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PRESIDENT & CEO
I. Leon Smith, PhD

Memorandum

To: Cathy Carter, Executive Director, ABC
Steve Fletcher, Director of Clinical Resources, ABC

From: Cynthia Kim, Program Director, PES

Date: May 3, 2011

Subject: Passing Point Results for the Pedorthic (6780311) Certification Examination

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On April 15, 2011, the American Board for Certification in Orthotics, Prosthetics and Pedorthics, Inc (ABC) commissioned a passing point study for the Pedorthic (6780311) Certification Examination. The Pedorthic (6780311) Certification Examination will be administered for the first time during the February 2012 test window at Prometric test centers.

Selection of the Certification Standard Setting Method

Standard setting activities in most credentialing examination programs are governed by two general types of approaches: norm-referenced procedures, which yield a **relative** test standard; and criterion-referenced procedures, which yield an **absolute** test standard.

The norm-referenced approach sets the passing point on the test-score distribution to achieve a predetermined percentage of passing candidates (passing rate). The "relative" nature of the standards derives from the fact that the passing point on different forms of a given examination shifts in relationship to the proficiency level of the candidate cohort sitting for the test, while the percentage of successful candidates remains constant.

In contrast, criterion-referenced procedures determine the passing point based on a predetermined (i.e., "absolute") level of mastery required to achieve a passing score. Thus, the level of proficiency associated with the passing point remains constant across different forms, while the passing rate varies in relation to the ability level of the candidate cohort.

A serious shortcoming associated with the norm-referenced technique is that, due to shifts in candidate ability from one form of an examination to the next, there is a significant probability of granting a credential to an individual whose proficiency level is below the minimum standard. Since the passing rate for examinations scored under this approach remains constant over time, a decline in the proficiency level of candidates would fail to produce a concomitant decrease in the percentage of examinees being granted the credential.

Criterion-referenced passing point methods, by contrast, are not subject to the shortcoming described above. For this reason, as well as in consideration of the public-protection aspect of credentialing examinations, criterion-referenced methods are favored in certification and licensure testing.

Selection of Judges to Serve as Certification Standard Setting Judges

Of the available criterion-referenced standard setting techniques, the modified-Angoff method was applied for the Pedorthic (6780311) Certification Examination. The subject matter experts (SMEs) that participated were:

Pedorthic SMEs
Dan Ballard
John Brest
Dennis Dillard
Steve Fletcher
John Galbraith
Darlene Hall
Ed Hicks
Steve Whiteside

Implementation of the Certification Standard Setting Method

The steps of the procedure used at the standard setting meeting were as follows:

1. The SMEs were presented with an overview of considerations taken into account when determining passing points and then the modified-Angoff procedure was outlined.

2. The SMEs discussed the eligibility requirements for the Pedorthic Certification Examination and developed a profile of a typical entry-level, barely qualified pedorthist.

3. The SMEs developed a list of job-related behaviors that distinguish a pedorthist who is minimally competent (i.e., barely qualified) from an individual who is below certification level. The SMEs were encouraged to rely on this list when making estimates of item performance of barely qualified pedorthists.

4. For the Pedorthic Certification Examination, the SMEs independently rated and then reviewed as a group sample items to make certain that each SME held a similar view of the standard of barely qualified individuals i.e., those with the minimum amount of knowledge and skill necessary to receive certification. Each practice item was chosen to represent different domains and varying levels of difficulty. Then, the SMEs independently reviewed each item on the examination, and estimated the percentage of just barely qualified candidates who **would** answer the item correctly. Each SME independently entered his/her ratings on the scannable rating sheet provided. The SMEs used a 10-point scale for its estimates. For example, a rating of 1 indicated that 10% to 19% of the barely qualified group would answer the item correctly, up to a rating of 10 which indicated that 100% of the barely qualified group would answer the item correctly.

Data Analysis Results

In order to compute the passing score for the modified Angoff rating session, the following procedure was used. First, each SMEs item ratings were summed across items, and then a grand

total was computed by summing across judges. The grand total was divided by the number of judges in the group. To calculate passing points, the average percentages were multiplied by the number of items in the test. Since a passing point must be equaled or exceeded to receive a passing score, it is customary to round a passing point up to the next integer value.

