Basic Standards for Residency Training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine

American Osteopathic Association and the American Academy of Osteopathy

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BASIC STANDARDS FOR RESIDENCY TRAINING IN NEUROMUSCULOSKELETAL MEDICINE AND OSTEOPATHIC MANIPULATIVE MEDICINE

ARTICLE I - INTRODUCTION

These are the basic standards for residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine as approved by the American Osteopathic Association and the American Academy of Osteopathy. These standards are designed to provide the qualified resident with advanced and concentrated training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine and to prepare the resident for examination for certification in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

ARTICLE II - DEFINITION AND PURPOSE

A. Definition

Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine is that component of medicine concerned with implementing systems in understanding health and disease and managing patients. The practice of Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine directs special attention to the structural aspects of body function and their role in all disease processes, along with those strategies prescribed and or administered to enhance homeostasis within the body unit. Practitioners of Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine consider and/or incorporate all recognized treatment methods in the management of patients.

The discipline of Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine directs special attention to the neuromusculoskeletal system and its interaction with other body systems. Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine encompasses increased knowledge and understanding of osteopathic principles and practice and heightened technical skills of osteopathic manipulative medicine, and integrates each of these into the management of pediatric, adolescent, adult, and geriatric patients.

This specialty includes knowledge of anatomy, physiology, and pathology as they relate to all body systems in health and disease, and focuses on knowledge relevant but not limited to the disciplines of neurology, rheumatology, orthopedics, and physical medicine and rehabilitation. Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine involves the development of skills in the use of visual, palpatory, and biomechanical evaluation techniques for improved physical assessment of body disturbances expressed clinically in the neuromusculoskeletal system and in other fundamentally related systems. This specialty integrates the full field of medical and surgical practice with a high level of proficiency in the area of osteopathic neuromusculoskeletal diagnosis and treatment.

This knowledge of structure and function and palpatory skills are especially relevant in the management of medical and surgical patients with acute and chronic pain and disease in both inpatient and outpatient settings.

As part of the curriculum outlined in these Basic Standards for Residency Training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine, residents learn the
philosophy, principles and practice of osteopathic manipulative medicine, including osteopathic manipulative treatment. A core exposure to and preparation in the various models of osteopathic manipulative medicine is central to this education process. Upon completion of this residency training program, the graduate has been prepared to undertake the distinctive practice of neuromusculoskeletal medicine and osteopathic manipulative medicine.

B. The purposes of residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine are to:

1. Provide the resident with a large, diverse patient population, with a broad variety of pathology, to develop the knowledge base and skills to recognize the structural changes and reflex patterns which accompany disease processes, and design treatment programs which integrate osteopathic manipulative treatment into total osteopathic medical management of all disease processes.

2. Provide the resident with longitudinal acute and chronic outpatient opportunities as well as inpatient consultation experience needed to develop the knowledge base, diagnostic and management skills, and administrative abilities to practice Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine in either a longitudinal primary or consultative referral basis, or both.

3. Provide a structured and educational program that will enable the resident, upon completion of training, to demonstrate expertise in clinical proficiency and in the technical skills to successfully complete the requirements leading to certification in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

4. Develop physicians qualified to teach basic osteopathic principles, to implement these concepts and to integrate them into undergraduate and postgraduate clinical programs.

ARTICLE III - INSTITUTIONAL REQUIREMENTS

A. To be approved by the AOA for a residency in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine, an institution must meet all the requirements as formulated in the Residency Training Requirements of the American Osteopathic Association.

B. The institution must provide sufficient patient load to properly train a minimum of three (3) residents in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. The available patients must provide a broad spectrum of problems, as defined in this document, for the adequate training of residents.

C. The institution shall maintain an adequate library containing carefully selected texts, the latest editions of medical journals and other publications pertaining to Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine and osteopathic medicine. The library shall be in the charge of a qualified person who shall act a custodian of its contents and arrange for the proper cataloging and indexing that will facilitate investigative work by the resident.

D. The institution shall have the following equipment:

1. Treatment table(s) appropriate for osteopathic manipulative treatment;
2. Diagnostic equipment necessary for differential diagnosis;

3. Access to physical therapy equipment during that portion of the program addressing physical medicine and rehabilitation activities and integration into a treatment program.

E. The institution must provide an opportunity for exposure in a supervised ambulatory site for continuity of care training that will suit the needs of the program. Institutional clinics, outpatient departments of offices may be used.

F. The institution will provide adequate space for a residency study area.

G. The institution will provide qualified physicians in the various disciplines to supervise resident training. The program director will be responsible for the approval of residents' teaching contracts.

H. The institution must provide a written policy and procedures, for the selection of residents, which shall be included in the institutional training protocol for Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

I. The institution shall execute a contract with each resident in accordance with the Residency Training Requirements of the AOA.

J. Upon satisfactory completion of the training program, the institution shall award the resident an appropriate certificate. The certificate shall confirm the fulfillment of the program requirements, starting and ending dates of the program and the name(s) of the training institution(s) and the program director(s).

ARTICLE IV - PROGRAM REQUIREMENTS

A. The residency training program shall commence only after it has received the recommendation of the AOA Council on Postdoctoral Training and the approval of the AOA Board of Trustees.

B. The residency training program in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine shall be two (2) years in duration.

C. CORE COMPETENCIES

The following core competencies shall be required of all residents to successfully complete a residency in Osteopathic Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. The following core competencies shall be integrated into the training and evaluation process for each resident. Each program shall be responsible for implementation and documentation. The competency based evaluation document shall be the instrument used by all programs to document achievement of these core competencies.

1. Osteopathic Philosophy and Osteopathic Manipulative Medicine

   Required Elements

   A. Demonstrate competency in the understanding and application of OMT appropriate to the medical specialty.
B. Integrate osteopathic concepts and OMT into the medical care provided to patients as appropriate.
C. Understand and integrate osteopathic principles and philosophy into all clinical and patient care activities.

2. Medical Knowledge
   Required Elements
   A. Demonstrate competency in the understanding and application of clinical medicine to patient care.
   B. Know and apply the foundations of clinical and behavioral medicine appropriate to their discipline.

3. Patient Care
   Required Elements
   A. Gather accurate, essential information for all sources, including medical interviews, physical examinations, medical records, and diagnostic/therapeutic plans and treatments.
   B. Validate competency in the performance of diagnosis, treatment, and procedures appropriate to the medical specialty.
   C. Provide health care services consistent with osteopathic philosophy, including preventative medicine and health promotion that are based on current scientific evidence.

4. Interpersonal and Communication Skills
   Required Elements
   A. Demonstrate effectiveness in developing appropriate doctor-patient relationships.
   B. Exhibit effective listening, written and oral communication skills in professional interactions with patients, families, and other health professionals.

