



## **The Seven Osteopathic Medical Competencies**

**Definitions  
Required Elements  
Measurable Outcomes**

**CONSIDERATIONS FOR FUTURE TESTING  
and the  
PRACTICE OF OSTEOPATHIC MEDICINE**

September 2006



# **THE SEVEN OSTEOPATHIC MEDICAL COMPETENCIES A BASIS FOR FUTURE TESTING**

## **TABLE OF CONTENTS**

Introduction	3
Competency defined	6
Competency 1: Osteopathic Philosophy and OMT	7
Competency 2: Medical Knowledge	11
Competency 3: Osteopathic Patient Care	14
Competency 4: Interpersonal and Communication Skills	21
Competency 5: Professionalism	25
Competency 6: Practice-Based Learning and Improvement	32
Competency 7: Systems-Based Practice	37



## INTRODUCTION

In recent years, there has been a growing national trend toward developing a framework for defining, applying, teaching, and measuring the competency of a physician. Many organizations have developed criteria to define and measure competency. These include, but are not limited to, the American Association of Medical Colleges, the American Association of Colleges of Osteopathic Medicine, the American Board of Medical Specialties, the American Osteopathic Association, the Council on Osteopathic Postgraduate Training, the Federation of State Medical Boards, the International Association of Medical Regulatory Authorities, the US Government (“pay for performance” or P4P), third-party payers, and public interest groups.

Although consideration for determining physician competency is not a new concept, the progressive movement toward competency-based systems is arguably attributable to the 2001 report on “Crossing the Quality Chasm” published by the Institutes of Medicine. In early 2002, the Royal College of General Practitioners in England published a landmark document entitled “Good Medical Practice for General Practitioners.” The GMP document lists exceptional, acceptable, and unacceptable behaviors and practices for general practitioners reflective of their competency.

More recently, the FSMB has sponsored two Competency-Accountability Summits. One central theme that has prevailed is that of assessing and maintaining physician competency throughout the practice time of the physician. One outcome of Summit # 2 was the drafting of a “theoretical textbook” on Good Medical Practice to deliver a competency-based curriculum. The topics included the following:

1. Medical knowledge
2. Patient care
3. Professionalism
4. Communication
5. Practice-based learning
6. Systems-based practice

Professionalism has been one of the competency-based issues receiving inordinate attention. Various authorities have indicated that some of the measures to assess this competency include, but are not limited to, the following:

1. Altruism
2. Honor and integrity

3. Caring and compassion
4. Respect
5. Responsibility
6. Accountability
7. Excellence in scholarship
8. Leadership
9. Cultural sensitivity
10. Service
11. Codes of ethics

Of all the organizations supporting the concept of competency-based assessment, the AOA offers the most comprehensive list of competencies as it encompasses all current published positions on this issue, and also includes those uniquely applicable to the osteopathic medical profession. Given this analysis, the AOA competencies were used as the basis of this document. It is noteworthy that most of the competency-based programs have been centered on GME, and did not clearly address the assessment at the osteopathic medical school level.

In 2004, the NBOME introduced the COMLEX-USA Level 2-Performance Evaluation (Level 2-PE) examination after nearly ten years of research. This was based on research that indicated that clinical competency assessment was not being measured adequately by the cognitive portion of the examination system alone. The NBOME was able to determine what an individual knew or knew how to do, but was unable to determine if the individual could in fact actually “do it.” Studies have shown that the clinical skills examination measures something distinctly different than the cognitive examination.

To address the concern over physician competency rose in a number of arenas, the NBOME Sub-Committee on Competency and Evidence-Based Medicine sought to define the seven osteopathic medical competencies. The Sub-Committee also attempted to determine what measurable elements were available to assess the competencies and what outcomes could be anticipated from the assessments. The Sub-Committee recognized that different assessment tools might have to be applied at different times in the life cycle of the physician.

The NBOME hopes that this document will prove thought provoking, and that it will generate serious discussion on the direction that education, the profession, the regulatory authorities, and the public choose to take in regards to establishing the parameters for physician competency.

The report is offered for use by all those considering methods and means for determining whether or not a physician possesses a measurable demonstration of sufficient knowledge, skill sets, experience, values, and behaviors that meet established professional standards, supported by the best available medical evidence, that are in the best interest of the well-being and health of the patient

Material contained in this publication may be reproduced or utilized without the express permission of the NBOME. The information contained in this report represents solely the opinion of the NBOME, and should not be construed to necessarily reflect the content, scope, or format of any or all NBOME test instruments.

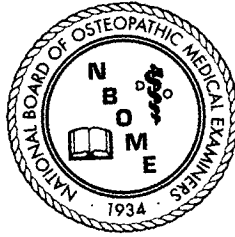
The NBOME acknowledges the contributions of the members of the Sub-Committee:

Eugene Mochan, D.O., Ph.D., Sub-Committee Chair - PCOM  
Helen Baker, Ph.D. - WVSOM  
Hershey Bell, M.D. - LECOM  
Paul Evans, D.O., Vice-Dean - PCOM/Georgia Campus  
Robert George, D.O., Dean - LECOM/Florida Campus  
Charles Henley, D.O. - University of Oklahoma Health Science Center  
Gerald Osborn, D.O., Consult for Psychiatric Services - US Govt., Kirksville, MO  
Doug Wood, D.O., Dean - A.T. Still University-Arizona

The NBOME also recognizes the valuable contributions of the following staff members:

Frederick G. Meoli, D.O., FACOS - President  
Joseph F. Smoley, Ph.D. - V.P. of Operations/COO  
Linjun Shen, Ph.D. - V.P. of Testing and Research  
John R. Gimpel, D.O., M.Ed. - V.P. for Clinical Skills Testing  
Shirley Bodett - Staff Liaison

Appreciation is also given to Ms. Laura Hadley for preparing the final report.



## WHAT IS PHYSICIAN COMPETENCY?

### COMPETENCY:

Physician competency is a measurable demonstration of suitable or sufficient knowledge, skill sets, experience, values, and behaviors that meet established professional standards, supported by the best available medical evidence, that are in the best interest of the well-being and health of the patient.

