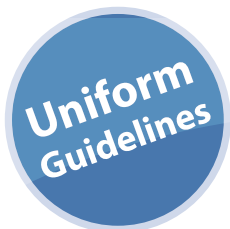


## Exam Validation Process

Amistaff Healthcare Technology has implemented a new revolutionary initiative by updating their NurseTesting.com service utilizing a new **content validation process never before applied to healthcare competency exams**. This validation process will give healthcare organizations access to exam content linked directly to specific job duties and requirements. Using these exams will **minimize your liability and risk** and give you a clear understanding of the **knowledge, skills abilities of caregivers** you hire.

### What Makes NurseTesting Exams Different:



Exams follow the Uniform Guidelines on Employee Selection Procedures



Dept. of Labor / Equal Employment Opportunity Commission Compliant



Exclusive Biddle Consulting Group Partnership

If you are not using NurseTesting.com's validated exams, you are open to Adverse Impact:

**Adverse Impact** is a statistical concept that is generally used to mean there is a "substantially different passing rate" between two groups on a test or exam. This could lead to litigation by candidates against potential employers, claiming the exams were unfair or biased.

**A**mistaff Healthcare Technology has teamed with Biddle Consulting Group, Inc., an expert in test validation and development. Dan Biddle, CEO, states, "Validation generates two major benefits for the employer. First, validation helps insure that the selection process is measuring key, relevant job requirements in a reliable and consistent manner. Second, the validation process generates evidence (for use in litigation) that the selection procedures are job related and consistent with business necessity. We are excited about working with Amistaff on this process."

The content validation process takes the Uniform Guidelines on Employee Selection Procedures and applies it to the development of Amistaff's competency exams. Amistaff will be continually putting all of its content through this national validation process that follows the EEOC, Dept of Labor and Dept of Justice guidelines. Amistaff is currently working with subject matter experts and consultants from across

the country, performing detailed job analysis for each exam and then writing the content for each exam that is directly linked, correlated and validated against the job analysis. That way, our exams will be nationally validated and reliable and thus minimizes the liability and risk for healthcare staffing agencies and healthcare facilities that use the exams as part of the pre-screening, employment or annual performance process. And more importantly, gives the staffing agencies and facilities a much better understanding of what the knowledge, skill and ability is of the person taking the exam, allowing for a more customized streamlined orientation process based on the candidate's strengths and weaknesses, reducing cost and more effectively utilizing the clinical educators throughout the facilities.

The process for each exam specialty, is performed in two phases. The first phase involves an in depth Job Analysis which is performed using subject matters experts from around the country. The subject matter experts, through a

facilitated workshop, identify the key job duties/tasks and specific knowledge, skills, and abilities that the clinician needs to possess on the first day of the job. Once the Job Analysis phase is complete, the subject matter experts develop a test plan and begin the item writing phase for each exam. This phase involves specific criteria for item writing that conforms with the recommendations from the Dept of Labor and the Uniform Guidelines on Employee Selection Procedures. During both phases, a significant amount of statistical data is collected and analyzed yielding a final recommendation as to which items are to be included on each exam and what the recommended cutoff score should be for each exam.



See Back for Details on NurseTesting's Exam Validation Data

## The Complete NurseTesting Exam List:

### Nurse Competency Exams

- Cardiac Cath Lab
- CNA-Acute Care
- CNA-LTC
- Critical Care
- Critical Care Medication
- Diabetes Knowledge Quiz
- Dialysis
- Dysrhythmia Exam
- Emergency Room
- ER Medication
- Geriatric-LTC
- IV Push Medications
- IV Therapy/Infusion
- Labor & Delivery
- Long Term Care-Pharmacology
- LPN Pharmacology
- LPN/LVN Competency
- Medical-Surgical
- Med-Surg/Tele Combo
- Newborn Nursery
- NICU
- NICU Pharmacology
- Oncology
- Operating Room
- PACU
- Pediatrics
- PEDS Pharmacology
- PICU
- Postpartum
- Psychiatric
- RN Pharmacology
- Telemetry