5. Professionalism
   Required Elements
   A. Demonstrate respect for patients and families and advocate for the primacy of patient’s welfare and autonomy.
   B. Adhere to ethical principles in the practice of medicine.
   C. Demonstrate awareness and proper attention to issues of culture, religion, age, gender, sexual orientation, and mental and physical disabilities.
6. Practice-Based Learning and Improvement

Required Elements

A. Treat patients in a manner consistent with the most up-to-date information on diagnostic and therapeutic effectiveness.

B. Perform self-evaluations of clinical practice patterns and practice-based improvement activities using systematic methodology.

C. Understand research methods, medical informatics, and the application of technology as it applies to medicine.

7. Systems-based Practice

Required Elements

A. Understand national and local health care delivery systems and how they impact patient care and professional practice.

B. Advocate for quality health care on behalf of patients and assist them in their interactions with the complexities of the medical system.

D. The training program shall provide an organized formal training program for the development of highly skilled physicians capable of supplying the needs for teaching in the basic concepts of osteopathic philosophy; physicians capable of integrating these concepts through teaching and practice into the hospital and clinical training of students and provide sufficient number of these physicians to assure the availability of this type of service.

E. There shall exist in every residency program in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine a required and structured curriculum, which incorporates the educational objectives listed in Article IV Section E. Each phase of the curriculum shall be properly allocated as to time, either longitudinally or as an intensive experience of shorter duration.

The following core curriculum is required but each individual institution may meet the requirements in ways that utilize the relative strengths of that institution. In addition, each program is to define those areas of instruction that are unique to that specific program.

F. CORE CURRICULUM

1. GENERAL INFORMATION

Recognizing that physicians certified in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine practice in a variety of settings, including ambulatory, hospital in-patient consultation, and academic, the resident should spend time in a variety of clinical and academic settings.

While flexibility in curriculum is desirable and necessary; a basic core exists to provide a comparable educational experience for all graduates of the program. The concept of residency training as defined in the Residency Training Requirements of the AOA is as follows, “Postdoctoral training, leading to possible certification or certificate of competency in an osteopathic specialty differs qualitatively from osteopathic undergraduate and intern medical education. The latter are intended to produce competent family practitioners of osteopathic medicine, whereas specialty training is intended to produce competence in a
limited field of practice.” The goal of residency training is to provide the physician with an in depth understanding of Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine and its role in the diagnosis and treatment of all medical and surgical problems. It is expected that osteopathic physicians entering the residency in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine will, through prior training, be competent family practitioners of osteopathic medicine. The skills of physical and differential diagnosis, as well as medical and surgical management will be reinforced by direct interaction with the attending physicians providing the primary care for the patient. The specifics of this interaction will be described in the subspecialty sections of this curriculum. The resident’s performance in primary specialty areas will be evaluated by both the primary or specialty physician and the specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

This curriculum is designed as a general guide to concepts and skills that should be acquired while in a residency. The curriculum assumes a three year integrated program, which includes an AOA approved rotating internship. The following subjects must be included in every residency program. The mode of implementation is left to the individual program.

2. CONTINUITY OF CARE CLINICS

Continuity of care clinics is critical to residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. It should constitute the majority of outpatient training. The patient base should provide a population with diversity of age and pathology. The longitudinal care provided should address the physiological, emotional, cultural, economic, psychological, and environmental factors as they relate to the disease process.

Each resident will be assigned a panel of designated patients. This panel should consist of a minimum of approximately 250 patients. The resident should be clearly identified as the osteopathic care provider for the panel. The resident will be responsible, under supervision, for the osteopathic care of the assigned designated panel. A designated patient may be assigned to only one resident at a time. Patients assigned as part of the designated patient panel must have documented multiple visits to the facility and reflect a variety of diagnoses compatible with the educational objectives of the residency. Over the course of the continuity of care experience the resident should have a minimum of approximately 1,000 patient visits. The quality and diversity of patients is more important than the number itself.

The resident should spend an average of three half days per week at the continuity of care clinic during the two years of residency.

The continuity of care training shall provide the resident with:

c. An introduction to and progressive responsibility for preventive health care delivery
d. Knowledge of community and rehabilitative resources in total patient care.

A. Educational objectives
1. Learn the skills and art of delivering ambulatory care to a majority of the patients.
2. Learn to manage time efficiently to handle a normal case load during a scheduled day.
3. Develop medical practice management skills.
4. Learn to work in conjunction with referring physicians.
5. Learn to identify ancillary services in the community such as social work, physical and occupational therapy, psychological counseling, and make appropriate referrals.

B. Plan

Throughout the training the resident is responsible for the care of the patient panel. In addition to the base of patients, each resident acquires new patients as they present to the ambulatory care center. As the skills and proficiency of the resident improves there is an increasing daily patient load. By the end of the training the resident can manage an adequate number of patients to be successful.

3. HOSPITAL CARE

In-patient care must be incorporated into the residency training program. Residents must participate at a consultation level of service. Follow up hospital care should be given to those patients on whom consultations are performed. In-patient osteopathic care must be given under the supervision of a physician board certified in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine or its equivalent. There must be direct interaction with the attending physician who is providing primary care to the patient, and supervised discussion of the physical exam, differential diagnosis, and medical or surgical management of the patient. Consultation and in-patient care should be performed on patients with a broad variety of diagnoses compatible with the educational objectives of the program. The osteopathic manipulative treatment provided must be designed to produce a physiological change in the patient that will impact the course of the illness. It is insufficient to treat only the musculoskeletal complaints in medically ill patients. The resident should participate in all phases of the consultation, including patient evaluation, management including the delivery of osteopathic manipulative treatment, and writing of the consultation and follow-up notes.

A. Educational goals

1. Understand the role of applied osteopathic consultation in the work-up and treatment of hospitalized patients with a broad diversity of illnesses and of varying severity.
2. Learn how to interact as a consultant with the hospital staff.
3. Develop the knowledge base to design osteopathic treatment plans to produce a physiological change in the hospitalized patient with a broad variety of medical and surgical problems.
4. Refine skills of physical diagnosis and differential diagnosis in patients on whom consultation is performed.
5. Understand the appropriate medical and surgical management of patients on whom consultation is performed.
6. Learn to write a clear consultation report describing the findings and treatment recommendations.
7. Develop the diagnostic and palpatory skills necessary to contribute to the overall work-up of the patient with difficult diagnoses.
8. Develop the technical skills to individualize the treatment of patients with a broad variety of diagnoses and overall clinical conditions, and adapt technique to be appropriate and effective in the full spectrum of illness type and severity.

B. Plan

1. The resident should work with an osteopathic neuromusculoskeletal consultation service treating hospital in-patients. Over the course of the residency, the resident should be given greater responsibilities for the evaluation, treatment, and report of the consultation, commensurate with their abilities. There should be continuous interaction with attendings certified in the various specialty fields to reinforce the general medical and surgical care of the patient and the role of Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine in overall care of the patient. By the end of the program, the resident should have developed skills necessary to practice as an osteopathic consultant in a hospital service.