The competent physician is accountable to both the public and the profession, and is an advocate for the patient in the context of the needs of society as a whole.

The assurance of the competency of a physician is a shared responsibility of the individual physician, the teaching facility, the entity that grants the legal privilege to practice medicine, the medical profession, and the public. This assurance begins with establishing admission requirements to the medical school that reflect societal needs and promote the concept of patient- and community-centered care. It is nurtured by the inculcation of the physician in medical school, and is enhanced by programs providing graduate medical education through a competency-based curriculum. It is maintained through the specialty board system, continuing medical education, and through the personal commitment to life-long learning on the part of the physician.

**OSTEOPATHIC PHILOSOPHY  
AND  
OSTEOPATHIC MANIPULATIVE TREATMENT**

**Definition:**

Osteopathic philosophy is a holistic approach that encompasses the psychosocial, biomedical, and biomechanical aspects of both health and disease, and stresses the relationship between structure and function with particular regard to the musculoskeletal system.

Osteopathic manipulative treatment (OMT) is a series of unique manual medicine techniques applied to the patient, in both health and disease, to maintain homeostasis of the individual in health or to assist in restoring homeostasis in disease.

**COMPETENCY #1: Osteopathic Philosophy and Osteopathic Manipulative Treatment**

*Candidates must demonstrate knowledge of the osteopathic philosophy, general precepts and principles; demonstrate the requisite clinical skills to address patient issues and concerns; and apply appropriate osteopathic manipulative treatment in the clinical setting.*

**REQUIRED ELEMENT #1: (knowledge)**

*The candidate must demonstrate knowledge to recognize the need for and to apply appropriate OMT in the clinical setting.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates:

- scientific knowledge to support the appropriate application of osteopathic principles and OMT by utilizing applicable knowledge in fields such as functional anatomy, physiology, biochemistry, histology, pathology and pharmacology.
- knowledge of the clinical sciences to solve problems with which patients commonly present, with particular emphasis on the disruption of homeostasis reflected by alterations of the musculoskeletal system.
- the knowledge and skills of applying the holistic osteopathic philosophy as an approach to health and disease.

- the application of appropriate diagnostic skills and the use of technology to assess the alteration of structure and function of the musculoskeletal system, prioritize a differential diagnosis, and develop an appropriate care plan.
- the ability to define and apply appropriately all recognized osteopathic manipulative treatments and to know the relative value, advantages, and disadvantages of each treatment.
- the knowledge of how to appropriately evaluate, position, and treat a patient with OMT, while being cognizant of patient safety and dignity.
- knowledge of when OMT should and should not be utilized in the clinical setting.
- knowledge of effective communication techniques to be utilized when dealing with the patient and family, indicating the need for OMT or further testing.
- the knowledge of the benefits and risks of using OMT in the clinical setting.
- a basic knowledge of research principles and techniques to perform osteopathic medical research. The candidate will further express knowledge of the levels of evidence as they apply to the interpretation of data and research related to OMT.

#### **REQUIRED ELEMENT #2: (skills)**

*The candidate must demonstrate the ability to utilize osteopathic philosophy, principles, and practices, including the application of osteopathic manipulative treatment into an appropriate medical care plan for the patient.*

#### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2:**

The candidate demonstrates:

- the incorporation of osteopathic principles in problem-solving in clinical settings.
- the ability to administer appropriate modalities of OMT.
- the ability to perform an appropriate structural examination before and after administration of OMT.
- documentation of significant clinical findings in the medical record and the OMT administered, communicating essential information to others on the health care team and to the patient. The record should be patient-oriented and reflect the osteopathic holistic philosophy.

- the ability to provide for the safety and dignity of the patient while administering OMT.

### **REQUIRED ELEMENT #3: (integration)**

*The candidate must demonstrate sufficient depth of knowledge and skills to integrate osteopathic principles and philosophy into all aspects of patient care.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT # 3:**

The candidate demonstrates:

- the ability to advocate for the administration of OMT in the appropriate clinical setting.
- awareness of the viscerosomatic relationships and the role of the musculoskeletal system in health and disease by performing a structural examination and documenting findings reflective of this relationship.
- the ability to apply OMT as part of an inter-disciplinary team.
- the ability to use informatics in appropriately selecting OMT in the clinical setting.
- caring, compassionate and empathetic behavior during the administration of OMT in the clinical setting.
- listening and effective communication with the patient and/or family during the assessment and treatment of a patient presenting with somatic dysfunction.
- sensitivity to ethnic diversity as it may impact on the presentation of somatic and/or visceral dysfunctions.
- the ability to code properly and to enter into the medical record patient data for billing and research purposes when using OMT. Further, the candidate demonstrates the use of correct coding procedures to avoid interpretation of fraudulent conduct when applying OMT in the clinical setting.
- the ability to determine the limits of his or her knowledge and clinical skills and to seek an appropriate referral in regard to the use of OMT or the application of osteopathic principles and practices.
- recognition of the needs of his or her community from an osteopathic perspective, and the ability to report and interpret demographic epidemiologic data in the patient population with musculoskeletal dysfunction

Item	Outcome	Measure	COMLEX Level	Additional T ools	References
Definition					
1	Demonstration of OMT in the clinical setting	<ul style="list-style-type: none"> <li>Structural exam</li> <li>Patient positioning</li> <li>OMT administration</li> <li>Demonstration of concern for patient comfort</li> </ul>	Level 2-PE	<ul style="list-style-type: none"> <li>Spinal mouse</li> <li>Simulads</li> </ul>	<i>Foundations of Osteopathic Medicine</i> , Williams and Wilkins 2004
2	Demonstration of OPP and OMT in patient care plan	<ul style="list-style-type: none"> <li>Integration of OPP in patient assessment</li> <li>Appropriate OMT selection for a given case</li> </ul>	Level 2, 3	<ul style="list-style-type: none"> <li>Video clips</li> <li>Case simulations</li> </ul>	<i>Foundations of Osteopathic Medicine</i> , Williams and Wilkins 2004
3	Demonstration of OPP integration into all aspects of patient care	<ul style="list-style-type: none"> <li>Cost-effective treatment</li> <li>Team approach to care</li> <li>Sound medical knowledge</li> </ul>	Level 1, 2, 3	<ul style="list-style-type: none"> <li>Video clips</li> <li>Case simulations</li> <li>Hot spot</li> <li>Tabulated answer</li> <li>Case simulations</li> </ul>	<i>Foundations of Osteopathic Medicine</i> , Williams and Wilkins 2004

## MEDICAL KNOWLEDGE

### **Definition:**

Medical knowledge is the understanding and application of biomedical, clinical, epidemiologic, biomechanical, and social and behavioral sciences in the context of patient-centered care.

