
RESULTS FOR THE 2013 PRIMARY EXAMINATION IN MAGNETIC RESONANCE IMAGING



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INTRODUCTION

The ARRT offers two categories of certification in Magnetic Resonance Imaging (MRI): primary and post-primary. MRI has been offered as a post-primary exam since March 1995 and as a primary exam since January 2006. This report summarizes performance of the 149 first-time primary candidates for MRI in 2013, and contrasts it to the 1,627 post-primary candidates.

Each MRI exam consists of 200 scored test questions. The major content categories and number of questions are listed below.

Section	# Questions
A. Patient Care	30
B. Imaging Procedures	62
C. Data Acquisition and Processing	65
D. Physical Principles of Image Formation	<u>43</u>
Total	200

INTERPRETATION OF SCORES

Total Scaled Score. The ARRT uses scaled scores to report exam results. Scaled scores can range from 1 to 99, and a total scaled score of 75 is required to pass the MRI exam.

Scaled scores take into account any differences in difficulty between two or more versions of an exam. A scaled score of 75 represents the same level of exam performance, regardless of which version of an exam a candidate is administered. The use of scaled scores also permits comparison of exam results over time.

Scaled scores are sometimes mistaken for percent correct scores. This confusion probably arises because both scaled scores and percentages have a similar range of values. A scaled score of 75 does not mean that someone correctly answered 75% of the test questions.

Section Scores. Scaled scores are also used to report performance for each of the four major content sections of the exam. The purpose of the section scores is to provide general information to examinees regarding their strengths and weaknesses in particular content categories.

Section scores range from 0.1 to 9.9 and are reported in one-tenth point intervals (e.g., 8.1, 8.6). Each section score can be considered as a separate score. For example, a scaled section score of 7.9 would indicate that *if* that section had been the whole test, the total score would have been a 79. It is important to note that pass/fail decisions are based on the *total number* of items correct and *not* on individual section scores. Because the MRI exam sections have different numbers of items, a simple average of scaled section scores will not re-create the total scaled score. Since section scores are based on fewer test questions, they are not as reliable as the total scaled score, and should be interpreted with caution.

Passing Score. A total test scaled score of 75 or greater is required to pass the ARRT MRI exam. This pass-fail point, called the “cut score”, is established by ARRT’s Board of Trustees through a process called standard setting. During the standard setting process, the Board received input from a panel representing a broad constituency of MRI technologists. The cut score represents the standard of performance required to obtain certification. Those who exceed the standard pass the exam.

EXAMINEE RESULTS

The results for regular first-time primary and post-primary examinees are shown in the table below. The means and standard deviations are reported in scaled score units. The section score data provides a frame of reference for evaluating scores obtained by individual examinees. If, for example, a primary candidate received a score of 7.1 on section D that examinee’s performance would be below average by 1.2 scaled score units. Note that 1.2 is also the standard deviation for Section D. In other words, this hypothetical examinee scored one standard deviation (1.2) below the mean on Section D.

Performance of Regular, First-Time Examinees in 2013

Section	Primary (N = 149)		Post-Primary (N = 1,627)	
	Mean	Std Dev	Mean	Std Dev
A	8.4	1.0	8.5	0.8
B	8.3	1.0	8.1	0.9
C	8.2	1.1	7.8	1.1
D	8.3	1.2	8.0	1.2
Total	82.8	9.9	80.2	8.9
Passing %	82.6%		74.2%	

The table also provides comparisons between primary and post-primary candidate scores. Note that primary candidates had higher mean scores for the total test than post-primary candidates, and also had higher section scores for Sections B, C, and D, while post-primary candidates scored higher in Section A.

Program Director Reports. Educators may always produce summary reports for their program, at their convenience, at the ARRT website, ARRT.ORG under Educators/Program Director Site.