4. ACADEMIC TRAINING

An important goal of residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine is to train physicians who are qualified to be faculty at undergraduate and post-graduate teaching institutions. The residents must receive training in both lecturing and hands-on training. This training may occur at osteopathic colleges in undergraduate OPP and OMM departments, or in OPTIs training osteopathic interns, residents, and third and fourth year medical students. Ideally, this aspect of training will include teaching experience in both large and small group settings.

A. Educational goals

1. Learn lecturing skills to be able to prepare and deliver lectures on osteopathic concepts to undergraduate and postgraduate osteopathic students in large and small group settings.
2. Develop palpatory skills to provide hands-on training in osteopathic diagnosis and treatment.
3. Develop communication skills necessary to interact effectively with undergraduate and postgraduate students.
4. Develop the skills necessary to participate in research in the science of osteopathic medicine.

B. Plan

The resident will work with faculty in osteopathic colleges and osteopathic postdoctoral teaching institutions to learn lecturing skills. They will begin as assistant laboratory trainers learning the art and developing the palpatory and teaching skills necessary for hands-on teaching. As the knowledge and skills of the
resident progress, they will deliver lectures and work independently as a laboratory trainer under the supervision of faculty members. By the completion of the residency program, the resident will be qualified to serve as faculty at an osteopathic college or osteopathic postdoctoral training institution.

5. OSTEOPATHIC PHILOSOPHY

Osteopathic philosophy must be studied in depth by the resident in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. Central to this is in depth study of the writings of A.T. Still, and other osteopathic physicians who were leaders in the field of Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. Although this may be accomplished by reading assignment, it is best done with the incorporation of group discussion on a regular basis. A minimum of two texts by A.T. Still must be read during the two-year residency period. This philosophy will then be incorporated into the basic science and clinical study to produce physicians with a deep appreciation for the clinical application of the philosophy of osteopathy.

6. BEHAVIORAL SCIENCE

Behavioral Science is an important element in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. It is best learned in the longitudinal care setting utilizing didactic and clinical methods. The continuity of care center should serve as the site for this training. Osteopathic philosophy recognizes the interrelationship of body, mind, and spirit in health and disease. Identifying emotional, psychological, and cultural issues and the role they play in the disease processes of the patient is essential to the residents’ training. Learning medical and community resources available and developing appropriate referral skills should be part of this aspect of the residents training.

Training should include but not be limited to:

1. Human development
2. Social factors in health and disease
3. Doctor/patient relationship
4. Recognizing substance abuse
5. Psychological, emotional, and cultural components of disease

The behavioral science component of the curriculum should include the promotion of the physician’s well being and prevention of impairment.

A. Educational objectives

The resident should learn:

1. Normal and abnormal human growth and development.
2. Interviewing techniques
3. Doctor-patient relationships
4. Diagnosis of psychological components of illness
5. Diagnosis of substance abuse
6. Recognizing social issues as they contribute to and impact the illness
7. Effective and appropriate referral skills.

7. GERIATRICS

Evaluation and treatment of the elderly population is essential to residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. This aspect of the residents training should be met by the diversity of patients in the ambulatory and in-patient components of training. The resident in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine should recognize the special needs of the geriatric patient, as well as the anatomical and physiological changes that occur with aging.

The resident should recognize and be able to provide an osteopathic manipulative treatment plan for disease processes common to the elderly including, but not limited to:

1. Osteoporosis
2. Degenerative joint disease of the spine
3. Spinal stenosis
4. Osteoarthritis
5. Peripheral vascular disease
6. Compression fractures
7. Gait disturbances

A. Educational objectives

1. Learn the changes in anatomy and physiology inherent to the aging process.
2. Develop a knowledge base to design treatment plans that address the diseases of the elderly as well as accommodate for their unique anatomical and physiological condition.
3. Be familiar with age related changes, drug interactions, and dosages of medications frequently utilized by the specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine, including but not limited to:
   a. anti-inflammatory medications
   b. skeletal muscle relaxants
   c. antidepressants
   d. analgesics

B. Skills

1. Develop the skills necessary to adapt the osteopathic manipulative technique and rehabilitation to the problems of the elderly patient population.

8. INTERNAL MEDICINE

Understanding the interaction of osteopathic concepts with both the diagnosis and management of medical disease processes including manipulative treatment is essential to residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. This aspect of the residents training should be both didactic and clinical, and involve training from both specialists in Neuromusculoskeletal Medicine and Osteopathic
Manipulative Medicine and osteopathic internists or generalists. It should occur in both the inpatient and outpatient setting. Over the course of two years of training, the resident should evaluate and treat a minimum of approximately 100 patients with a broad variety of the following diagnoses. The quality and diversity of cases is more important than the number itself. This requirement can be met through longitudinal and hospital care. If insufficient volume or depth is produced through these avenues, a minimum of two months of intensive rotation on internal medicine services must be done. The rotations may be in general medicine or one or more of its subspecialties, however the minimum osteopathic manipulative treatment requirement still exists. Therefore, it is unacceptable for the resident to rotate solely as an intern or medical resident. The osteopathic evaluation and manipulative treatment must be supervised by a specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. There must also be direct interaction with the internist or generalist providing medical care to the patient, and supervised discussion of the physical exam, differential diagnosis, and medical management of the patient. The resident's performance in internal medicine will be evaluated by both the primary care or internal medicine physician and the specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

The manipulative treatment plan must address the pathophysiology of the disease process. It is insufficient to treat only the musculoskeletal complaints of patients with medical problems. The diversity of diagnoses to meet this core requirement will be described in the sub-specialty area of this section.

A. Educational objectives

1. Understand the structural and reflex changes that accompany medical illnesses.
2. Understand the role these findings have in the pathophysiology of the disease process.
3. Understand how structural findings are incorporated into the overall work-up of the patient with other aspects of physical exam and diagnostic tests and procedures.
4. Incorporate the understanding of anatomy, physiology, and pathophysiology into the development of a manipulative treatment plan to directly assist the recovery from the medical problem.
5. Understand the impact of chronic pain on the body’s hormonal/metabolic systems and how to identify these deficiencies.
6. Understand the medical management of this patient population.

B. Skills

1. Develop the palpatory skills necessary to recognize the structural changes that accompany medical illness, to the degree that these findings may assist in the process of differential diagnosis.
2. Reinforce the skills of physical diagnosis and differential diagnosis of the medical patient.
3. Develop skills necessary to apply osteopathic manipulative treatment to the entire spectrum of patients with medical illnesses, including bed bound and critically ill patients.
4. Develop skills to provide preventive medical management and health enhancement to the medical patient.

