



National Center for
Competency Testing

**Tech in Surgery – Certified (NCCT)
National Standard Setting Study**

Final Report

**Sarah Hughes
Alpine Testing Solutions
January, 2020**



National Center for
Competency Testing

7007 College Boulevard, Suite 385
Overland Park, KS 66211

telephone: 800.875.4404
www.ncctinc.com

Executive Summary

Scores on the National Tech in Surgery – Certified (TS-C) (NCCT) are intended to be interpreted as a measure of candidate knowledge associated with the performance of job tasks required for entry level practice as a surgical technologist. The intended use of TS-C (NCCT) test scores is to assure the public and employers that those who pass the examination and achieve certification have demonstrated the necessary job-related knowledge to practice safely as an entry level surgical technologist. Scores on the TS-C (NCCT) are not intended to predict the degree of success the candidate will achieve as a surgical technologist. The only statement made about a passing score is that the candidate has met the established performance standard for demonstrating entry level competence, regardless of how far above the examination passing score the candidate performed. Furthermore, candidates who fail to meet the passing score are not judged incompetent; they can only be said to have not yet demonstrated sufficient knowledge to be judged competent for certification by the NCCT.

The Angoff (1971) procedure is a widely accepted methodology for establishing the performance standard passing score for a test. The procedure relies on a panel of subject matter experts (SMEs) to make judgments about how candidates who have the minimum knowledge necessary for licensure or certification would perform on the exam. The Angoff method “is one of the most popular, long-lived, and thoroughly researched of all currently used standard setting methods” and “is the most oft-used method in licensure and certification testing” (Plake & Cizek, 2012, pp. 197, 181). For the TS-C (NCCT) standard setting, the Yes/No variation of the Angoff method was employed (Impara & Plake, 1997). Rather than estimating the likelihood that a minimally qualified candidate would answer an item correctly, this modified Angoff method asks panelists to provide “yes” or “no” judgments for each item. Specifically, panelists are asked to consider whether or not a minimally qualified candidate would, more likely than not, answer each item correctly and respond with a “yes” or “no” rating. This method minimizes the cognitive load of panelists by requiring these modified Angoff ratings rather than the likelihood ratings of the original method.

Seven surgical technology subject matter experts served as the panel for the study. The Angoff standard setting process used in this study was conducted in eight main sequential steps: 1) introducing the standard setting process; 2) developing the minimally competent practitioner (MCP) definition; 3) rating the job tasks on the detailed test plan as easy or hard for minimally competent practitioner; 4) conducting a practice round of ratings on 5 items; 5) conducting the first round of ratings; 6) reviewing impact data in relation to the Round One ratings; 7) conducting the second round of ratings, 8) reviewing impact data in relation to the Round Two ratings, and 9) finalizing the passing score.

In order to finalize the cut score, NCCT and the cut score panel considered the reasonableness of the pass rate in relation to their expectations for the level of knowledge and skill necessary for competent practice and their knowledge of entry level surgical technologists. They also considered the historical pass rate for the TS-C (NCCT). After completing two rounds of ratings, a panel-recommended cut score was sent to the NCCT Board of Testing. On January 14th, 2020 the NCCT Board of Testing formally approved the panel’s decision.