### Allied Health Competency Exams

- Certified Occupational Therapy Assistant
- Medical Assistant
- Occupational Therapist
- OR/Surgical Technologist
- Phlebotomy
- Pharmacy Tech Retail
- Pharmacy Tech Non-Retail
- Physical Therapist
- Physical Therapy Assistant
- Psychiatric Technician/Behavioral Health Tech
- Rad Tech/X-Ray Tech
- Respiratory Therapist
- Speech Language Pathologist-Adults
- Speech Language Pathologist-PEDS
- Tele Tech/EKG Rhythms
- Ultrasound Technologist

### Mandatories (Joint Commission & OSHA)

- Abuse
- Advanced Care Planning
- Age Specific
- Bio-Terrorism
- Blood Glucose Monitoring
- Body Mechanics
- Color Vision
- Cultural Diversity
- Disaster Preparedness
- Domestic Violence
- Drugs in the Workplace
- Environmental Safety
- Fire Safety
- Hazardous Chemicals
- HIPAA
- Infection Control
- National Patient Safety Goals 2008
- Pain Management
- Patient Restraints
- Patient Rights
- Preventing Infant Abductions Mandatory
- Preventing Medication Errors
- Sexual Harassment
- Workplace Violence
- Conscious/Moderate Sedation

### Precision Skills Checklists

- Cardiac Cath Lab
- Cardiovascular Technician
- CAT SCAN Technologist
- CNA
- Corporate Nurse
- Corrections RN/LPN
- Critical Care
- Critical Care Technician
- Dialysis
- ER
- Geriatric/LTC
- Home Health
- Laboratory Technician
- Labor & Delivery
- LPN
- Medical Assistant
- Medical/Surgical
- Newborn Nursery
- NICU
- Nuclear Medicine Technologist
- Occupational Therapy
- Oncology
- OR-Circulating
- OR-Scrub
- PACU
- PEDS
- Phlebotomy
- Physical Therapist
- Physical Therapist Assistant
- PICU
- Post Partum
- Psychiatric
- Radiation Therapy
- Respiratory Therapy
- Speech Language Pathology
- Surgical Technologist
- Telemetry
- Ultrasonographer
- X-Ray/Rad Tech

### Home Care Series

- CNA-Dementia Care
- CNA-Disability Competency
- CNA-Hospice & Palliative Care
- HHC-Nasal/Tracheal Suction Exam
- HHC-Pediatric Ventilator
- Home Care-Clinical
- Home Care-Medication
- Home Care-Vent Management
- RN/LPN-Dementia Care
- RN/LPN-Hospice & Palliative Care

### Exam Validation Report Sample

Updated 5.01.08

Exam Name	Reliability Alpha	KR 21	Mean Score	National Sample
NICU	0.85	0.82	74	2427
Labor and Delivery	0.82	0.77	83	2897
Critical Care	0.72	0.69	84	1123
Emergency Room	0.79	0.7	85	803
RN Pharmacology	0.84	0.83	91	1348
PACU	0.75	0.69	79	1390
LPN / LVN	0.85	0.80	82	1437

### Validity:

The content of our clinical nursing exams was developed and refined through many sources: clinical experience, interviews with staff nurses, clinical experts and nursing educators at leading national healthcare facilities. Validity for each of our exams was established by a panel of experts using results from sample tests filled out by nurses with experience ranging from new graduates to those with over 20 years of experience.

### Content:

Clinical Exam questions contain multiple choice options and measure the recall of information and the application of basic knowledge in practice situations. Exams are updated annually to reflect the most current trends in Nursing Practice.

### Reliability:

To test reliability for each clinical exam, NurseTesting.com applied Cronbach's Coefficient Alpha and the Kuder-Richardson Formula 21 to measure internal consistency.

The KR-21 Reliability Algorithm is an alternative formula for calculating how consistent subject responses are among the questions on an exam. When used in conjunction with Cronbach's Alpha, reliability and validity are enhanced. K-R 21 assumes that all of the questions are equally difficult.