### **COMPETENCY #2: Medical Knowledge**

*Candidates must demonstrate the understanding and application of biomedical, clinical, epidemiologic, biomechanical, and social and behavioral sciences in the context of patient-centered care.*

### **REQUIRED ELEMENT #1: (medical knowledge base)**

*The candidate must demonstrate a comprehension of the concepts and principles of the biomedical, biomechanical, and clinical aspects of osteopathic medicine and related sciences by recognizing the key elements of the patient presentations in all of the following domains:*

- 1. asymptomatic and general symptoms*
- 2. symptoms and disorders of digestion and metabolism*
- 3. symptoms and disorders of sensory alterations*
- 4. symptoms and disorders of motor alterations*
- 5. symptoms and disorders related to human sexuality and urination*
- 6. symptoms and disorders of respiration and circulation*
- 7. symptoms and disorders of thermoregulation*
- 8. symptoms and disorders of the tissues and trauma*
- 9. symptoms and disorders of human development*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates:

- an understanding of the concepts and principles of biomedical and related sciences.
- an understanding of the concepts and principles of clinical, medical and related sciences.

## **REQUIRED ELEMENT #2: (physician interventions)**

*The candidate must demonstrate an understanding of the important physician interventions required to evaluate, manage and treat the clinical presentations that will be or may be experienced in the course of practicing osteopathic medicine by properly applying the following physician tasks:*

- 1. health promotion and disease prevention*
- 2. history and physical examination*
- 3. appropriate use and prioritization of diagnostic technologies*
- 4. an understanding of the mechanisms of disease and the normal processes of health*
- 5. health care delivery*
- 6. osteopathic principles, practices and manipulative treatment as related to the appropriate clinical encounters*

## **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2:**

The candidate demonstrates:

- the use of scientific concepts to interpret medical problems.
- the application of concepts and principles of clinical and related sciences in the management of medical problems.

Item	Outcome	Measure	COMPLEX Level	Additional Tools	References
1 Definition	Comprehension of medical knowledge appropriate to practice patient-centered osteopathic medicine	MCQ, PE	1, 2, 3		
2	Demonstration of investigative and analytical thinking in clinical situations	MCQ, PE	1, 2, 3		

## OSTEOPATHIC PATIENT CARE

### **Definition:**

Osteopathic patient care is the ability to effectively determine and monitor the nature of a patient's concern or problem; to develop, maintain, and to bring to closure the therapeutic physician-patient relationship; to appropriately incorporate osteopathic principles, practices, and manipulative treatment; and to implement effective diagnostic and treatment plans, including appropriate patient education and follow-up, that are based on best medical evidence.

### **COMPETENCY #3: Patient Care**

*Candidates must demonstrate the ability to determine and monitor the nature of a patient's concern or problem, using a patient-centered approach that is appropriate to the age of the patient and culturally sensitive. They must be able to provide patient care that incorporates a strong fund of applied medical knowledge and best medical evidence, osteopathic principles and practices, sound clinical judgment, and patient and family preferences.*

*Candidates must be able to demonstrate the ability to effectively gather data from patients, family members, and other sources, while establishing, maintaining, and concluding the therapeutic relationship. They must be able to show effective interpersonal and communication skills, empathy for the patient, and awareness of biopsychosocial issues. They must demonstrate the ability to perform a physical examination, including osteopathic structural and palpatory components, as well as the ability to perform basic clinical procedures important for generalist practice. Candidates must demonstrate the ability to effectively perform osteopathic manipulative treatment.*

*Candidates must demonstrate the ability to incorporate health promotion and disease prevention into the care of patients, to carry out effective patient education and counseling, and to formulate and implement appropriate, evidence-based, and cost-effective treatment plans.*

*They must be able to demonstrate the ability to work effectively with other members of the health care team in providing patient-focused care, including synthesizing and documenting their clinical findings, impression, and plan in a written format, and to use information technology to support their diagnostic and therapeutic decisions as well as for patient education. Candidates must demonstrate the ability to provide these elements of effective patient care in the outpatient, inpatient, and homecare settings, and across the life cycle.*

### **REQUIRED ELEMENT #1: (data-gathering)**

*The candidate must demonstrate the ability to gather accurate, essential data from all sources, including the medical interview with the patient, secondary sources, medical records, and physical examination, including structural and palpatory examinations, regardless of patient age or clinical setting.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates . . .

- the ability to communicate effectively and interview patients and families in various clinical settings.
- the appropriate knowledge base regarding health and disease and the application of that knowledge in medical history-taking and physical examination.
- the appropriate knowledge base of the psychosocial and cultural issues that contribute to illness and behavior, and the application of that knowledge in medical history-taking and physical examination.
- the ability to interpret relevant laboratory, imaging, and other diagnostic studies in the context of patient care.

### **REQUIRED ELEMENT #2: (differential diagnosis)**

*The candidate must demonstrate the ability to formulate a differential diagnosis based on the patient evaluation and epidemiologic data, to prioritize diagnoses appropriately, and to determine the nature of the concern or problem, regardless of the patient's age or clinical setting.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2:**

The candidate demonstrates . . .

- the ability to list a number of potential diagnoses that are likely considerations given the medical history, physical examination findings, and epidemiologic data available recognizing the effect of psychosocial and cultural factors.
- the ability to generate and test multiple hypotheses during the course of the medical interview and physical examination.
- the ability to prioritize the diagnostic possibilities regarding their likelihood and to predict the nature of the illness.

