

# Engaging Faculty Members in Defining a Standalone Curricular Component

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## Objectives

At the University of Nebraska College of Medicine (UNCOM), the clinical skills requirement is a curricular component that is not taught or assessed in any one course. Development and management of such a 'standalone' component necessitates a consensus from faculty members. To this end, a grassroots survey to redefine the required clinical skills for medical students was used to gather data and generate endorsement from faculty members.

## Methods

A survey listing 89 skills was presented electronically to all faculty members. Respondents identified each skill's importance for medical students; responses were then coded numerically. Survey items were drawn from the Medical School Objectives Project (MSOP), the NBME requirements for Step 2 Clinical Skills Exam, the Family Medicine Curriculum Resource Project (FMCPR), AGME Patient Care outcomes, and the existing UNCOM list. An exploratory factor analysis was done in order to sort these skills into groups based on their importance, as rated by the survey respondents. A validity check verified that the items which statistically loaded onto each factor were conceptually related to each other. Each extracted component was then reviewed to identify the skills that were indicative of that component and to remove redundancies or superfluous skills.

## Results

Survey respondents were representative of all levels of teaching and academic ranks. Eighteen components were extracted in the initial solution, which explained 71% of the total variance; however, no variables loaded positively on to component 18, so it was discarded. After extraction, the 17 components were each named based on the construct similarities of the tasks that loaded onto that component. The 89 skills are shown in the table at right, sorted according to the component onto which each skill loaded. The column on the far right of the table marks the clinical skills that were included on the final list of required skills for graduation.

There was general agreement amongst the faculty regarding the skills, although there was a slight difference in overall ratings between members with different roles, as shown in the table at left. In general, faculty members housed in the patient care rated the skills as being of lower importance than those in the basic science areas, although members of various academic ranks did not differ significantly in their ratings by faculty.

Primary Educational Role	Overall Rating of Importance (4 = max)				
	Instructor	Assistant Professor	Associate Professor	Professor	All Ranks
Basic Science/other	3.32	3.39	3.09	3.49	3.315
Teach Medical Students	3.28	3.26	3.17	3.18	3.210
Teach Residents	3.01	3.19	3.25	3.18	3.196
Patient Care	3.18	3.25	3.15	3.04	3.152
All Roles	3.194	3.248	3.171	3.225	3.2150

## Significance

The component structure of the responses revealed that the importance of clinical procedures was based not only on the procedure itself but on students' participation. For example, to "perform" a diagnostic procedure loaded differently than to "interpret" the results of that same procedure. Overall, performing procedures was considered to be less important than interpreting results or other cognitive processes. The faculty considered clinical reasoning skills to be more important for medical students to learn than doing procedures.

Previous versions of the clinical skills list had been compiled by a small number of select faculty members. Generating a broad survey allowed for input from all interested faculty members, and the factor analysis allowed us to pare down the list of skills to a manageable number while still retaining the intent of the survey respondents.

## References

- USMLE Step 2 CS Content Description and General Information. 2007. ([http://www.usmle.org/Examinations/step2/step2cs\\_content.html](http://www.usmle.org/Examinations/step2/step2cs_content.html).)
- ACGME Outcome Project - Patient Care: Assessment Approaches. 2007. (<http://www.acgme.org/outcome/assess/PCare-Index.asp>)
- Association of American Medical Colleges. Learning Objectives for Medical Student Education: Guidelines for Medical Schools. Washington, DC: AAMC; 1998
- Association of American Medical Colleges. The AAMC Project on the Clinical Education of Medical Students: Clinical Skills Education. Washington, DC: AAMC; 2005
- Family Medicine Curriculum Resource Project. 2007. (<http://www.stfm.org/fmhub/toc.cfm?xmlFileName=fm2007/fammedvol39issue1.xml>)

