

The ACR TXIT™ Examination FAQs

Understanding the ACR TXIT™ Exam

1. *What is the ACR TXIT Exam?*

The TXIT Exam, also referred to as the In-Service Exam or In-Training Exam, is an examination given annually to radiation oncology residents. Like exams for other medical specialties, the TXIT Exam is used to help program directors assess the strengths and weaknesses of a program's residency curriculum using institutional and national benchmarking. Residents are provided an individual score report to evaluate their progress toward meeting the educational objectives of their radiation oncology curriculum.

The TXIT Exam includes 200 questions and is constructed in accordance with examination specifications rooted in the radiation oncology curriculum set by the ACGME core competencies. The content is regularly updated by a panel of active radiation oncologists.

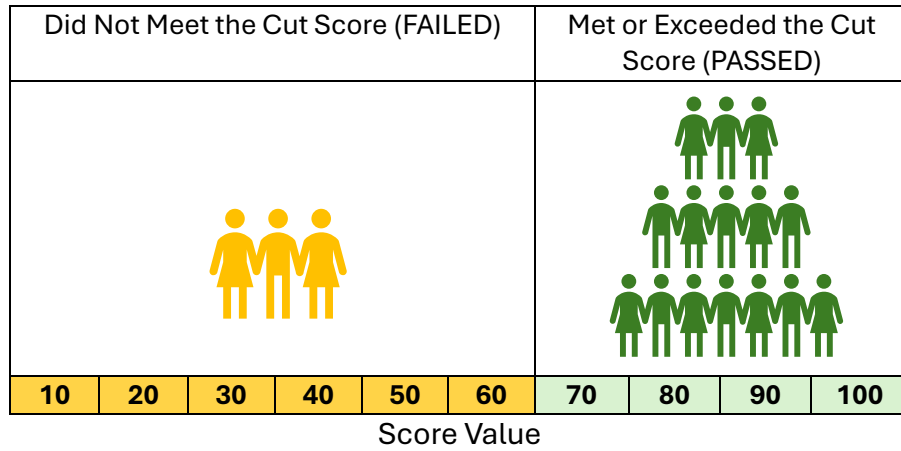
2. *What is the purpose of the TXIT Exam? How does it differ from the ABR Qualifying (Core) Exam?*

At the individual level, the TXIT Exam offers residents a unique opportunity for self-evaluation. The test identifies areas for improvement relative to their peers at the same level of training. The results also help program directors evaluate the effectiveness of their program and curriculum.

Though the content of the ABR Qualifying (Core) Exam and the ACR TXIT Exam are similar in that they both are used to evaluate a resident's understanding of the specialty, the two tests are fundamentally different. The ABR Qualifying (Core) Exam is a criterion-referenced examination, and the TXIT Exam is a norm-referenced examination. These examinations differ in both purpose and in what they measure.

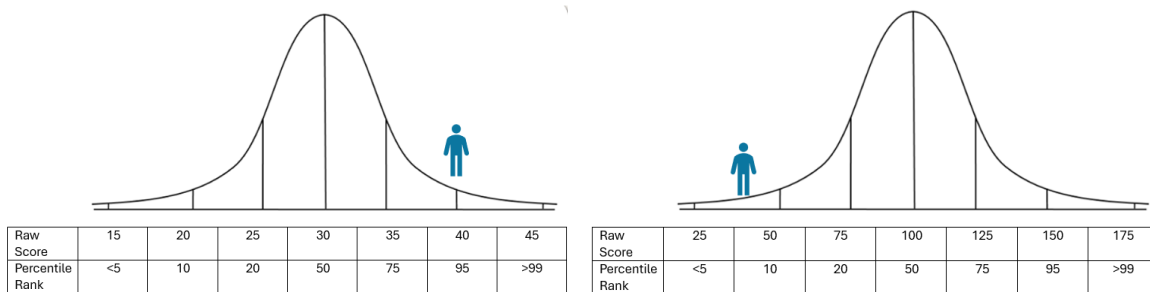
The ABR Qualifying (Core) Exam, a criterion-referenced examination, compares a candidate's score against an absolute criterion called a "cut score." The candidate either meets the cut score and passes or does not meet the cut score and fails. Criterion-referenced exams *exclusively* measure whether test takers meet the standard score set for the exam.

Example: Cut Score = 70



The TXIT Exam, a norm-referenced test, compares the performance of the candidate against other candidates. The scores are usually reported as percentile rankings. The meaning of the scores is relative and depends on the group of other candidates against which the individual is being compared. For example, if a first-year resident was ranked at the 65th percentile but is then compared to a different group such as second-year residents, the resident’s percentile rank would drop considerably. There is no Pass or Fail for the TXIT Exam.

EXAMPLE: First-Year (R1) Resident Raw Score of 40



R1 Resident Level Scores/Percentile Rank

R3 Resident Level Scores/Percentile Rank

Compared to other first-year residents (R1), the resident’s percentile is high. When the first-year resident is compared to third-year residents (R3), the percentile is low.