The results of the modified-Angoff is presented in the table below:

Pedorthic Certification Examination (6780311)	
Number of Items	150
Number of Raters	8
Inter-rater Consistency of Ratings	0.85
Intra-rater Consistency of Ratings	0.99
Modified Angoff Raw Score Passing point (%)	**67.32% = 101 raw**
One Standard Error* above the Passpoint (Rater Based)	69.51% = 105 raw
One Standard Error* below the Passpoint (Rater Based)	65.13% = 98 raw

* The standard error used here is the rater-based 2.19 for 6780311. The inter-rater consistency (consistency across raters) and the intra-rater consistency (the degree to which judges used the entire range of the Angoff scale) are within an acceptable range.

Historical Information

Determining a passing point for an examination is not just a result of an analysis of data. Historical trends, some fallibility of the judges and policy considerations must be factored in as well. Below are the historical trends for your review.

ABC Pedorthic Certification Examination Trends								
Test Form	Test Window	# Tested	# Passed	Difficulty of Exam	Range of Raw Scores	Standard Deviation	Passing Point	Passing Rate
6784141	May 07	82	28	65.83	56— 135	16.14	108/150	34.15%
6784151	Aug 07 – Nov 07	274	112	67.87	54—136	16.72	108/150	40.88%
6780101	May 08 – Nov 08	468	169	70.98	57—143	15.75	114/150	36.11%
6780201	May 09 – Nov 10	690	550	75.46	41—143	16.74	100/150	79.71%
6780311	2012			73.23*				

*Estimated

Recommended Passing Points

As you can see, the new Pedorthic exam passing point is comparable with the current exam (101 vs. 100). The estimated difficulty of the new Pedorthic exam (6780311) is slightly more difficulty than the current exam (73.23 vs. 75.46). If the modified-Angoff passing point for the new Pedorthic exam is adopted, it is estimated that the Pedorthic exam would yield a passing rate similar, but slightly lower than the passing rate on the current exam.

This information is provided to assist ABC in setting the passing point for the Pedorthic Certification Examination which will be administered for the first time in February 2012 via CBT. If the recommended passing point is adopted, please be advised that the cumulative pass/fail rates/final form difficulty will not be known until the end of the year in 2012.

Based on the data presented above, it is PES's recommendation that you adopt the modified Angoff passing point of **101.**

Please feel free to contact me at (212) 367-4257 or ckim@proexam.org to discuss these results including the pass point recommendations for these examinations.

National Commission For Certifying Agencies
The Accreditation Body of the Institute for Credentialing Excellence

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May 13, 2010

Ms. Samlane Ketevong
Manager, Professional Credentialing Programs
American Board for Certification in Orthotics, Prosthetics, and Pedorthics
330 John Carlyle Street
Suite 210
Alexandria, VA 22314

Dear Ms. Ketevong:

Thank you for submitting your accreditation deferral response to the National Commission for Certifying Agencies (NCCA) on behalf of the American Board for Certification in Orthotics Prosthetics, and Pedorthics (ABC) Certified Pedorthist (C.Ped) certification program. Your response was reviewed by the NCCA Commission during its April meeting.

The NCCA Commission is pleased to report that their decision was to grant renewal accreditation to the C.Ped program for a period of five years through April 30th, 2015. However, the Commission requires that you publish the rationale for your recertification time interval so that it is available to stakeholders and provide evidence that this has been completed within the next 60 days.

Your organization may advertise that the C.Ped program is accredited by the NCCA and the NCCA accredited program logo may be used to attest to accreditation of this credentialing program. A certificate denoting the program's accreditation will be mailed to you within four weeks.

[redacted]

If you have any questions regarding the Commission's review or NCCA accreditation please feel free to contact the NCCA executive office at 202/367-1165 or info@credentialingexcellence.org.

Sincerely,

Denise Fandel

Denise Fandel, CAE
NCCA Chair

cc: Jim Kendzel, MPH, CAE
NCCA Executive Director