### **REQUIRED ELEMENT #3 (management)**

*The candidate must demonstrate the ability to develop an appropriate patient-centered management plan, including monitoring of the problem, that takes into account the willingness of the patient to provide diagnostic information, relief of the patient's physical, psychological, and emotional distress, the patient's willingness to accept the diagnostic and therapeutic plan, and evidence-based and cost-effective elements.*

#### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #3:**

The candidate demonstrates . . .

- the ability to elicit the patient's perspective and negotiate the diagnostic and treatment plan.
- the ability to recognize and address relief of the patient's suffering and distress while maintaining patient dignity.
- the incorporation of best evidence in data-gathering, diagnosis, and treatment.
- consideration of the cost-vs.-benefit ratio of various diagnostic and treatment options.
- the ability to monitor and manage the course of diseases or conditions over time.
- timely patient notification of results of information important to their medical care, including diagnostic studies.
- not denying a patient care that is appropriate or offering care that is inappropriate to the patient's well-being or health

### **REQUIRED ELEMENT #4 (OPP/HPDP)**

*The candidate must demonstrate the ability to provide health care services that are consistent with osteopathic principles and practices, including an emphasis on preventive medicine and health promotion that is based on best medical evidence.*

#### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #4:**

The candidate demonstrates . . .

- the incorporation of osteopathic principles and practices in history-taking and physical examination.

- consideration of preventive medicine and health promotion on a regular basis in interactions with patients, including lifestyle change recommendations when appropriate.
- utilization of best evidence in incorporating screening, health promotion, or disease prevention in encounters with patients.

### **REQUIRED ELEMENT #5 (procedures)**

*The candidate must demonstrate skill and proficiency in performing basic clinical procedures considered essential to a generalist osteopathic medical practice, or to a specific area of practice, including osteopathic manipulative treatment.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #5:**

The candidate demonstrates . . .

- the ability to perform phlebotomy and administer intradermal, subcutaneous, and intramuscular injections.
- the ability to obtain peripheral intravenous access.
- the ability to perform endotracheal intubation or percutaneous cricothyroidotomy
- ability to perform a Heimlich maneuver
- the ability to insert a nasogastric tube.
- the ability to perform an osteopathic structural examination and to perform osteopathic manipulative treatment.
- the ability to administer basic cardiac life support (BCLS) and advanced cardiac life support (ACLS).
- the ability to stem external blood loss by pressure and/or use of a tourniquet.
- the ability to perform simple closed needle thoracostomy in a life-saving setting.
- the ability to apply simple wound dressings and splints.
- the ability to perform simple suturing, closure of a simple laceration, and incision and drainage.
- the ability to perform a lumbar puncture.

- the ability to insert a Foley catheter in male and female patients.
- the ability to perform sensitive physical examination maneuvers, including breast examination, female pelvic examinations, Pap smears, prostate examinations, and male genitalia examinations.
- the ability to perform an uncomplicated, spontaneous vaginal delivery.
- the ability to perform a standard history and physical examination, including mini-mental and basic neurological examinations.

### **REQUIRED ELEMENT #6 (patient education)**

*The candidate must demonstrate the ability to counsel and educate patients appropriately.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #6**

The candidate demonstrates . . .

- the ability to ensure the patient's understanding of the nature of the concern, problem, or illness.
- the ability to ensure the patient's understanding of the proposed diagnostic procedures and therapeutic options.
- negotiation of the diagnostic and treatment plan with the patient, and the ability to obtain informed consent.
- the use of information technology and best evidence to support patient education.
- communication of interest, respect, support, and empathy in interactions and counseling.
- cultural awareness in communicating with the patient or healthcare designates.

### **REQUIRED ELEMENT #7 (teamwork/documentation)**

*The candidate must demonstrate the ability to work effectively with other members of the health care team in providing patient-centered care, including synthesizing and documenting clinical findings, impression, and plan, and to use information technology to support diagnostic and therapeutic decisions.*

## **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #7**

The candidate demonstrates . . .

- the ability to communicate verbally with other members of the health care team, including those from other disciplines, to provide effective patient-centered care.
- the ability to communicate in writing with other members of the health care team, including those from other disciplines, to synthesize and document their clinical findings in patient care, diagnostic considerations, and therapeutic plans.
- the ability to use information technology and best evidence to support diagnostic and therapeutic decisions.

Item	Outcome	Measure	COMPLEX Level	Additional Tools	References
1	Demonstration of the ability to gather accurate, essential data	<ul style="list-style-type: none"> <li>• SP exams</li> <li>• Simulators</li> <li>• Record reviews</li> <li>• 360° instrument</li> </ul>	Level 2-PE		ACGME Toolbox, AOA Task force
2	Demonstration of the ability to formulate a differential diagnosis	<ul style="list-style-type: none"> <li>• SP exams</li> <li>• MCQs</li> <li>• Simulators</li> <li>• Models</li> </ul>	Level 2-CE, Level 2-PE, Level 3, Level 1		ACGME Toolbox, AOA Task force
3	Demonstration of the ability to develop an appropriate patient-centered management plan	<ul style="list-style-type: none"> <li>• SP exams</li> <li>• MCQs</li> <li>• Record reviews</li> <li>• Patient surveys</li> </ul>	Level 2-PE, Level 2-CE, Level 3		ACGME Toolbox, AOA Task force, Health Professions Education
4	Provision of health care services that are consistent with osteopathic principles and practice, including an emphasis on preventive medicine and health promotion	<ul style="list-style-type: none"> <li>• SP exams</li> <li>• MCQs</li> <li>• 360° instrument</li> <li>• Global ratings</li> <li>• Patient surveys</li> </ul>	Level 2-PE, Level 2-CE, Level 3, Level 1		ACGME Toolbox, AOA Task force
5	Demonstration of skill and proficiency in performing basic clinical procedures	<ul style="list-style-type: none"> <li>• SPs exams</li> <li>• Simulators</li> <li>• Global ratings</li> <li>• Checklists</li> <li>• Procedure/case logs</li> <li>• Patient surveys</li> </ul>	Level 2-PE		ACGME Toolbox, AOA Task force
6	Demonstration of the ability to counsel and educate patients	<ul style="list-style-type: none"> <li>• SP exams</li> <li>• Global ratings</li> <li>• Patient surveys</li> </ul>	Level 2-PE		ACGME Toolbox, AOA Task force
7	Demonstration of the ability to work effectively with other members of the health care team and to use information technology	<ul style="list-style-type: none"> <li>• SP exams</li> <li>• MCQ exams</li> <li>• 360° instrument Portfolios</li> <li>• Global ratings</li> </ul>	Level 2-PE		ACGME Toolbox, AOA Task force