### Panel of Experts, Authors & Data Collectors:

Janet Stevens RN, BSN, CRN	Donna Whaley MSN, RN
Renell Middlecamp RN, BSN, CCRN	Kathy Kendrick RN
Ma Lodema Cruz RN-C, BSN	April Anthony MSN, RN
Leslie Huckler RN, BSN	Becky Rollins RN
Steven Ahm RN, BSN, CEN	Lisa Block, RN, ASN
Ronald Gonzalez BSN, MS	Cheryl Cioffi, MS, RN, CRNP, OCN
Deborah Enea RN, MSN, CNS	Kate M. Smith MS, RN, CRNP
Monica Bohlman RN, MSN	Lisa Nichols RN-C
Linda Buckwald RN, BSN	Elizabeth J. Cipra BSN, RN
M. Jane Dolphin RN, BSN, CDE	Tina Kessinger RCP, RRT
Eve Wallace MSN, RN	Paul Regalia BSN, RN, MICP
Karmen Leavins BSN, RN	Jim Ostmann Sr. RN, MBA

### Validation Partner Facilities:

Alameda Medical Center, Frederick Memorial Healthcare System, O.R. Nurses, Inc., Saint Francis Medical Center.

## Exam Validation Data

### Sample Exam Data

Reliability - Cronbach's Alpha	0.819	Good
Reliability - KR-21 Formula	0.781	Adequate
Test Mean	32.887	
Test Standard Deviation	3.440	

**Cronbach's Alpha** provides the internal consistency of a test. These values are shown with interpretive guidelines of "Excellent," "Good," "Adequate," and "Limited" (standards from the U.S. Department of Labor's guidelines (2000).

**The KR-21 formula** is another method for evaluating test reliability and is typically more conservative than Cronbach's Alpha. This method considers only each applicant's total score (Cronbach's Alpha method takes item-level data into consideration).

**Test Standard Deviation** provides the standard deviation, or average score dispersion of the test scores.

### Test Question Analysis

**IMPORTANT:**  
Click UPDATE if any changes have been made to the data on previous sheets.

Item Number	Output 1 Point Biserial	Output 2 Item Difficulty	Output 3 DIF Value				
			Black	Hispanic	Asian	Tot. Min.	Female
1	0.28	0.92	-0.53	0.04	0.57	-0.36	-1.04
2	0.25	0.95	-0.93	1.02	0.18	-0.47	-0.28
3	0.23	0.97	-1.13	1.63	0.85	-0.80	-0.13
4	0.24	0.96	-0.69	1.65	-0.37	-0.31	0.27
5	0.20	0.83	0.32	0.32	-0.86	-0.22	0.77
6	0.45	0.80	-0.21	1.13	1.34	0.63	-0.73
7	0.39	0.78	-0.74	1.90	-0.64	-0.30	0.23
8	0.39	0.82	1.57	0.00	1.18	1.74	-0.36
9	0.46	0.80	0.28	0.67	0.73	0.49	-0.49
10	0.44	0.78	0.65	-0.64	1.80	0.94	0.26
11	0.33	0.96	-0.82	1.75	-0.63	-0.79	0.21
12	0.37	0.97	-1.75	1.80	1.03	-0.99	-0.33
13	0.31	0.91	1.21	0.93	0.04	0.71	-0.32
14	0.32	0.91	0.39	1.10	0.58	0.25	1.48
15	0.36	0.98	-1.30	1.51	1.59	-0.58	0.46
16	0.39	0.97	-1.13	0.30	-0.29	-1.18	-0.95
17	0.24	0.92	0.11	0.16	1.30	0.29	-0.44
18	0.25	0.80	-1.07	1.20	0.64	-0.16	0.31
19	0.35	0.97	-1.90	1.48	1.49	-1.18	-1.01
20	0.32	0.98	1.93	0.48	2.01	1.35	1.21
21	0.52	0.99	0.59	1.79	1.74	1.00	1.51
22	0.36	0.99	1.04	1.53	1.58	1.41	-0.08
23	0.25	0.97	-2.01	0.40	1.78	-1.34	0.68
24	0.31	0.97	-1.77	1.47	-1.43	-2.19	-0.25
25	0.20	0.87	-2.69	-0.47	-1.32	-2.69	-0.97
26	0.55	0.99	0.00	0.00	0.00	0.00	1.51

**Point Biserials** show how correlated the item is to the overall test score.

**Item Difficulty** shows the percentage of applicants who answered the question correctly.

**Differential Item Functioning** detects items that are not functioning in similar ways between the indicated group and whites (or men v. women).

