

Overview of the NBRC RRT Examination

The National Board for Respiratory Care (NBRC) administers credentialing examinations for the respiratory care practitioners (RCP). The Certified Respiratory Therapist (CRT) and Registered Respiratory Therapist (RRT) are the common credentialing examinations for most practitioners. The NBRC also offers specialty examinations for RCP in Pulmonary Function Technology, Neonatal Perinatal Specialty, and Sleep Disorders Specialty.

The CRT is the entry-level credential and it is used in most States for licensure or certification. The RRT is an advanced level credential. Eligible candidates must pass the CRT examination before sitting for the two-part RRT examinations (written and clinical simulation).

The RRT examination consists of a written portion (multiple-choice) and a clinical simulation portion (branch-logic clinical scenario). A candidate must pass both portions to earn the RRT credential. Both portions of the RRT examinations are computer web-based and may be taken on the same day or on different days. See the NBRC Candidate Handbook for the detailed application process.

Applying and Scheduling the Web-based Examination – The RRT examination may be applied online via the NBRC website (nbrc.org) or by postal mail using the application inside the Candidate Handbook. Once the application is approved, the candidate needs to schedule the date and time for the examination. The detailed policies are also described in the Candidate Handbook or on the NBRC website.

Computer Testing – The computer-based online examinations are administered at testing centers (e.g., H&R Block) across the U.S. Examination schedule is available for different time slots on most weekdays. Since most testing centers have a limited number of computers, the candidate should apply early for the best availability of dates and time slots. The candidate must arrive before the schedule time on the date of the examination. Late arrival or failure to show proper picture identifications will be grounds for cancellation of the appointment and forfeiture of all fees. See current NBRC policies for additional requirements.

Online examination allows immediate scoring at the end of the examination. The candidate will receive the examination results to include the pass/fail status (written RRT, Clinical Simulation or both) before leaving the testing center.

Written RRT Examination - The written RRT examination is one of two parts of the RRT credentialing examination. It consists of **115** multiple-choice questions (100 scored questions and 15 beta questions). The 15 beta questions are used as potential new items for future written RRT examinations and they are not scored. Since these beta questions are randomized, the candidate must do the best for all 115 questions. As in the CRT exam, there are three major content areas in the written RRT examination: Clinical Data, Equipment, and Therapeutic Procedures.

Based on the 2010 NBRC written RRT Examination Matrix, there are 100 scored questions with **28 questions in Clinical Data** (*review data 5, collect and evaluate data 18, recommend procedures to obtain data 5*), **12 questions in Equipment** (*manipulate equipment 8, ensure*

infection control 2, perform quality control 2) and 60 questions in Therapeutic Procedures (maintain records 4, maintain patent airway 3, remove bronchopulmonary secretions 3, achieve adequate respiratory support 5, evaluate and monitor patient response 9, independently modify therapeutic procedures 9, recommend modifications in the respiratory care plan 14, determine the appropriateness of respiratory care plan 6, initiate, conduct and modify procedure in an emergency setting 3, assist physician 2, initiate and conduct pulmonary rehabilitation and home care 2).

The time limit for the written RRT examination is two hours (120 minutes) from start to finish (note: not all candidates in the same testing center start at the same time). This time limit means that the candidates have an average of **1 min and 2.6 sec** for each item on the written RRT examination. It is important to note that the practice written RRT and self-assessment written RRT examinations have only 100 questions -15 less than the *actual* RRT examination. In other words, there is more time (1 min 12 sec) for each question in the SAE.

Distribution of Questions in the Written RRT Examinations by Content Areas

| Examination | Clinical Data | Equipment | Therapeutic Procedures | # of Questions |
|-------------|---------------|-----------|------------------------|---------------------|
| Written RRT | 28 | 12 | 60 | 115 (100 + 15 beta) |

For the written RRT exam, the distributions of these examination questions based on the cognitive levels are: 6 recall questions, 15 application questions, and 79 analysis questions. Note that 94% (94/100) of the questions on the written RRT examination are at the higher cognitive levels.

Distribution of Questions in the Written RRT Examination by Cognitive Levels

| Exam | Recall | Application | Analysis | # of Questions | Time Limit |
|-------------|--------|-------------|----------|---------------------|------------|
| Written RRT | 6 | 15 | 79 | 115 (100 + 15 beta) | 2 hours |

The NBRC uses a scaled score of 70% for its written RRT examinations. A scaled score is used to equilibrate different forms of written RRT examinations which may be “harder” or “easier.” The scaled score may be higher or lower than the raw (actual) score.

RRT Clinical Simulation Examination The RRT clinical simulation examination is one of two required examinations for the RRT credential. This Clinical Simulation Examination (CSE) consists of 11 patient management problems. Ten of these problems are scored, and one is a beta problem. The CSE uses “patient scenarios” to simulate patient management situations in adult, pediatric and neonatal populations. The candidate has **four hours** for the CSE. This time limit means that the candidate has an average of **21 min and 49 sec** (240 min / 11 problems) for each patient management problem on the CSE. This may seem a lot of time for one patient management problem. The fact that each patient management problem consists of up to 20+ sections (Information Gathering and Decision Making), the candidate should budget **one minute** for each section.

Distribution of Patient Problems on the RRT Clinical Simulation Examination by Patient Types

| Number of Problems | Patient Type |
|--------------------|---|
| 2 | Adult patients with COPD |
| 1 or 2 | Adult trauma patients |
| 1 or 2 | Adult patients with cardiovascular disease |
| 1 or 2 | Adult patients with neurological or neuromuscular disorders |
| 1 | Pediatric patient |
| 1 | Neonatal patient |
| 0 or 1 | Adult patient with other medical or surgical condition |

Scoring of the RRT Clinical Simulation Examination – The Clinical Simulation Exam uses a “right minus wrong” method to calculate the earned score. Each correct response in the information gathering or decision making section earns +1 or +2 points (+3 points uncommon). Each incorrect response earns -1 or -2 points (-3 points uncommon). Neutral responses earn 0 points. The passing score for this exam is based on a “minimal passing level.” In order to pass the CSE, the candidate must pass the Information Gathering and Decision Making sections on the same CSE. Should the candidate fail one of these two sections, the candidate must re-take the entire CSE.

How Is the Written RRT Examination Developed?

Every five years, the NBRC conducts job analyses to assess the current practice of the respiratory care profession. From the job analyses, the content areas are developed. Question item writers (e.g., educators who are not members of the NBRC Board of Trustees) are contracted to write new or replacement questions based on the content areas and the respective cognitive levels (recall, application, and analysis).

For each question on the written RRT exam the item writer also provides one correct answer, three incorrect answers and the references to support the correct answer. They are subsequently reviewed by a Panel of Experts (not members of the NBRC Board of Trustees) and then by the NBRC Written RRT Examination Committee. The Panel and Examination Committee review all submitted questions for fitness in the content and cognitive levels and quality of questions based on accuracy, clarity, standard of practice and other writing and readability elements. The accepted items are placed in a pool as pretest items that are later used as examination items in different forms of the actual written RRT exam.

The NBRC staff assembles the online examination based on the prescribed distribution of question items (i.e., content areas and cognitive levels). For each five-year cycle of job analyses, several forms of the written RRT examinations are available. These forms are not entirely different examinations but vary by a percentage of the questions in the examination. The questions and answers are randomly presented to each candidate during web-based administration of the exam.

Implementation of the RRT Examination Matrices - The NBRC began using the revised RRT exam matrices on January 1, 2010.