It is also important to note that the ABR Qualifying (Core) Exam is an initial certifying exam. The content of the exam, defined by an in-depth formal Job Task Analysis study, measures the candidate's competency to perform the minimum standards required to work as a radiation oncologist. The TXIT Exam is an educational test, and the content is derived from the underlying academic radiation oncology curriculum. Though both examinations cover many of the same content areas, the way in which the content is taxonomized and the number of questions within the different content domains are different.

3. *What scoring information is provided for the TXIT Exam?*

After extensive exam psychometric analysis, ACR provides the participating residency program directors with comprehensive information concerning mean norm-referenced scores at the national, institutional, and individual levels. The score data are further broken down for each of the clinical areas of practice, as well as for physics, statistics, and radiobiology. All score packets are sent to the program director, who then distributes the individual reports to the residents.

After receiving the reports, residents may review the exam to identify which items they answered incorrectly and can access the rationales for the correct answers. Additionally, ACR provides a free online study guide, which includes retired TXIT Exam questions with rationales and annotated citations.

4. *What is the ACR policy on TXIT Exam scores and how should they be used?*

The ACR's policy regarding the use of exam scores is not meant to inform of resident promotions, eligibility to take the boards, or other high-stakes decisions and they are not intended to predict how the resident may perform on the board exams. This information is provided to the program directors when the exam scores are sent. The TXIT Exam is intended to measure general achievement within a radiation oncology curriculum by residents and is also intended to be used by program directors to identify areas for improvement in the curriculum and academic program. The TXIT Exam should not be used as the ONLY measure of examinees' performance for qualification to any postgraduate program or certification. The exam scores are one element to help guide residents in their education and in maintaining the qualitative aspects of the program.

5. *How is the TXIT Exam developed and validated each year?*

The ACR Radiation Oncology Examination Committee is organized into 13 sections, comprised of 10 clinical practice areas, plus biology, physics and statistics.

Each section is comprised of radiation oncology test item writer experts in that section and is managed by a radiation oncology section chair. Test item writers develop test questions in accordance with standardized testing industry guidelines. All questions are reviewed by the respective section for content, format, relevance and accuracy.

Each question or item requires a full rationale for the correct answer, plus reference citations substantiating the correct answer. The exam is then developed using the Table of Examination Specifications found on the [ACR website](#), and the full committee of section chairs meets for two days to review each of the 200 questions selected for each year's test. Following the full committee review, the exam undergoes final assembly, is reviewed by professional editorial staff, and then published to the computer-based testing platform. This final assembled exam, now in the form seen by residents during test administration, is again reviewed by the committee before the examination is administered to residents.

Examination validity refers to the ability to accurately draw inferences from exam scores. The validity of the TXIT examination is established using a rigorous process of defining and then confirming the accuracy, importance and relevance of the content for a radiation oncology curriculum through extensive psychometric analysis. Following the administration of the examination each year a, a full psychometric test and item analysis is conducted to determine the test's overall statistical performance as well as the individual performance of each of the 200 test items. At this stage of validation, any problematic items are identified and reviewed by the appropriate committee members and are addressed prior to finalizing test scores and reporting to institutions. These steps are taken to ensure that the examination results are fair.

Another important component of any examination instrument's performance is its reliability, which refers to the repeatability of test scores. The ACR TXIT Exam and its psychometric performance meet and exceed all the relevant rigors required by testing industry standards. For example, the coefficient alpha serves as a measure of internal consistency or statistical homogeneity of a scale and thereby provides an estimate of the scale's reliability. The TXIT Exam typically has an alpha between .89 and .92, well above the industry standard for reliability (using alpha .70 - .79 is adequate, .80 - .89 is good and >.90 is excellent). Furthermore, its mean biserial coefficient (item discrimination), mean item difficulty, and standard deviations, additional measures of psychometric validity, consistently fall well within the Standards for Educational and Psychological Testing jointly promulgated by the American Educational Research Association (AERA), the American

Psychological Association (APA), and the National Council on Measurement in Education (NCME).

6. *Where can I find more information about the subjects and topics that are covered on the TXIT Exam?*

The ACR publishes a detailed Table of Examination Specifications (sometimes called an “exam blueprint”) on the [ACR website](#) (scroll down and click on “Important Information for Residents”). This document provides a detailed breakdown of each major domain, sub-domains and information about the number of questions that cover each of the major domains.

7. *How does ACR collect feedback on the TXIT Exam program from residents and stakeholders?*

Residents are encouraged to complete a survey at the conclusion of the exam. The survey responses help improve future exams. In addition, ACR staff and committee chairs regularly meet with ADROP, AROPA, ASTRO (Early Career Committee) and ARRO. These relationships enable ACR to hear directly from program directors, program administrators, resident leaders and others to gather feedback about the examination program and other educational endeavors. This feedback has led ACR to implement a variety of changes to the program, including:

- The addition of an in-depth post-examination resident survey
- Converting to computer-based testing in 2021 to expand the use of graphics and displays (e.g., dose-volume histogram (DVH), plan reviews, imaging, figures, photos)
- A decreased emphasis on rare findings and more emphasis on commonly encountered areas.
- A return to the 1-day exam schedule and the elimination of 3rd party proctoring
- Release of exam for studying via online exam reviews and online study guides
- Moving the exam date to February to provide scores earlier in the year