### Recommended Cut-Off

Cutoff Option	Interpretation for Mastery-based Tests							
	Cutoff Score		Decision Consistency Reliability			Kappa Coefficient		
	Raw Points	Percent	Estimated	Calculated	Interpretation	Estimated	Calculated	Interpretation
<b>A</b>	29.41	81.69%	0.89	0.89	Good	0.53	0.51	Good
<b>B</b>	28.21	78.37%	0.94	0.93	Excellent	0.49	0.46	Good
<b>C</b>	27.02	75.06%	0.96	0.96	Excellent	0.45	0.42	Adequate

**Decision Consistency Reliability (DCR):** DCR is the appropriate type of reliability to consider when interpreting reliability and cutoff score effectiveness for mastery-based tests. Mastery-based tests are tests used to classify examinees as "masters" or "non-masters" or "having enough competency" or "not having enough competency" with respect to the KSAPC set being measured by the test.

**Kappa coefficients:** These values show how consistently the test classifies "masters" and "non-masters" beyond what could be expected by chance. This is essentially a measure of utility for the test.

### Adverse Impact Statistics

Cutoff A	Men		Women		White		Black		Hispanic		Asian		Native American		Tot. Min	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Pass	123	93.2	845	91.6	587	92.4	215	89.2	42	97.7	66	94.3	10	83.3	333	91.0
Fail	9	6.8	77	8.4	48	7.6	26	10.8	1	2.3	4	5.7	2	16.7	33	9.0
80% Test				0.98				0.97		1.06		1.02		0.90		0.98
Stat. Test				0.73				0.13		N/A		N/A		0.24		0.47
Pract. Test				N/A				N/A		N/A		N/A		N/A		N/A

Cutoff B	Men		Women		White		Black		Hispanic		Asian		Native American		Tot. Min	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Pass	127	96.2	867	94.0	603	95.0	222	92.1	42	97.7	66	94.3	11	91.7	341	93.2
Fail	5	3.8	55	6.0	32	5.0	19	7.9	1	2.3	4	5.7	1	8.3	25	6.8
80% Test				0.98				0.97		1.03		0.99		0.97		0.98
Stat. Test				0.42				0.14		N/A		0.77		0.47		0.26
Pract. Test				N/A				N/A		N/A		N/A		N/A		N/A

## Choosing a Competency Testing Provider

### Consider these points when choosing a competency exam provider:

- Be careful of companies that claim National Validation, yet have NO DATA to back it up.
- Be careful of companies that offer clinical exams, yet do NOT have a Nurse or Clinician on staff. How committed could they be to keeping content current?
- According to some company's marketing material for competency testing, "there are no additional fees". Remember the old saying, "you get what you pay for".
- Choose the provider that lives and breathes testing. NurseTesting.com has been in the competency testing business for over 5 years and was created by an RN with the mission of providing the best and most current exam material in the industry. NurseTesting.com has three Full-Time Mastered Prepared Nurses on Staff.

### What Are Nationally Validated Exams?

There are two levels of validation. First, Exams are vetted by clinicians across the nation, to verify that the exams are accurate and relevant. This means that an exam that is appropriate for a provider in California also is appropriate in North Carolina.

The second and most reliable level requires a thorough, panel-driven Guidelines Oriented Job Analysis (GOJA) coupled with a Test Validation and Analysis Program (TVAP). The panel of Subject Matter Experts (SMEs), each active in the practice for which the exam is targeted, provide statistically sound verification that each question and answer is relevant, accurate, transportable, and non-biased. This process validates the exam within the guidelines set by the Federal Uniform Guidelines on Employee Selection Procedures.