## INTERPERSONAL AND COMMUNICATION SKILLS

### **Definition:**

Interpersonal and communication skills are written, verbal and non-verbal behaviors that facilitate understanding the patient's perspective. These skills include building the physician-patient relationship, opening the discussion, gathering information, empathy, listening, sharing information, reaching agreement on problems and plans, and providing closure. These skills extend to communication with patients' families and members of the health care team.

### **COMPETENCY #4: Interpersonal And Communication Skills**

*Candidates must demonstrate interpersonal and communication skills that enable them to establish and maintain professional relationships with patients, families, and other members of health care teams.*

### **REQUIRED ELEMENT #1: (establish and maintain physician-patient relationship)**

The candidate must demonstrate patient-centered care, including the ability to effectively build the physician-patient partnership, open patient interviews by encouraging the patient to fully express concerns, gather information appropriately, understand the patient's perspective, share information appropriately, reach agreement on problems or plans, and provide appropriate closure.

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates:

- the ability to allow the patient to complete his/her opening statement without interruption, and to elicit the full set of patient concerns.
- the use of open-ended and closed-ended questions appropriately.
- active listening, using appropriate verbal and non-verbal (e.g., eye contact) techniques.
- exploration of a patient's beliefs, concerns, expectations, and literacy about health and illness, and provides care appropriate for contextual factors such as a patient's culture, age, literacy, spirituality, and economic background.
- information-sharing, using language that the patient can understand, checking for patient understanding and encouraging questions.

- encouragement of active patient participation in decision-making, and verification of a patient's willingness and ability to follow the plan.
- the ability to provide closure to interviews, summarizing and affirming agreements, asking if the patient has other issues or concerns, and planning follow-up (e.g., next visit, plan for unexpected outcomes).
- appropriate ethical decision-making about involvement of the patient's family in the patient's care.
- the ability to communicate with difficult or angry patients; and to deliver bad news and information relative to death and dying or the recognition of serious or life-threatening illness or disease.

**REQUIRED ELEMENT #2: (written and electronic communication)**

*The candidate must demonstrate effective written and electronic communication in dealing with patients and other health care professionals.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2:**

The candidate demonstrates:

- accurate, comprehensive, timely, and legible medical record-keeping and maintenance.
- facility with the use of telephone, e-mail and other communication modalities in dealing with patient communication and communication with other members of the health care team.

**REQUIRED ELEMENT #3: (health care team)**

*The candidate must demonstrate the ability to work effectively with other health professionals as a member or leader of a health-care team.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #3:**

The candidate demonstrates:

- the ability to collaborate with other health care professionals in the care of the patient, through effective personal skills and interpersonal dynamics.
- the ability to communicate a coherent story of illness.

- attentiveness to relationships and the ability to perform an assigned role or task within the health care team.
- clarity in ensuring that the message sent was the message received and understood.
- the ability to communicate appropriately within the authority gradient.

**REFERENCES:**

Makoul, G. Essential elements of communication in medical encounters: the Kalamazoo Consensus Statement. Acad. Med. 2001: 76: 390-393.

Duffy, FD, Gordon, GH, Whelan, G, Cole-Kelly, K., Frankle, R. Assessing competence in communication and interpersonal skills: The Kalamazoo II Report. Acad. Med. 2004: 79: 495-507.

Item	Outcome	Measure	COMPLEX Level	Additional Tools	References
Definition					
1	Demonstration of patient-centered care	<ul style="list-style-type: none"> <li>• MCQ (knowledge)</li> <li>• Global ratings</li> <li>• Checklists</li> <li>• SP exams</li> <li>• 360° instrument</li> <li>• Patient surveys</li> <li>• Record reviews</li> </ul>	1, 2, 3, 2-PE	Computer simulation w/video	Kalamazoo Consensus Statements
2	Demonstration of effective written & electronic communication	<ul style="list-style-type: none"> <li>• SOAP note</li> <li>• Global ratings</li> <li>• Checklists</li> <li>• SP exams</li> <li>• 360° instrument</li> <li>• Patient surveys</li> <li>• Record reviews</li> </ul>	2-PE	Case within PE, to assess ability to use telephone or e-mail communication	
3	Demonstration of cooperation with other health professionals	<ul style="list-style-type: none"> <li>• MCQ (regarding training/skills/ responsibilities of other health professionals)</li> <li>• Global ratings</li> <li>• Checklists</li> <li>• SP exams</li> <li>• 360° instrument</li> <li>• Patient surveys</li> <li>• Record reviews</li> </ul>	1, 2, 3	Case within PE, in which an evaluator simulates the role of another health professional	

## PROFESSIONALISM

### **Definition:**

Medical professionalism is a duty to consistently demonstrate behaviors that uphold the highest moral and ethical standards of the osteopathic profession. This includes a commitment to continuous learning and the exhibition of personal and social accountability. Medical professionalism extends to those normative behaviors ordinarily expected in the conduct of medical education, training, research, and practice.

### **COMPETENCY #5: Professionalism**

*Candidates must demonstrate: knowledge of the behavioral and social sciences that underpin the professionalism competency; humanistic behavior; responsiveness to the needs of patients that supersedes self-interest; accountability to patients, society, and the profession; a commitment to excellence and ongoing professional development; knowledge and application of ethical principles in practice and research; and awareness and proper attention to the issues within cultural competency.*

### **REQUIRED ELEMENT #1: (knowledge)**

*The candidate must demonstrate sufficient knowledge of the behavioral and social sciences that provide the foundation for the professionalism competency, including medical ethics, social accountability and responsibility.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates knowledge of

- ethical guidelines for professional behavior.
- personal values, attitudes, and biases as they influence patient care.
- social accountability and responsibility.
- the context of a patient's social and economic situation, capacity for self-care, and ability to participate in shared decision-making.
- the impact of social inequalities in health care and the social factors that are determinants of health outcomes.