C. Cardiovascular medicine

1. Concepts
   a. Learn the structure of the heart and pericardium, including fascial connections with the diaphragm, sternum, and anterior cervical fascia, and how cardiac function may be altered by dysfunction of these tissues.
   b. Learn the innervation of the heart and vascular system, as well as how the innervation may be altered by somatic dysfunction.
   c. Learn the circulation to and from the heart and vascular system, including the lymphatic drainage, and how it may be altered by structural problems and somatic dysfunction.
   d. Understand the role of the above in cardiovascular diseases including, but not limited to:
      i. Hypertension
      ii. Angina
      iii. Arrhythmias
      iv. Congestive heart failure
      v. Valvular diseases
      vi. Acute myocardial infarction
      vii. Peripheral vascular disease
   e. Design a treatment program to address the structural considerations in the patient with cardiovascular disease as part of an overall treatment plan.
   f. Understand the diagnostic procedures and osteopathic medical management of the cardiovascular patient.

2. Skills
   a. Develop palpatory skills necessary to recognize the structural and reflex changes associated with cardiovascular diseases.
   b. Develop the skill level necessary to adapt osteopathic manipulative technique to be effective and appropriate for the patient with cardiovascular disease, regardless of age, severity of the disease, or the overall condition of the patient.

D. Pulmonary medicine

1. Concepts
   a. Learn the anatomy and innervation of the respiratory musculature, including the diaphragm.
   b. Understand the role of respiratory muscle fatigue and dysfunction in ventilatory problems.
   c. Learn the anatomy of the bony thorax with its contents, including the spine, rib cage, clavicles and sternum. Understand its role, as well as that of the bony pelvis, the pelvic diaphragm, and cranium in normal respiration.
d. Understand the relationship between compliance of the thorax and the work of breathing, and the effect of increased work of breathing on the patient with pulmonary diseases.

e. Learn the innervation of the pulmonary parenchyma, as well as how the innervation may be altered by somatic dysfunction.

f. Learn the anatomy of the pulmonary vasculature, including the lymphatic drainage. Understand the role of normal respiratory excursion on venous and lymphatic drainage.

g. Understand the role of the above in pulmonary diseases including, but not limited to:
   i. Asthma
   ii. COPD
   iii. Pneumonia
   iv. Bronchitis
   v. Restrictive lung diseases
   vi. Pleural effusion

h. Design a treatment program to address the structural considerations in pulmonary diseases as part of an overall treatment plan.

i. Understand the diagnostic procedures and osteopathic medical management of the pulmonary patient.

2. Skills

   a. Develop palpatory skills to recognize the structural and reflex changes associated with pulmonary diseases.

   b. Develop the skill level necessary to adapt osteopathic manipulative technique to be effective, safe, and appropriate in the patient with pulmonary disease regardless of their age, the severity of their disease, or their overall condition.

E. Gastrointestinal medicine

1. Concepts

   a. Learn the anatomy of the GI system including the mesenteries and their attachments to the visceras and the diaphragm, the mesenteric and fascial connections between abdominal viscera, and their role in supporting the visceral structures.

   b. Learn the role of the diaphragm, the posterior abdominal wall, the pelvic diaphragm, the lumbar spine and the bony pelvis play in supporting the abdominal viscera, and how GI function may be altered by ineffective support from these structures.

   c. Learn the innervation of the abdominal viscera, its role in peristalsis, abdominal blood flow, secretions, and sphincter function, and how it may be affected by somatic dysfunction.

   d. Learn the anatomy of the abdominal vasculature, including the lymphatic drainage, and how it may be altered by structural problems and somatic dysfunction.

   e. Understand the role of diaphragm excursion on abdominal venous flow, especially its role in portal circulation.

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f. Understand the role of respiration and peristalsis on abdominal lymph flow.
g. Understand the role of the above in Gastrointestinal disorders, including but not limited to:
   i. Peptic ulcer disease
   ii. Gastric motility disorders
   iii. Irritable bowel disease
   iv. Cholecystitis
   v. Pancreatitis
   vi. Appendicitis
   vii. Hepatitis and liver disease
   viii. Esophageal reflux and hiatal hernia
   ix. Ascites
   x. Inflammatory bowel disease
   xi. Diarrhea and constipation

h. Design a treatment program to address the structural considerations in the patient with gastrointestinal disease as part of the overall treatment plan.
i. Understand the diagnostic procedures and medical management of the GI patient.

2. Skills

   a. Develop palpatory skills necessary to recognize the structural and reflex changes associated with gastrointestinal disease, to the degree that these findings may assist in the differential diagnosis
   b. Develop the skills necessary to adapt osteopathic manipulative treatment to the patient with gastrointestinal disease, regardless of age, severity of the disease, or the overall condition of the patient.

F. Nephrology/Urology

1. Concepts

   a. Learn the anatomy of the kidney, ureters, bladder, and urethra, and the anatomical/physiological relationship of the kidney to the psoas muscle and its fascia, the ureter to the pelvic brim, and the bladder to the symphysis pubes.
   b. Learn the innervation of the genitourinary system, its role in GU function, and how it may be effected by somatic dysfunction.
   c. Learn the circulation to the kidney, ureters, and bladder, including its lymphatic drainage, and how it may be effected by structural problems and somatic dysfunction.
   d. Understand the role of the above in genitourinary diseases, including but not limited to:
      i. Nephrolithiasis
      ii. Pyelonephritis
      iii. Urinary tract infection
      iv. Prostatodynia
      v. Infertility/impotence
e. Understand the structural reflex findings that are manifest by different genitourinary pathologies.
f. Design a treatment plan to address the structural considerations in the patient with genitourinary disease, as a part of the overall treatment plan.
g. Understand the diagnostic and osteopathic medical management of the genitourinary patient.

2. Skills

a. Develop palpatory skills to recognize the structural and reflex changes associated with genitourinary disease.
b. Develop the skill level necessary to adapt osteopathic manipulative technique to be safe, effective, and appropriate in the patient with genitourinary disease, regardless of their age, the severity of the disease, or their overall condition.

G. Infectious Diseases

1. Concepts

a. Understand the anatomical/physiological considerations of the immune system and the interrelatedness of all body systems in combating infectious disease.
b. Understand the role of lymphatic drainage in stimulating T and B cell responses to infectious agents, and in the resolution of an inflammatory response, and the role of lymphatic and/or splenic pumps on this process.
c. Understand the role of body and fluid mechanics in the overall movement of lymph, and the effect of somatic dysfunction on lymph movement.
d. Understand the role of the diaphragm and respiration on central lymph drainage.
e. Learn the local anatomy, physiology, and mechanics of the lymphatic system for any region of the body, and the effect of somatic dysfunction on local lymphatic drainage.
f. Understand the role of the circulatory system in delivering antibiotics, immune cells, and their products to combat infectious processes, and the effect of somatic dysfunction on this process.
g. Understand the role of the primary respiratory mechanism on fluid movement throughout the body.
h. Learn the location and effect of local reflex patterns in an infectious process.
i. Understand the role of somatic dysfunction in predisposing a region, tissue, or organ system to infection.
j. Understand the role the above plays in infectious diseases including, but not limited to:
   i. Upper respiratory infections
   ii. Urinary tract infections
   iii. Cellulitis
   iv. Pharyngitis
v. Pneumonia
vi. Soft tissue infections
vii. Herpes Zoster

k. Design a treatment program to address the structural considerations and stimulate the movement of lymph in the patient with infectious disease as a part of the overall treatment plan.
l. Understand the diagnostic procedures and medical management of infectious diseases.

