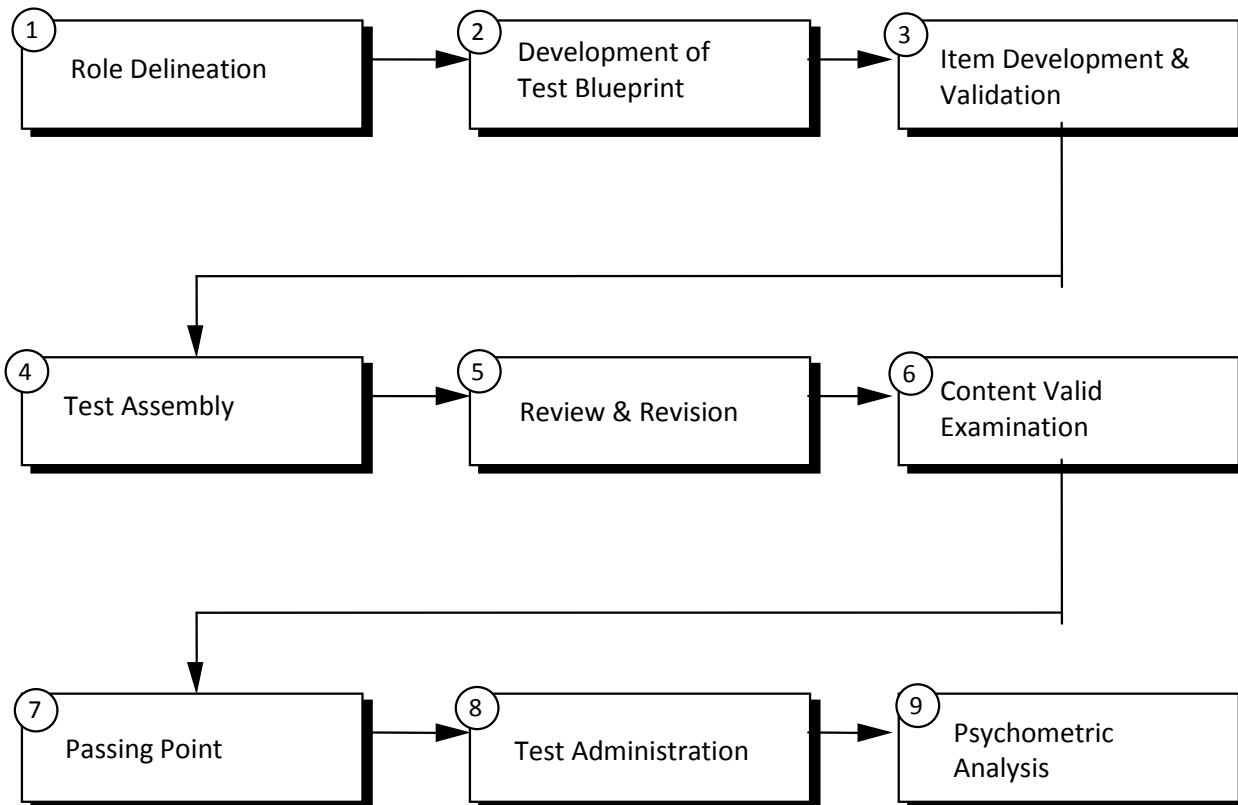




Medical Representatives Certification Commission is following a standardized process to create certification examinations that are psychometrically valid and legally defensible. Post-examination delivery, an ongoing process of analysis, validation and improvement will ensure ongoing validity of the programs. With the help of development and delivery expertise through Castle Worldwide, MRCC is ensuring that all processes, policies and procedures will gain Accreditation by the National Commission for Certifying Agencies (NCCA) in 2010.



## STEPS IN THE CONSTRUCTION OF THE MRCC EXAMINATIONS

**Role Delineation or Job Analysis.** Before developing an examination, a role delineation (or job analysis) study determines the knowledge and skills that define a minimally competent medical representative. Linking the knowledge and skills defined in the role delineation study to examination content ensures that the examination has content validity. In psychometric terms, validation is how a test developer documents the competence inferred from an examination test score.

During the role delineation process, a committee of recognized subject matter experts representing stakeholder groups defined the domains (major areas of responsibility and subject matter) associated with competent practice as medical representatives. These domains are further broken down into more distinct tasks, knowledge, and skills required on the job. The role delineation developed by the subject matter experts then is validated through a survey of practitioners. In the second phase, stakeholder groups including medical representatives who are currently working in the field, review and rate the domains and tasks according to their importance, criticality, and frequency of performance.

**Development of Test Blueprint.** In the next step, the results from the validation survey are used to develop a blueprint, or a plan, for the MRCC examination. The information regarding the importance, criticality, and relevance of each domain and task is translated directly into the percentage of items that should be included in the examination for each content area. This blueprint guides the item development and examination assembly process and ensures that the examination reflects the relative importance of the required knowledge and skills.

**Item Development and Validation.** All examination items are written by experts in pharmaceutical or biotechnology sales. Each item writer is trained in writing, reviewing, editing, and validating questions. Each question is reviewed and validated by at least three other subject matter experts and must have a verifiable reference. Each item is classified by content category, assigned a cognitive level, and validated according to its appropriateness to the newly certified medical representative. After development, items are reviewed to ensure they are psychometrically sound and grammatically correct.

**Test Assembly.** Each examination is created by selecting the appropriate number of items from each content area, as specified in the test blueprint. Key quality issues are identified and addressed so that the resulting examination is representative and fair.

**Examination Review and Revision.** The draft examination is reviewed by subject matter experts for technical accuracy and by psychometric experts to ensure its psychometric integrity. At this time, item performance data are available for those items that were used on previous examination versions. Using the statistical item analyses, inappropriate or questionable items are either revised or omitted from the examination.

**Content-Valid Examination.** The procedures described above are accepted procedures for developing reliable and content-valid examinations. Each step in the test construction process is carefully documented. Multiple reviews by content and psychometric experts and the use of stringent criteria strengthen the validity of the test. Continuous evaluation of each examination's reliability maintains the consistency of the test to measure examinees' skills accurately.

**Passing Point.** A valid credentialing examination must have a defensible passing score. The cut-off score that separates examinees who pass from examinees who fail is based on the minimum competence required to protect the public and other stakeholders from harm. A criterion-referenced approach called the Modified Angoff Technique is often used to determine the cut score or passing point of an examination. This technique is currently considered by the testing profession to be one of the most defensible criterion-referenced methods available for setting passing points.

**Test Administration.** Test administration procedures ensure consistent, comfortable testing conditions for all examinees. As a secure examination, procedures for the test administration address examinee admission into the room, seating charts, display of information signs, security, time allocation, and other aspects of the administration. Testing facilities meet guidelines that ensure security, proper room size, ventilation, rest room facilities, handicap accessibility, and noise control.

**Psychometric Analysis.** Following the test administration, item statistics are reviewed to ensure quality and validity. Items with poor performance statistics are evaluated by subject matter experts prior to scoring. These items then are tagged for review at the next meeting. Equating and reliability studies ensure fairness and accuracy.