## **REQUIRED ELEMENT #2: (humanism)**

*The candidate must demonstrate humanistic behavior, including respect, compassion, probity, honesty, and trustworthiness.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2:**

The candidate demonstrates:

- polite, considerate, and compassionate treatment of every patient.
- respect for the patient's dignity and privacy, including issues surrounding end-of-life care (e.g., advance directives, DNR orders).
- a willingness to listen to patients and respect their views by exhibiting elements of altruism and empathy.
- openness, honesty, and trustworthiness during direct communication with patients and their families, the writing of reports, the signing of forms, and providing evidence in litigation or other formal inquiries.
- respect for colleagues and other health care professionals and their practices (e.g., avoidance of inappropriate remarks).

## **REQUIRED ELEMENT #3: (primacy of patient need)**

*The candidate must demonstrate responsiveness to the needs of patients and society that supersedes self-interest.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #3:**

The candidate demonstrates:

- the care of the patient as his or her first concern.
- self-effacement (lack of bias in decision-making) and self-sacrifice (willingness to take reasonable risks to health, income, and job security when required to do so) to meet the needs of patients.
- respect for the rights of patients to be fully involved in decisions about care.
- the capacity to prevent personal beliefs from prejudicing patient care.
- effective teamwork with colleagues in ways that best serve patient interest.

- ready accessibility to patients and colleagues when on duty, while making suitable arrangements for coverage when off duty.
- respect for the rights of the patient to decline taking part in teaching or research endeavors, and ensuring that their refusal does not adversely affect the physician-patient relationship.
- respect for the rights of a patient to a second opinion.

**REQUIRED ELEMENT #4: (accountability)**

*The candidate must demonstrate accountability to patients, society, and the profession, including a duty to act on knowledge of professional behavior of others.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #4:**

The candidate demonstrates:

- quick action to protect patients from risk if the physician has good reason to believe that he, she, or a colleague may not be fit to practice.
- proper use of the position of physician, avoiding situations where personal and professional interests might be in conflict.
- effective communication to colleagues when transferring medical care.
- Proactive discussions on substance abuse.
- prompt reporting of adverse drug reactions to the proper authorities.
- proper reporting of medical errors and “near misses” that can lead to improvements in the quality of care provided.
- immediate action if medical care goes wrong, to put matters right if possible, explain fully and promptly to the patient what has happened including short and long-term effects, and offer an apology.
- a commitment to caring for the underserved, vulnerable, disadvantaged, disenfranchised, and special populations.

### **REQUIRED ELEMENT #5: (continuous learning)**

*The candidate must demonstrate milestones that indicate a commitment to excellence and ongoing professional development as evidence of the commitment to continuous learning behaviors.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #5:**

The candidate demonstrates:

- up-to-date professional knowledge and skills.
- participation in regular educational activities that maintain and develop further his or her competency and performance.
- a personal commitment to teaching and learning (e.g., portfolio development).
- recognition of the limits of personal competency in knowledge and skill.
- a willingness to consult colleagues when necessary.
- the application of evidence-based medicine.

### **REQUIRED ELEMENT #6: (ethics)**

*The candidate must demonstrate knowledge of, and ability to apply, ethical principles in the practice and research of medicine, particularly in the areas of provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices, the conduct of research, and the reporting of research results.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #6:**

The candidate demonstrates:

- respect and protection of confidential information.
- provision of necessary care to alleviate pain and distress, whether or not curative treatment is possible.
- the use of ethical principles pertaining to provision or withholding of clinical care.
- observance of current regulations, laws, and statutes that govern medical practice.
- appropriate procurement of informed consent.

- honesty and integrity in all conduct of research.
- understanding and application of the ethical principles of autonomy, beneficence, non-maleficence, fidelity, justice, and utility.
- application of ethical principles in business practices as well as in medical practice.
- the maintenance of patient dignity.

**REQUIRED ELEMENT #7: (cultural competency)**

*The candidate must demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #7:**

The candidate demonstrates:

- fair treatment of all patients, colleagues, and others, ensuring that some groups are not favored at the expense of others.
- no imposition of personal beliefs and values on patient care.
- open discussion of cultural issues and responsiveness to culturally-based cues.
- the ability to interpret the implications of symptoms as they are expressed by patients from different cultures.

Item	Outcome	Measure	COMPLEX Level	Additional Tools	References
Definition				360 Degree Evaluation*	Osteopathic Oath
1	Demonstration of core knowledge	MCQ (and other questioning methods)	1, 2	*	Improving Medical Education
2	Demonstration of humanistic behavior	Performance with SP	2-PE	*	Project Professionalism
3	Demonstration of responsiveness to patient need	Performance with SP	2-PE	*	ACGME Outcome Project
4	Demonstration of accountability to patients, society, & the profession	Performance with SP	2-PE	*	Project Professionalism
5	Demonstration of commitment to excellence & ongoing professional development	MCQ (and other questioning methods)	3	*	ACGME Outcome Project
6	Demonstration of knowledge & application of ethical principles	Performance with SP	3	*	ACGME Outcome Project
7	Demonstration of awareness & attention to cultural issues	Performance with SP	2-PE	*	AOA Competencies

Additional references (for all sections):

Medical Professionalism in the New Millennium: A Physician Charter 15 Months Later (Blank, Kimball, McDonald et al. Ann Intern Med. 2003;138:839-841)

The moral foundation of medical leadership: the professional virtues of the physician as fiduciary of the patient. (Chervenak, McCullough. *Am J Ob Gyn.* 2001;184(5):875-880

Recommended Curriculum Guidelines for Family Medicine Residents: Medical Ethics (AAFP Reprint No. 279; rev. 6/03)

Multicultural Medicine and the Year 3/4 student: OUUCOM/CORE Curriculum Bulletin.  
<http://www.oucom.ohiou.edu/fdl/cpbulletin/junbulletin2001.htm> (accessed 1/18/2006 11:52:03 AM)

Good Medical Practice for General Practitioners, Royal College of General Practitioners. September 2002.