9. **SURGERY**

Learning the principles of preoperative and postoperative osteopathic manipulative care as it is integrated into overall surgical management is an essential component of residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. The osteopathic resident must also learn to utilize somatic clues in the differential diagnosis of surgical problems. This aspect of the residents training should be both didactic and clinical, and involve training by both specialists in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine and surgery. This training should occur in both the inpatient and outpatient setting. Over the course of two years of training, the resident should evaluate and treat a minimum of approximately 100 patients with a broad variety of the following diagnoses. The quality and diversity of cases is more important than the number itself. This requirement can be met through the longitudinal and hospital care portions of the program. If insufficient volume is produced through these avenues, a minimum of two months of intensive rotation on surgical services must be done. The rotations may be on general surgery or one or more sub-specialties, however the minimum osteopathic manipulative treatment requirement still exists. Therefore, it is unacceptable to rotate the resident through surgical services solely as a surgical intern or resident. The osteopathic evaluation and manipulative treatment must be supervised by a specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. There must also be direct interaction with the attending providing primary and/or surgical care to the patient, and supervised discussion of the physical exam, differential diagnosis, and medical/surgical management of the patient.

The manipulative treatment plan must address the pathophysiology of the disease process. It is insufficient to treat only the musculoskeletal complaints of patients with surgical problems. The diversity of diagnoses to meet this core requirement will be described below.

A. **Educational objectives**

1. Understand the structural and reflex changes that accompany surgical diseases.
2. Understand the role these findings play in the pathophysiology of the disease process.
3. Understand how structural findings are incorporated into the overall work-up of the patient with other aspects of physical exam and diagnostic procedures.
4. Incorporate the understanding of anatomy, physiology, and pathophysiology into the development of both a preoperative manipulative treatment plan to help prepare the patient for surgery and post operative treatment to assist recovery and reduce the risk of complications.
5. Understand the physical diagnosis and differential diagnosis of the surgical patient.
6. Understand the diagnostic procedures and management of the surgical patient.

B. Skills

1. Develop skills to provide preventive health management and health enhancement to the surgical patient.
2. Develop palpatory skills necessary to recognize the structural and reflex changes that accompany surgical problems, to the degree that these findings may assist in the process of differential diagnosis.
3. Reinforce the skills of physical diagnosis and differential diagnosis of the surgical patient.
4. Develop skills necessary to apply osteopathic manipulative treatment to the entire spectrum of patients with surgical problems, both pre and post operatively, including critically ill and immediate postoperative patients.

C. General surgery

1. Concepts
   a. Understand the structural and reflex changes that accompany surgical problems.
   b. Understand the structural and reflex changes that result from the incision and surgical procedure.
   c. Understand how these reflex changes may contribute to prolonged ileus following surgery.
   d. Understand the diaphragm dysfunction that follows pelvic and abdominal surgery and its effects on postoperative respiratory function.
   e. Understand how the reflex changes from abdominal surgery restrict the mid and lower ribs and thoracic and lumbar spine and impairs respiratory excursion.
   f. Understand the effect of reduced peristalsis and respiration on abdominal lymph drainage.
   g. Understand the role of lymphatic drainage in wound healing, and the production of postoperative adhesions.
   h. Understand the role of the above in the recovery from surgeries including, but not limited to:
      i. Stomach
      ii. Gall bladder
      iii. Liver
      iv. Spleen
      v. Appendix
      vi. Colon
      vii. Rectum
      viii. Breast
      ix. Pancreas
i. Design both preoperative and postoperative osteopathic manipulative treatment plans to help improve surgical outcomes.

j. Understand the diagnostic procedures and surgical management of general surgical patients.

### D. Thoracic/Vascular surgery

1. **Concepts**

   a. Understand the reflex and structural changes that accompany thoracic and vascular surgical problems.
   
   b. Understand the reflex changes that result from the incision and surgery.
   
   c. Understand the severe dysfunction of the upper thoracic spine, ribs, and sternum that results from sternotomy.
   
   d. Understand the rib and spine dysfunctions that accompany thoracotomy.
   
   e. Understand the effect of rib, spine, and sternal dysfunction on respiratory function post operatively.
   
   f. Understand the role of respiratory excursion on the lymphatic drainage of the heart, lungs, and mediastinum.
   
   g. Understand the role of lymphatic drainage in wound healing and the production of postoperative adhesions.
   
   h. Understand the role of the above in the recovery from surgeries including, but not limited to:
   
      i. Arterial and venous system
      
      ii. Lungs
      
      iii. Heart valves
      
      iv. Coronary arteries
      
      v. Mediastinal tissues
      
      vi. Chest tubes
   
   i. Design both preoperative and postoperative osteopathic manipulative treatment programs to help improve surgical outcomes.
   
   j. Understand the functional and structural causes of thoracic outlet syndrome.
   
   k. Understand the diagnostic procedures and surgical management of thoracic and vascular surgical problems.

### E. EENT Surgery

1. **Concepts**

   a. Understand the structural and reflex changes that accompany EENT diseases.
   
   b. Understand the structural and reflex changes that result from the incision and surgical procedure.
   
   c. Understand how anterior and posterior cervical fascial strain will impede drainage of the deep cervical lymphatic chain.
   
   d. Understand the spectrum of functional and structural problems causing EENT symptoms.
e. Understand the role of the above in the recovery from surgeries including, but not limited to:
   i. tonsils
   ii. facial sinuses
   iii. pharynx
   iv. larynx
   v. thyroid
   vi. ears and tympanic membranes
   vii. eyes
f. Design both preoperative and postoperative osteopathic manipulative treatment plans to help improve surgical outcomes
g. Understand the diagnostic procedures and surgical management of EENT problems.

10. NEUROMUSCULOSKELETAL MEDICINE

The evaluation and treatment of neuromusculoskeletal diseases is a central part of training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. This section will include divisions of neurology, rheumatology, orthopedics, occupational medicine, radiology, anesthesiology and rehabilitation medicine, to cover the diversity of diagnoses needed to meet this requirement. The osteopathic resident must learn to use their palpatory skills to identify clues for the differential diagnosis of neuromusculoskeletal problems, and design osteopathic manipulative treatment plans and rehabilitation to improve the function of the neuromusculoskeletal system. The specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine will, by the nature of the specialty, often be the primary care provider for the patient with diseases of the neuromusculoskeletal system. They should therefore be trained in the overall evaluation and management of these patients, as well as how to appropriately refer patients for specialty consultation when indicated. Over the course of two years of training, the resident should evaluate and treat a minimum of approximately 200 patients with a broad variety of the following diagnoses. The quality and diversity of cases is more important than the number itself. This requirement can be met through the longitudinal and hospital care portions of the program. If insufficient volume is met through these avenues, a minimum of three months of intensive rotations must be done.

