



Learning Through Longitudinal Assessment: Success Rates of Clones and Reattempted Items on the ABPath CertLink® Assessment

Tyler J. Sandersfeld, PhD, Ty McCarthy, Bonnie Woodworth, Gary W. Procop, MD, MS, MEd
American Board of Pathology (ABPath)

ABSTRACT

When an American Board of Pathology (ABPath) diplomate answers an item incorrectly on the ABPath CertLink® (ABPCL) longitudinal assessment, they are provided either with a clone of the original item or a chance to reattempt the same item in a future quarter. Success rates for clones, reattempts, and parent items were calculated over eight quarters of ABPCL data. The correct answer rates for clones and reattempts of previously missed items were 62.3% and 60.6%, respectively, with no significant effect between the two ($h = 0.03$). In comparison, the overall success rate for parent items was 84.2%. In 44 of 45 practice areas, the combined success rates for clones and reattempts of missed items were above 55%, indicating evidence of learning.

BACKGROUND & OBJECTIVE

The ABPath CertLink® longitudinal assessment, launched in 2022, fulfills the assessment requirement for ABPath’s Continuing Certification (CC) Program.

- Items are chosen from across 45 distinct content areas.
- The formative assessment component of this assessment includes a learning critique and an opportunity to remove the previous miss by answering related items correctly.
- If a diplomate answers an item incorrectly in one quarter, they may receive either the same item or a clone of the item (i.e., the same item with minor changes) in a future quarter.
- If the previously missed item is answered correctly on the clone or reattempt, then the initial incorrect response is from the record of the diplomate and replaced with the correct response for the clone/reattempt.

This study aimed to determine whether diplomates learn from their errors on initial item attempts by correctly answering clones or reattempted items thus demonstrating knowledge reinforcement.

METHODS

- Only cases wherein the parent item was answered incorrectly were included in the analysis.
- Success rates were calculated separately for clones and reattempts for each of the 45 content areas, then subsequently combined.
- Hypothesis tests were conducted to determine whether success rates significantly differed from guessing (set at 25% for simplicity).
- The numbers of quarters between the parent and its clone/reattempt were calculated for each item.
- To determine the strength of learning exhibited, effect sizes were calculated using Cohen’s h .

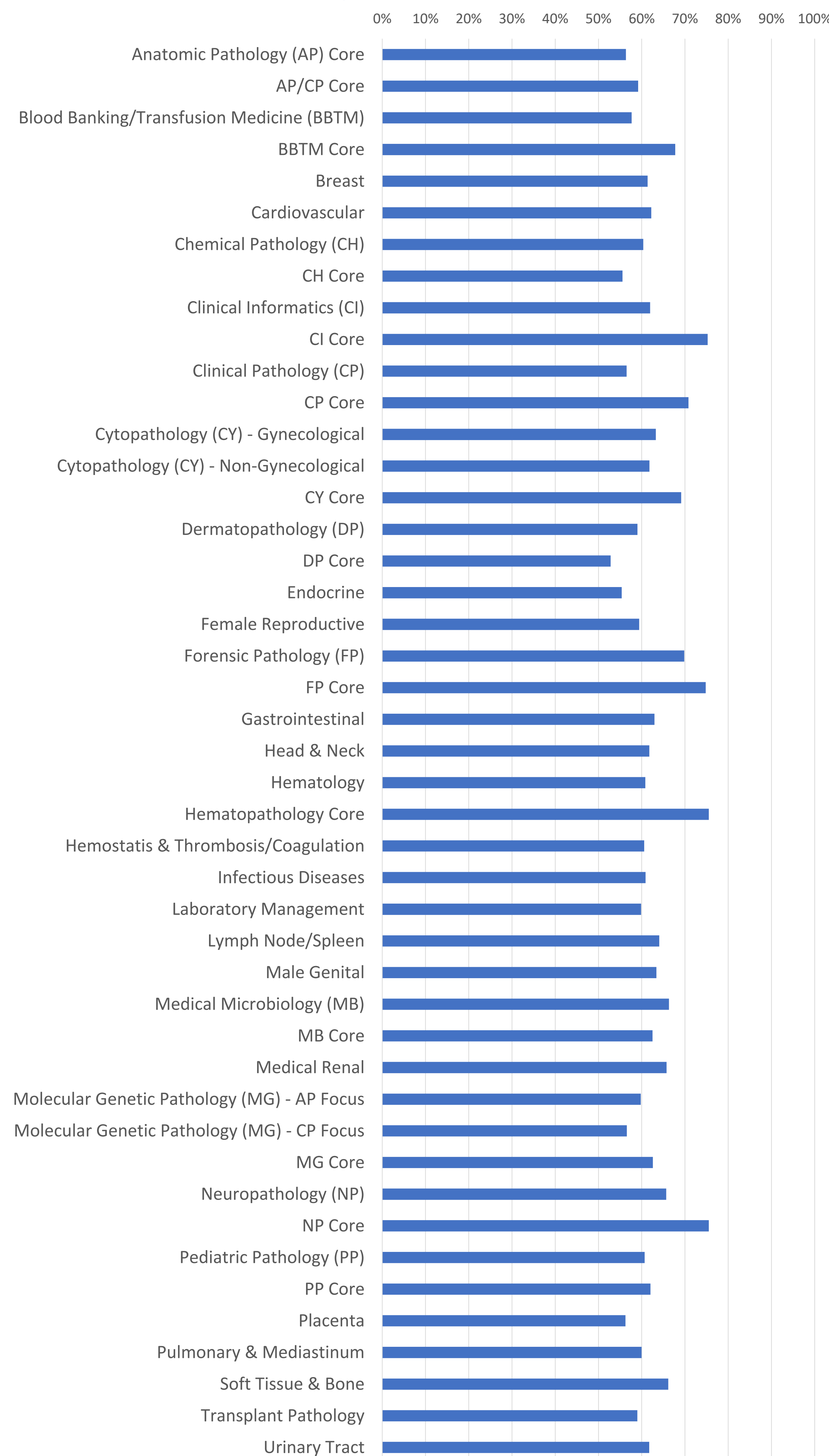
RESULTS

- On average, diplomates correctly answered 62.2% of clones and reattempts across all content areas, with success rates ranging from 52.8% to 75.5%.
- Even after Bonferroni correction, most content areas showed that diplomates performed significantly better on clones and reattempts compared to guessing.
- On average, clones and reattempts were administered to ABPCL diplomates 2.46 quarters after the parent item (Range: 2.26 to 2.76 quarters).
- The overall effect size for clones and reattempts was 0.77, considered a “Medium” effect (Range: 0.58 to 1.06).

DISCUSSION

- The results showed that overall, ABPath diplomates performed well when presented with the same content, supporting evidence of learning.
- Success rates and effect sizes show that diplomates engage meaningfully with the material and are not simply guessing on clones and reattempts.
- Further research is needed to determine if the time interval between parent and clone/reattempt affects correct response rates.

Clone/Reattempt Correct Response Rate by Content Area



Effect Sizes of Clone/Reattempt Success Rates vs. Random Guessing (25%) by Content Area