Improving Medical Education: Enhancing the Behavioral and Social Science Content of Medical School Curricula. Executive Summary. Pages 1 – 14. Institute of Medicine. The National Academies Press, Washington, DC. 2001.

## PRACTICE-BASED LEARNING AND IMPROVEMENT

### **Definition:**

Practice-based learning and improvement is the continuous evaluation of clinical practice utilizing evidence-based medicine approaches to develop best practices that will result in optimal patient care outcomes.

### **COMPETENCY #6: Practice-Based Learning And Improvement**

*Candidates must demonstrate the ability to describe and apply fundamental epidemiologic concepts, clinical decision-making skills, evidence-based medicine principles and practices, fundamental information mastery skills, methods to evaluate relevance and validity of research information, and the clinical significance of research evidence.*

*Candidates must further demonstrate the use of the best medical evidence, strategies for integrating evidence into clinical practice, and systematic methods relating to continuous evaluation of clinical practice patterns and practice-based improvements, including the elimination of medical errors and the promotion of improved health.*

### **REQUIRED ELEMENT #1: (fundamental epidemiologic concepts)**

*The candidate must demonstrate the ability to describe and apply fundamental epidemiologic concepts to practice improvement.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates:

- identification and interpretation of means, medians, variances, standard deviations, p-values, confidence intervals, and effect size.
- interpretation of measures of disease frequency (incidence, prevalence).
- recognition of the distinction between causality and association.
- interpretation of measures of diagnostic certainty (sensitivity, specificity, positive predictive value (PPV), negative predictive value (NPV), likelihood ratios, pre-test probability, and post-test probability).
- interpretation of measures of therapeutic efficacy (absolute risk reduction (ARR), relative risk reduction (RRR), number needed to treat (NNT), number needed to harm (NNH), confidence intervals (CI), random allocation of trial participants).

- recognition and application of the difference between screening and diagnostic testing.

**REQUIRED ELEMENT #2: (clinical decision-making tools)**

*The candidate must demonstrate the ability to describe and apply clinical decision-making tools.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2:**

The candidate demonstrates:

- knowledge and application of decision-making tools.
- knowledge of sources of design bias and limitations and of sources of scientific uncertainty.
- interpretation and application of pre-test and post-test probabilities.

**REQUIRED ELEMENT #3: (evidence-based medicine principles and practices)**

*The candidate must demonstrate the ability to describe and apply evidence-based medicine principles and practices.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #3:**

The candidate demonstrates:

- application of the five steps of the evidence-based medicine approach to a clinical question. These are:
  1. converting the need for information (e.g., prevention, diagnosis, therapy, prognosis, causation) into an answerable question.
  2. tracking down the best evidence with which to answer a clinical question with maximum efficiency.
  3. critically appraising the evidence for its validity, impact and applicability.
  4. integrating the critical appraisal with clinical expertise and the patient's unique biology, values, and circumstances.
  5. evaluating the effectiveness and efficacy in executing steps 1-4 and seeking ways to improve both for next time; and monitoring and evaluating outcomes in clinical practice.

**REQUIRED ELEMENT #4: (translating evidence into practice)**

*The candidate must demonstrate the ability to evaluate the relevance and validity of research as well as to identify and incorporate levels of evidence.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #4:**

The candidate demonstrates:

- the hierarchical approach to levels of evidence and applies this information.
- identification of the most valid study design for interpreting articles relating to therapy, prognosis and diagnosis.
- an understanding of the importance of systematic research reviews.

**REQUIRED ELEMENT #5: (clinical significance of research evidence)**

*The candidate must demonstrate the ability to describe and apply the clinical significance of research evidence.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #5:**

The candidate demonstrates:

- interpretation of the results of a randomized control trial (RCT), including concepts of relative risk reduction (RRR) vs. absolute risk reduction (ARR), how to understand number needed to treat (NNT), p-values, confidence intervals (CI), risk/benefit analysis, and the number needed to harm (NNH) as applied to clinical practice.
- calculation and interpretation of pre-test/post-test probabilities in diagnostic and screening tests, as applied to clinical practice.

**REQUIRED ELEMENT #6: (treating with best medical evidence)**

*The candidate must demonstrate the ability to describe and apply principles directed at treating patients with the best medical evidence.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #6:**

The candidate demonstrates:

- the application of principles of evidence-based medicine in patient care.

- the ability to describe and perform quality assurance activities with the goal to change practice protocols as necessary.

**REQUIRED ELEMENT #7: (integrating evidence into clinical practice)**

*The candidate must demonstrate the ability to describe and apply strategies for integrating evidence into clinical practice.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #7:**

The candidate demonstrates:

- the use of information technology to manage and access online medical information.
- communication of evidence to patients and colleagues.

**REQUIRED ELEMENT #8: (continuous evaluation and improvement of clinical practice)**

*The candidate must demonstrate the ability to describe and apply systematic methods relating to continuous evaluation of clinical practice patterns, practice-based improvements, and the reduction of medical errors.*

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #8:**

The candidate demonstrates:

- development and implementation of evaluation strategies for changing practice based on patient outcomes relative to external benchmarks (e.g., clinical assessment programs, HEDIS criteria).
- an ability to implement practice-based improvements to reduce medical errors.