A. Educational objectives

1. Understand the physiology of acute and chronic pain
2. Understand the structural consequences of trauma in addition to fracture, enthesopathy, sprain and joint instability.
3. Understand somatic referral patterns as in sclerotomal, myotomal, and dermatomal distributions as well as those specific to myofascial trigger points, ligamentous strains and discogenic injuries.
4. Understand the role of somatic dysfunction in diseases of the neuromusculoskeletal system.
5. Learn to diagnose and manage neuromusculoskeletal diseases including the utilization of diagnostic tests and all aspects of conservative management.
6. Expand expertise in the dosage, drug interactions, indications, and contraindications of pharmacologic agents used in the management of acute and chronic pain, including but not limited to:
   a. anti-inflammatory medications
b. skeletal muscle relaxants
c. antidepressants
d. analgesics

7. Learn to seek specialty consultation from all sub-specialties listed below for the overall evaluation of neuromusculoskeletal diseases.

8. Understand the role of osteopathic manipulative treatment, joint stabilization and rehabilitation in the overall management of neuromusculoskeletal disease.

B. Skills

1. Perform a neuromusculoskeletal physical exam
2. Initiate treatment programs for neuromusculoskeletal patients.
3. Develop appropriate referral patterns.

C. Neurology

1. Concepts
   a. Understand the pathophysiology of common neurological problems amenable to conservative care.
   b. Recognize complex neurological problems and obtain appropriate consultation.
   c. Understand the anatomical and physiological considerations of the nervous system and the relationship of the central nervous system and peripheral nervous system to the body as a whole.
   d. Understand the relationship between the primary respiratory mechanism and the functioning of the central nervous system.
   e. Understand the blood supply, venous drainage, and CSF fluctuation in the central nervous system, and its cranial nerves.
   f. Understand the role of structural and reflex changes in neurological dysfunction.
   g. Diagnose and manage
      i. Cervical, thoracic and lumbosacral radiculitis
      ii. Chronic pain syndromes
      iii. Entrapment neuropathies
      iv. Headache
      v. Trigeminal neuralgia
      vi. Discogenic pain
      vii. Myofascial pain
   h. Diagnose and appropriately refer
      i. radiculopathy with nerve deficit
      ii. CVA
      iii. Peripheral neuropathy
   i. Incorporate osteopathic manipulative treatment into the overall design of the treatment program of the neurological patient.

2. Skills
   a. Perform a neurological exam.
   b. Perform a structural exam on the neurological patient.
c. Perform osteopathic manipulative treatment on the patient with neurological disease as part of the overall treatment program.

D. Rheumatology

1. Concepts
   
a. Understand the anatomy and physiology of synovial joints.
   b. Understand the role of the articulated human skeleton in the overall function of the body.
   c. Understand the pathophysiology of common rheumatological diseases amenable to conservative care.
   d. Recognize complex and severe rheumatological diseases and make appropriate referrals.
   e. Understand the physiology and pathophysiology of the immune system.
   f. Understand the physiology of inflammation and the pathophysiology of chronic inflammatory processes.
   g. Understand and recognize the systemic effects of immune and inflammatory diseases.
   h. Understand the role of the lymphatic system in immune function and the resolution of the inflammatory process.
   i. Diagnose and manage, or participate in the management of:
      I. rheumatoid arthritis
      ii. gouty arthritis
      iii. SLE
      iv. Osteoarthritis
      v. Spondyloarthropathies
      vi. Polymyalgia rheumatica
      vii. Lyme disease
      viii. Chronic regional pain syndromes
   j. Design an overall treatment program that incorporates the use of osteopathic manipulative treatment in the rheumatological patient.

2. Skills
   
a. Perform an examination of the joints of the body.
   b. Develop appropriate referral patterns
   c. Perform osteopathic manipulative treatment as part of the overall treatment program for the patient with rheumatological disease.

E. Orthopedics

1. Concepts
   
a. Understand the anatomy, physiology and healing processes of living bone, joint capsules, ligamentous and related soft tissue structures.
   b. Understand the relationship between the skeletal system and the physiologic functioning of the body as a whole.

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c. Understand the blood supply, innervation and venous and lymphatic drainage of bone, periosteum, ligament, tendon, and related soft tissues.
d. Recognize the presence of somatic dysfunction in the skeletal and associated tissues, and the role it plays in the function of those tissues, and its disease processes.
e. Understand the pathophysiology of non-surgical orthopedic problems amenable to conservative care.
f. Recognize fractures and surgical orthopedic diseases and make appropriate referrals.
g. Understand principles and indications for prolotherapy.
h. Understand principles and indications for intraarticular injections.
i. Diagnose and manage
   i. Acute and chronic sprains
   ii. Acute and chronic strains
   iii. Bursitis/tendonitis
   iv. Discogenic disease
   v. Failed back syndrome
   vi. Capsulitis
   vii. Epicondylitis
   viii. Sciatica/piriformis syndrome
   ix. Costochondritis
   x. Coccydynia
   xi. Spondylolisthesis
   xii. Degenerative joint disease
   xiii. Gravitational strain
   xiv. Postoperative hip and knee surgery
   xv. Scoliosis
   xvi. Enthesopathy
   xvii. Ligament and joint instability
   xviii. Common sports injuries
j. Incorporate osteopathic manipulative treatment into the overall treatment of orthopedic diseases.
k. Understand the role of pharmacologic management in the acute and chronic pain patient.

2. Skills

a. Perform an examination of the musculoskeletal system.
b. Develop appropriate referral patterns.
c. Examine for ligamentous laxity and strain.
d. Examine for postural decompensation and apply or refer for orthotics, prosthetics, and or osteopathic postural management strategies to affect coronal, sagittal, and horizontal plane imbalance.
e. Perform osteopathic manipulative treatment on patients with orthopedic diseases.
f. Perform trigger point injections.

F. Rehabilitation medicine
The disease processes evaluated and treated by specialists in rehabilitation medicine are covered in the preceding subspecialties. Rather than repeat them here, this section will focus on the incorporation of exercise, physical and occupational therapy into the overall care of the patient with neuromusculoskeletal disease.

1. **Concepts**
   
   a. Understand the role of exercise in the rehabilitation of the patient with neuromuscular disease.
   
   b. Understand the different responses of postural and phasic muscles when stressed.
   
   c. Understand the role of physical and occupational therapy in the rehabilitation of the patient with neuromuscular disease.
   
   d. Learn the various modalities and treatments available through PT and OT, their uses and indications in the rehabilitation process.
   
   e. Design appropriate exercise, PT, and OT prescriptions for outpatients.
   
   f. Recognize the need for rehab consultation in complex and difficult cases.
   
   g. Understand the role of osteopathic manipulative treatment in the overall rehabilitation of the patient with neuromusculoskeletal disease.
   
   h. Understand the role of orthotic devices.