### About NurseTesting's Exam Validation:

NurseTesting has, for years, provided the first level of validation for the majority of our exams, including the most-used and critical exams. Each step of the content validation study is a time consuming, labor intensive process and cannot be rushed or modified. Only adequately trained facilitators can effectively and efficiently conduct this process using the correct methodology that meets the federal guidelines. It also requires many subject matter experts for each exam topic, to ensure valid results of the GOJA and TVAP processes.

NurseTesting is currently applying the GOJA and TVAP processes, as guided by Biddle Consulting Group, Inc. NurseTesting is nearing completion on several of our most widely distributed critical exams. Existing exams will continue to be updated, guaranteeing NurseTesting clients the best, most accurate and useful tests in the industry.

### The Federal Uniform Guidelines on Employee Selection Procedures provides several advantages:

#### Comprehensive Job analysis Report:

This report allows clients to view the demographics and experience of the panel of SMEs, as well as the content and expertise required and often includes over 100 pages of data and reporting including:

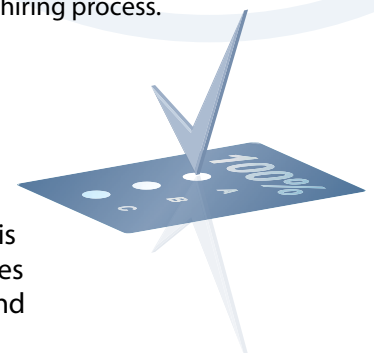
- Required Job Duties
- Required knowledge, skills, and abilities (KSAs)
- Importance and frequency ratings for job duties and KSAs
- Information linking KSAs with the appropriate job duties

#### Comprehensive Test Plan:

This plan includes all test questions and answers developed, comprehensive SME ratings and surveys, and a comprehensive detailed statistical analysis of the body of test items. This test plan includes detailed statistics addressing possible Adverse Impact for each item and the exam entire. This Test Plan integrates with the Job Analysis Report by linking individual test questions with validated Job Duties and KSAs.

#### Defensibility under EEOC Title VII:

The GOJA and TVAP process and its results, demonstrate that a given exam provides valid, reliable and defensible content, and therefore can be used as part of the hiring process.



See Back for Details on  
NurseTesting's Exam  
Security and Reliability



## *Test Reliability and Security—Why maintaining control over clinical content is so important.*

It is extremely important the integrity of the testing process is maintained so that no person may gain a special advantage by having improper access to the test questions. A 2007 report by the Association of Test Publishers' indicated that many certification test centers reported that more than 60 percent of their tests had been stolen or compromised.

The Society for Industrial & Organizational Psychology, one of the nation's premier testing-expert organizations, says "public disclosure of the content and scoring of most selection procedures should be recognized as a potentially serious threat to their reliability, validity, and subsequent use." Also, the International Guidelines on Computer-Based and Internet Delivered Testing, published in 2005 by the British Psychological Society, says that test publishers should "protect sensitive features of the test from illegitimate disclosure." James S. Ostmann, Sr RN, MBA, Chief Nursing Officer for Amistaff Healthcare Technology further states, "Releasing clinical competency exam content to subscribers or test takers, in essence, nullifies the reliability of the exam. Hence, the knowledge, skills and/or abilities the exam was designed to measure and the inferences drawn from those results are meaningless once the exam content has been compromised."

This is extremely important since a test score based on cheating is by definition is not valid, and therefore should not be used for selection purposes. One way to minimize potential threats to test security is to limit the number of opportunities in which the test's integrity can be compromised. This includes minimizing the number of people who have access to the contents of the exam. For this reason, testing organizations such as NurseTesting that value the reliability and validity of the employment-selection process actively prevents the widespread dissemination of its contents of their selection devices by limiting the release of a test's contents.

"Public disclosure of the content and scoring of most selection procedures should be recognized as a potentially **serious threat** to their reliability, validity, and subsequent use."