Item	Outcome	Measure	COMPLEX Level	Additional Tools	References
Definition					
1	Understanding/application of fundamental epidemiologic concepts	MCQ	1		<i>Clinical Epidemiology</i> ; Fletcher, 2005
2	Understanding/application of clinical decision-making tools	MCQ	1, 2, 3		<i>Clinical Epidemiology</i> ; Sackett, 1991
3	Understanding/application of evidence-based medicine principles and practices	MCQ	1, 2	Case simulation	<i>EBM Key Concepts</i> ; Donald, 2002
4	Evaluation of relevance and validity of research	MCQ	1, 2, 3	Case simulation	<i>EB Healthcare Workbook</i> ; Greenhalgh, 2000
5	Understanding/application of clinical significance of research evidence	MCQ	1, 2, 3		<i>How to Practice and Teach EBM</i> , 1 <sup>st</sup> , Sackett et al, 2000
6	Understanding/application of principles directed at treating patients with the best medical evidence	MCQ	1, 2, 3	Case simulation	<i>How to Practice and Teach EBM</i> , 2 <sup>nd</sup> ed, Sackett et al, 2003
7	Understanding/application of strategies for integrating evidence into clinical practice	MCQ	1, 2, 3, 2-PE	Case simulation	<i>How to Practice and Teach EBM</i> , 3 <sup>rd</sup> ed, Straus et al, 2005
8	Understanding/application of systematic methods relating to continuous evaluation of clinical practice patterns and practice-based improvements	MCQ	1, 2, 3	Case simulation	<i>How to Practice and Teach EBM</i> , 3 <sup>rd</sup> ed, Straus et al, 2005

## SYSTEMS-BASED PRACTICE

### **Definition:**

Systems-based practice is an awareness of and responsiveness to the larger context and system of health care and the ability to effectively identify and integrate system resources to provide care that is of optimal value to individuals and society at large.

### **COMPETENCY #7: Systems-Based Practice**

*Candidates must demonstrate awareness and responsiveness to the larger context and system of health care, and effectively identify system resources to provide care that is of optimal value to the patient and the community.*

### **REQUIRED ELEMENT #1: (health care system interactions)**

*The candidate must demonstrate an understanding of how patient care and professional practices affect other health care professionals, health care organizations, and the larger society.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #1:**

The candidate demonstrates:

- knowledge of interactions of practicing physicians within the health care team, medical organizations, managed health care systems, and the community.
- an understanding of how health policy is developed and strategies for influencing health policy.
- awareness of the global issues affecting health.

### **REQUIRED ELEMENT #2: (health systems organizations)**

*The candidate must demonstrate an understanding of health delivery systems that affect the practice of a physician.*

### **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #2: (health care delivery systems)**

The candidate demonstrates:

- the ability to compare and contrast common practice and health care delivery systems.

- appropriate decision-making relative to the characteristics of different health care systems.
- the ability to properly utilize coding procedures.

**REQUIRED ELEMENT #3: (cost-effective care)**

The candidate must demonstrate an understanding of the methods of controlling costs and allocating resources in the health care delivery system.

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #3:**

The candidate demonstrates:

- recognition of common methods and available resources in health care systems to ensure quality of care.
- recognition of common methods used in health care systems to ensure patient safety.
- cost-effective decision-making.

**REQUIRED ELEMENT #4: (patient advocacy)**

The candidate must demonstrate the ability to identify effective strategies for being an advocate for patients within the health care system.

**MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #4:**

The candidate demonstrates the ability to identify and utilize effective strategies for assisting patients in

- receiving care in the health care system.
- overcoming barriers to care.
- accessing appropriate community resources.
- creating a safe and healthy environment.

**REQUIRED ELEMENT #5: (health care system interactions)**

*The candidate must demonstrate the knowledge of and ability to implement safe, effective, efficient, timely, patient-centered, and equitable systems of care, recognizing the need to reduce medical errors and improve patient safety.*

## **MEASURABLE OUTCOMES FROM REQUIRED ELEMENT #5:**

The candidate demonstrates:

- the ability to recognize, properly report, and utilize methods known to be effective in the reduction of medical errors.
- the appropriate use of guidelines and other standards of care in medical practice.
- the ability to evaluate patients as appropriate in a timely, efficient, safe, and effective manner.

## **REFERENCES:**

Doezema D, McLaughlin S, Sklar DP. An approach to fulfilling the systems-based practice competency. *Acad Emerg Med*,: 2002: 9: 1355.

Schmidt H, Dowling MF (Colombia)

Thci.org – Ralph Halpern



Item	Outcome	Measure	COMPLEX Level	Additional Tools	References
Definition					
1	Understanding of how patient care & professional practices affect others	MCQ	2, 3, 2-PE	<ul style="list-style-type: none"> <li>360 degree global rating</li> <li>OSCE</li> <li>Portfolios</li> </ul>	<p>ACGME/ABMS Joint Initiative Attachment/Toolbox of Assessment Methods© Version 1.1 September 2000</p> <p><b>ACGME Competencies: Suggested Best Methods for Evaluation</b></p>
2	Understanding of health delivery systems' effect on a physician's practice	MCQ	2, 3, 2-PE	<ul style="list-style-type: none"> <li>Chart stimulated recall</li> <li>OSCE</li> </ul>	<p>ACGME/ABMS Joint Initiative Attachment/Toolbox of Assessment Methods© Version 1.1 September 2000</p> <p><b>ACGME Competencies: Suggested Best Methods for Evaluation</b></p>
3	Understanding methods of controlling costs allocating resources	MCQ	2, 3	<ul style="list-style-type: none"> <li>Checklist</li> <li>360-degree global rating</li> <li>record review</li> </ul>	<p>ACGME/ABMS Joint Initiative Attachment/Toolbox of Assessment Methods© Version 1.1 September 2000</p> <p><b>ACGME Competencies: Suggested Best Methods for Evaluation</b></p>
4	Understanding of effective strategy identification for patient advocacy	MCQ	2, 2-PE	<ul style="list-style-type: none"> <li>patient survey</li> <li>portfolios</li> <li>OSCE</li> <li>Checklist</li> </ul>	<p>ACGME/ABMS Joint Initiative Attachment/Toolbox of Assessment Methods© Version 1.1 September 2000</p> <p><b>ACGME Competencies: Suggested Best Methods for Evaluation</b></p>
5	Understanding/implementation of systems of care that in reduce medical errors & improve patient safety	MCQ	2, 3	<ul style="list-style-type: none"> <li>Checklist</li> <li>360 degree global rating</li> <li>Record review</li> </ul>	<p>Chassen et al., 1998. <b>Crossing the Quality Chasm: The IOM Health Care Quality Initiative</b></p>