2. **Skills**
   
   a. Make appropriate exercise, PT and OT prescriptions
   
   b. Make appropriate rehab consultations
   
   c. Perform osteopathic manipulative treatment as part of the overall rehabilitation process.

G. **Anesthesiology**

Anesthesiology provides various treatment modalities for the acute and chronic pain patient as well as diagnostic techniques. The physician that wishes to practice Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine needs to understand the unique talents anesthesiology brings to the treatment of the chronic pain patient.

1. **Concepts**
   
   a. Discography and radiofrequency treatment of symptomatic discs
   
   b. Regional sympathetic blocks
   
   c. Regional anesthesia
   
   d. Epidural blocks
   
   e. Facet blocks, medial nerve branch blocks and facet rhizotomies
   
   f. Spinal cord stimulators and implantation of opioid delivery systems in the chronic pain patient

2. **Skills**
   
   a. Perform an examination of the musculoskeletal system.
b. Develop appropriate referral patterns and interrelationships with anesthesiologists who do work with acute and chronic pain patients.

c. Perform OMT on acute and chronic pain patients when indicated.

d. Assess movement and muscle firing patterns of injured/painful patients and prescribe appropriate exercise and pharmacologic therapeutics.

e. Evaluate proprioceptive skills of chronic pain patients and make appropriate referrals or retraining programs.

H. Radiology

1. Concepts and Skills

a. Understand the principles of MRI technology and have competence to read MRIs of the neuromusculoskeletal system.

b. Understand the principles of CT technology and have competence to read CTs of the neuromusculoskeletal system.

c. Understand the principles of X-rays and have competence to read X-rays of the spine, chest, joints, and postural studies.

d. Understand ultrasound technology and know when it would be appropriate to order for patients under the care of the OMT specialist.

I. Occupational Medicine

1. Concepts and Skills

a. Understand the mechanisms of worker's compensation and disability.

b. Be able to coordinate care and communication between the patient, employer, worker's compensation insurer, rehabilitative nurse, and therapists.

c. Understand how to provide or access functional capacity evaluations for injured employees who have reached maximal medical improvement.

d. Understand how to provide or access medical impairment ratings for employees who have reached maximal improvement.

11. PEDIATRICS

Integrating osteopathic concepts to both the diagnosis and osteopathic management of pediatric patients and their diseases including manipulative treatment is essential to residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. This aspect of the residents’ training should be both didactic and clinical, and must include training by specialists in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine as well as pediatrics or family practice. This training should occur in both inpatient and outpatient settings. Over the course of training, the resident should evaluate and treat a minimum of approximately 100 patients with a broad variety of the following diagnoses. The quality and diversity of cases is more important than the number itself. This requirement can be met through longitudinal and hospital care. If insufficient volume is produced through these avenues, a minimum of two months of intensive rotation in
pediatrics must be done. The minimum requirement for osteopathic evaluation and treatment remains in this situation, therefore it is unacceptable to rotate the resident solely as a pediatric intern or resident. The osteopathic evaluation and manipulative treatment must be supervised by a specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. There must be direct interaction with the pediatric or family practice attending providing the medical care to the patient, and supervised discussion of the physical exam, differential diagnosis and medical management of the patient. The resident’s performance will be evaluated by both the pediatric or primary care physician and the specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

A. Educational objectives

1. Understand the structural and reflex changes that accompany pediatric diseases.
2. Understand the role of these findings in the pathophysiology of the disease process.
3. Understand the unique host response of the pediatric patient to both illness and to enhancement of homeostasis.
4. Understand how structural findings are incorporated into the overall work-up of the pediatric patient with other aspects of physical exam and diagnostic tests and procedures.
5. Understand how somatic dysfunction may restrict the process of growth and development, and how osteopathic manipulative treatment may influence this physiological process.
6. Incorporate the understanding of anatomy, physiology, and pathophysiology into the development of a manipulative treatment plan to directly assist the recovery from the disease process.
7. Understand the diagnostic procedures and osteopathic medical management of the pediatric patient.
8. Understand the physical diagnosis and differential diagnosis of the pediatric patient.
9. Be familiar with age related changes in dosage and drug interactions of medications frequently utilized by the specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine, including but not limited to:
   a. anti-inflammatory medications
   b. skeletal muscle relaxants
   c. antidepressants
   d. analgesics

B. Skills

1. Develop the palpatory skills necessary to recognize the structural and reflex changes that accompany pediatric illnesses, to the degree that these findings may assist in the process of differential diagnosis.
2. Develop the skills necessary to apply osteopathic manipulative treatment to the entire spectrum of pediatric patients, regardless of age or the severity of the disease.
3. Reinforce skills of physical diagnosis and differential diagnosis in the pediatric patient.
4. Develop skills to provide preventive medical management and health enhancement to the pediatric patient.

C. General pediatrics

1. Concepts

   a. Understand the unique anatomy of the pediatric patient, including the development of osseous structures, the immune system, the circulatory system, and other anatomy different from the adult population.

   b. Learn about normal physical, mental, and behavioral development in the pediatric population.

   c. Understand the role of somatic dysfunction in the pathophysiology of pediatric diseases including, but not limited to:

      i. acute and recurrent otitis media
      ii. asthma
      iii. torticollis
      iv. strabismus
      v. developmental delay
      vi. learning delay
      vii. seizure disorder
      viii. upper respiratory infections
      ix. scoliosis
      x. cerebral palsy
      xi. traumatic injuries
      xii. juvenile rheumatic diseases
      xiii. down’s syndrome and other congenital abnormalities

   d. Design a treatment program to address the structural considerations in the pediatric patient with a broad variety of disease processes, as part of the overall treatment plan.

D. Neonatal and nursery

1. Concepts

   a. Understand the unique anatomy and physiology of the newborn, including differences in circulation, respiration, skeletal development, and immune development.

   b. Understand traumatic strains developed in utero and during the normal and assisted birthing processes.

   c. Understand the role of somatic dysfunction in the function and development of the newborn, as well as in problems including, but not limited to:

      i. failure to thrive
      ii. vomiting
      iii. poor suck
      iv. colic
      v. jaundice
      vi. plagiocephaly
vii. molding
viii. shoulder dystocia
ix. club foot
x. respiratory problems
d. Design a treatment program to address the structural considerations of the newborn in the overall treatment program, recognizing the distinctive adaptation of technique necessary in this patient population.

