTERNAL MEDICINE**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	D	60	74	A	73
2	D	63	75	A	71
3	A	54	76	E	61
4	D	54	77	B	35
5	A	59	78	D	21
6	C	74	79	C	78
7	D	67	80	D	69
8	E	53	81	C	44
9	D	83	82	E	75
10	D	82	83	D	66
11	C	88	84	B	60
12	B	37	85	A	81
13	B	60	86	A	52
14	B	75	87	C	75
15	C	72	88	E	54
16	A	50	89	B	79
17	B	52	90	D	61
18	D	52	91	C	51
19	A	66	92	B	94
20	D	92	93	A	81
21	C	75	94	D	85
22	D	49	95	D	30
23	B	34	96	D	77
24	D	90	97	D	77
25	B	67	98	E	47
26	C	36	99	C	91
27	D	92	100	C	45
28	C	61	101	A	43
29	A	89	102	E	30
30	A	21	103	E	73
31	C	81	104	A	75
32	A	79	105	B	67
33	A	52	106	D	38
34	A	64	107	A	48
35	D	23	108	B	49
36	B	67	109	A	67
37	E	61	110	C	71
38	B	78	111	B	22
39	A	55	112	D	72
40	A	58	113	B	50
41	A	57	114	A	59
42	A	25	115	B	50
43	D	85	116	D	71

<b>GENERAL INTERNAL MEDICINE (continued)</b>					
<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	D	22	117	D	55
45	A	88	118	D	76
46	D	37	119	A	28
47	E	73	120	A	85
48	C	45	121	C	51
49	B	62	122	D	85
50	D	77	123	C	67
51	D	63	124	D	44
52	A	55	125	E	46
53	B	73	126	E	39
54	E	58	127	A	40
55	D	81	128	B	84
56	A	79	129	E	68
57	A	81	130	B	86
58	A	27	131	D	41
59	E	35	132	B	43
60	B	75	133	D	76
61	B	88	134	A	79
62	A	69	135	C	57
63	E	50	136	D	80
64	C	43	137	C	79
65	D	56	138	A	68
66	C	88	139	C	65
67	C	41	140	C	85
68	B	62	141	C	77
69	A	63	142	B	56
70	C	49	143	C	25
71	B	65	144	B	50
72	E	62	145	C	48
73	D	75			



**ENDOCRINOLOGY AND METABOLISM**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	C	62	71	B	59
2	D	33	72	D	72
3	C	72	73	B	73
4	B	77	74	D	78
5	B	70	75	C	74
6	D	85	76	A	69
7	C	52	77	A	61
8	D	83	78	D	70
9	B	89	79	E	85
10	D	55	80	D	67
11	C	73	81	A	67
12	C	56	82	C	73
13	C	63	83	C	63
14	B	56	84	B	76
15	C	66	85	B	75
16	D	64	86	E	73
17	E	61	87	A	61
18	E	57	88	E	68
19	D	85	89	C	52
20	B	37	90	C	62
21	C	60	91	D	67
22	D	92	92	C	71
23	B	69	93	D	55
24	E	54	94	B	66
25	C	70	95	B	52
26	D	71	96	C	68
27	D	76	97	D	60
28	E	65	98	B	53
29	C	40	99	C	68
30	D	86	100	E	69
31	A	43	101	C	43
32	B	39	102	D	40
33	B	54	103	A	54
34	A	72	104	A	76
35	C	78	105	C	77
36	B	68	106	D	56
37	D	63	107	D	82
38	E	76	108	E	57
39	D	71	109	C	63
40	E	71	110	E	62
41	D	41	111	D	70
42	A	70	112	A	63
43	A	59	113	B	61

**ENDOCRINOLOGY AND METABOLISM (continued)**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	B	76	114	D	61
45	D	63	115	D	44
46	D	46	116	E	63
47	A	76	117	C	57
48	B	50	118	D	34
49	C	79	119	B	50
50	C	77	120	E	60
51	B	46	121	D	54
52	C	53	122	C	84
53	A	50	123	B	71
54	A	74	124	E	49
55	C	49	125	C	44
56	B	61	126	D	59
57	D	83	127	E	56
58	D	73	128	B	75
59	C	72	129	E	64
60	D	48	130	C	49
61	A	45	131	E	33
62	D	41	132	B	37
63	A	64	133	B	49
64	D	76	134	D	59
65	A	51	135	A	87
66	A	53	136	B	72
67	D	80	137	E	59
68	D	69	138	D	58
69	D	65	139	D	73
70	C	86	140	E	35

**NEPHROLOGY**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
1	E	86	54	A	88
2	E	49	55	B	20
3	A	62	56	A	73
4	D	86	57	C	51
5	C	78	58	A	47
6	D	85	59	D	71
7	A	47	60	C	44
8	C	66	61	A	83
9	D	27	62	D	32
10	C	68	63	D	88
11	E	79	64	E	50
12	D	35	65	B	70
13	C	66	66	D	44
14	A	85	67	D	78
15	D	82	68	D	42
16	C	81	69	E	70
17	C	85	70	B	73
18	B	79	71	D	67
19	A	37	72	D	56
20	D	60	73	D	81
21	C	28	74	D	70
22	D	60	75	D	59
23	B	30	76	C	79
24	B	55	77	A	49
25	C	77	78	B	52
26	C	56	79	B	79
27	A	59	80	C	75
28	D	79	81	D	64
29	C	81	82	B	69
30	C	75	83	C	87
31	C	93	84	D	58
32	C	66	85	D	37
33	C	55	86	D	43
34	B	86	87	D	59
35	C	61	88	D	77
36	C	67	89	B	38
37	D	95	90	B	48
38	B	55	91	D	76
39	A	32	92	E	57
40	C	76	93	A	33
41	C	71	94	C	85
42	D	69	95	A	29
43	D	68	96	B	46

**NEPHROLOGY (continued)**

<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>	<u>QUESTION NUMBER</u>	<u>ANSWER KEY</u>	<u>PERCENT CORRECT</u>
44	A	56	97	C	85
45	C	87	98	B	83
46	B	82	99	D	85
47	B	25	100	E	89
48	D	61	101	B	47
49	C	79	102	E	61
50	B	55	103	C	41
51	E	86	104	A	81
52	B	67	105	D	74
53	D	85			

## SECTION VI. SELF-SCORING INSTRUCTIONS

Compute your percent correct score as follows:

Step 1. Give yourself a point for each correct response to each question in the test in which you are working.

Step 2. Divide the number of correct responses in Step 1 by the number of questions for the test in which you are working. The number of questions in each test is listed in the table at the bottom of the page.

Step 3. Multiply the result by 100.

The final result will be your total percent score, which you can compare to the Norm Tables under Section IV.

<b>Example #1 Foundations of Internal Medicine</b>	
Step 1: Record your points.	21
Step 2: Divide the result by 23, which is the total number of questions.	$21 \div 23$
Step 3: Multiply result by 100	$.913 \times 100$
Total percent correct score	91.30%

<b>Subspecialty Section</b>	<b>Number of Questions</b>
Foundations of Internal Medicine	23
Cardiovascular Medicine	132
Gastroenterology and Hepatology	142
Rheumatology	90
Neurology	96
Hematology and Oncology	110
Infectious Disease	133
Pulmonary and Critical Care Medicine	127
General Internal Medicine	145
Endocrinology and Metabolism	140
Nephrology	105