Component Title	Mean Rating of Importance (4 = max)	Skills Presented on Survey	Final List of Clinical Skills
Clinical Reasoning	3.84	Perform physical examination (including newborn exam, pelvic exam, mental status exam, neurological exam, etc.)	X
		Obtain patient history (in person, via phone or electronically)	X
		Generate differential diagnosis (minimum 3 diagnoses)	X
		Record history and physical examination	X
		Record clinic note (handwritten, typed, or dictated)	X
		Present clinical findings to house officers and faculty	X
		Access clinical information (paper and electronic records)	X
		Use electronic health records	X
		Write hospital orders (admission, daily, post procedure, discharge)	X
		Write prescription	X
		Record discharge summary	X
		Interpret blood glucose	X
		Interpret complete blood count, serum electrolytes, basic metabolic panel, thyroid function tests, inflammatory serum markers	X
		Demonstrate basic respect and empathy skills	X
		Infection Control	3.79
Perform surgical hand scrub	X		
Interpret Diagnostic Procedures	3.70	Assess surgical wound for infection and healing	X
		Interpret pulse oximetry and arterial blood gases	X
Life Support	3.66	Interpret 12 lead electrocardiogram and rhythm strip (normal tracing and most commonly seen dysrhythmias)	X
		Interpret chest and extremity x rays	X
		Perform CPR	X
Urin-alysis	3.62	Perform Heimlich maneuver	X
		Perform injections, IM, sub Q, IV, intradermal	X
Interpret Non-Invasive Diagnostic Procedures	3.57	Interpret urinalysis, dip and microscopic	X
		Interpret urine pregnancy test	X
Patient Communication	3.55	Instruct patients in home care and preventive practices	X
		Obtain informed consent from patient	X
Information Management	3.48	Perform basic patient counseling	X
		Perform notification of patients for diagnostic test results	X
Vascular Access Procedures	3.38	Access medical literature (electronic and paper)	X
		Interpret medical literature using basic evidence based medicine principles	X
		Record 3 generation genogram	X
Minor Surgical Skills	3.35	Place peripheral IV line	X
		Draw venous blood sample	X
Diagnostic Procedures	3.09	Draw arterial blood sample	X
		Interpret tuberculin skin test	X
Ear Procedures	3.05	Interpret basic pulmonary function measurement	X
		Interpret UV light skin examination	X
KOH Diagnostic Procedures	3.03	Interpret diagnostic skin scraping	X
		Perform diagnostic skin scraping	X
Psychomotor Skills	2.87	Perform UV light skin examination	X
		Interpret pneumatic otoscopy or tympanogram	X
		Perform pneumatic otoscopy or tympanogram	X
		Interpret KOH wet prep using light microscope	X
		Perform KOH wet prep	X
		Close simple skin laceration	X
		Perform local anesthesia for procedures	X
		Change wound dressing	X
		Perform wound irrigation	X
		Place urinary bladder catheter, male and female	X
		Place nasogastric tube	X
		Incise and drain skin abscess	X
		Pack wound	X
		Perform neonatal resuscitation	X
		Place endotracheal tube, perform direct laryngoscopy	X
		Perform normal spontaneous vaginal delivery with faculty or resident assistance	X
		Remove foreign body (nasal, ear, vaginal, etc)	X
		Remove surgical drain	X
		Place upper and lower extremity splints	X
		Irrigate ear	X
		Remove simple skin lesion	X
		Remove superficial corneal foreign body	X
		Perform pupillary dilation	X
		Perform elective cardioversion	X
		Remove chest tube	X
Place peripheral arterial line	X		
Place short arm cast	X		
Drain subungual hematoma	X		
Debride and treat skin warts	X		
Perform cryotherapy for skin lesion	X		
Perform anoscopy	X		
Debride toenails	X		
Perform indirect laryngoscopy	X		
Remove ingrown toenail—perform wedge resection	X		
Perform Non-Invasive Diagnostic Procedures	2.77	Perform 12 lead electrocardiogram and rhythm strip	X
		Determine blood glucose	X
Invasive Diagnostic Procedures	2.60	Perform urinalysis, dip and microscopic	X
		Perform basic pulmonary function measurement	X
Ultrasound Procedures	2.45	Perform urine pregnancy test	X
		Perform umbilic puncture	X
		Perform diagnostic thoracentesis	X
		Perform diagnostic paracentesis	X
		Perform arthrocentesis—knee	X
		Perform needle bladder aspiration	X
		Interpret screening ultrasound examination	X
		Perform screening ultrasound examination	X