12. OBSTETRICS/GYNECOLOGY

Integrating osteopathic concepts to both the diagnosis and osteopathic management of Ob/Gyn patients including manipulative treatment is essential to residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. This aspect of the residents training should be both didactic and clinical, and must involve training by specialists in both Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine and Ob/Gyn or family practice. This training should occur in both the inpatient and outpatient setting. Over the course of two years of training, the resident should evaluate and treat a minimum of approximately 100 patients with a broad variety of the following diagnoses. The quality and diversity of cases is more important than the number itself. This requirement can be met through longitudinal and hospital care. If insufficient volume or depth is produced through these avenues, a minimum of two months of intensive rotations in Ob/Gyn must be done. The minimum osteopathic treatment requirement persists in this situation, and it is therefore unacceptable to rotate the resident through the service solely as an Ob/Gyn intern or resident. The osteopathic manipulative treatment must be supervised by a specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine. There must also be direct interaction with the attending providing the Ob/Gyn care to the patient, and supervised discussion of the physical exam, differential diagnosis, and Ob/Gyn care of the patient. The resident’s performance will be evaluated by both the primary care or Ob/Gyn physician and the specialist in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

The manipulative treatment must address the pathophysiology of the disease process. It is insufficient to treat only the musculoskeletal complaints in the Ob/Gyn patient.

A. Educational goals

1. Understand the structural and reflex changes that accompany Ob/Gyn diseases.
2. Understand the role those findings have in the pathophysiology of the disease process.
3. Understand the postural and physiologic changes that accompany pregnancy, and the role of somatic dysfunction plays in difficulties adapting to those changes.
4. Incorporate the understanding of anatomy, physiology, and pathophysiology into the development of a manipulative treatment plan to directly assist the recovery from Ob/Gyn diseases.
5. Understand the physical diagnosis and differential diagnosis of the Ob/Gyn patient.
6. Understand the diagnostic procedures and medical and surgical management of the Ob/Gyn patient.
B. Skills

1. Develop the palpatory skills necessary to recognize the structural changes that accompany Ob/Gyn diseases, to the degree that these findings may assist in the process of differential diagnosis.

2. Develop skills necessary to apply osteopathic manipulative treatment to the entire spectrum of patients with Ob/Gyn diseases, regardless of their age or the severity of the disease.

3. Reinforce skills of physical diagnosis and differential diagnosis in the Ob/Gyn patient.

3. Develop skills necessary to provide preventive medical management and health enhancement to the Ob/Gyn patient.

C. Obstetrics

1. Concepts
   a. Understand the anatomical, physiological, and postural changes which occur during pregnancy
   b. Understand how the process of nutation and counternutation improve feto-pelvic proportions.
   c. Understand how somatic dysfunction may interfere with the above, and contribute to problems during pregnancy, labor, and delivery.
   d. Understand the role of somatic dysfunction in obstetrical diseases including, but not limited to
      i. low back pain
      ii. carpal tunnel syndrome
      iii. edema
      iv. respiratory problems
      v. morning sickness and hyperemesis gravidarum
      vi. headache
      vii. premature labor
      viii. failure to progress
      ix. post-partum depression and/or fatigue
      x. dysuria
   e. Design an osteopathic manipulative treatment program to address the structural considerations in the patient with obstetrical disease.

D. Gynecology

1. Concepts
   a. Understand the anatomy, physiology, and pathophysiology of the female genitourinary system.
   b. Recognize the structural findings that accompany gynecological disease.
   c. Understand the role of somatic dysfunction in the pathophysiology of gynecological diseases including, but not limited to:
      i. pelvic inflammatory disease
      ii. ovarian cyst
iii. premenstrual syndrome and menstrual cramps
d. Design an osteopathic manipulative treatment program to address
the structural considerations in the patient with gynecological
disease.

F. Training in the different types of manipulative care and their indications,
contraindications and appropriateness in patient care including all myofascial, soft
tissue, direct and indirect techniques currently taught in osteopathic colleges.

G. Emphasis on the importance of preventive medicine in total health care.

H. Methods for the proper recording of all osteopathic diagnosis and treatment in all
patient records, consultation and reports in such a manner that these documents
reflect the osteopathic approach, treatment and effect.

I. Training in research design, especially in an osteopathic manipulative medical
setting.

J. Study and application of educational principles.

K. Exposure to past and current medical literature as well as a specified reading list.

L. The program may offer quality outside rotations that meet standards formulated in
the Residency Training Requirements of the AOA. Such rotations shall be arranged
as needed to meet the other goals and requirements of the residency program
and/or to provide the breadth of patient exposure required in this program. Up to
50 percent of the program may be spent in outside rotations.

ARTICLE V - QUALIFICATION AND RESPONSIBILITIES
OF THE PROGRAM DIRECTOR

A. Qualifications

1. The program director must be certified by the AOA in Neuromusculoskeletal Medicine and
Osteopathic Manipulative Medicine or special proficiency in OMM.

2. The program director must meet the standards of the position as formulated in the
Residency Training Requirements of the AOA.

B. Responsibilities

1. The program director shall:

   a. Be responsible for the educational program and shall ensure that all program
      requirements are met.

   b. Arrange for residency training within the institution in cooperation with allied
departments.
c. Arrange affiliations and/or outside rotations necessary to meet the program objectives.

d. Prepare required materials for inspection in cooperation with the AOA Division of Postdoctoral Training.

e. Define his/her authority in directing the residency training program in the program documents of the institution conducting the program.

f. Provide the resident with all documents pertaining to the program, including requirements for satisfactory completion of the program.

g. Submit quarterly reports to the director of medical education of the institution. Annual reports shall be submitted to the Evaluating Committee of the American Academy of Osteopathy.

h. Encourage the resident to apply for certification in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine.

ARTICLE VI - RESIDENT REQUIREMENTS

A. To be eligible for residency training in Neuromusculoskeletal Medicine and Osteopathic Manipulative Medicine, the applicant shall meet the appropriate following minimum criteria. The candidate will:

1. Be a graduate of a college of osteopathic medicine accredited by the AOA.

2. Complete a one (1) year preliminary (OGME-1P) year approved by the AAO Postdoctoral Standards and Evaluation Committee.

3. Be and remain a member in good standing of the AOA and the Canadian Osteopathic Association where applicable.

4. Be licensed to practice in the state, territory, province or country (where applicable) in which the training is conducted.

B. During the preliminary year of training (OGME-1P) the intern must complete the following curriculum before entry into the 2nd postdoctoral year of NMM/OMM residency training:

1. No less than two months of exposure in general internal medicine consisting of hospital and/or ambulatory experience.

2. No less than one month exposure in emergency medicine.

3. No less than one month exposure in general surgery, which must include in-patient experience.

4. One month of family practice is encouraged and may include training in a hospital or ambulatory setting or one-half day per week for a minimum of 46 weeks of ambulatory exposure in a family practice continuity of care type practice site.

5. One month of pediatric adolescent medicine is encouraged and may include training in a hospital or ambulatory setting.

6. One month of obstetrics, gynecology or women's health is encouraged where available and may include training in a hospital or ambulatory setting.
7. One month of osteopathic manipulative medicine is encouraged and may include training in a hospital or ambulatory setting.

8. No more than three months of elective exposure adequate to meet the individual needs of the interns and approved by the dme internship program director.

9. All remaining time may be scheduled at the discretion of the base institution.

10. No more than one month may be spent in non-clinical experience, (research, scholarly pursuits, administration, etc.).

11. Exposures that occur to the support disciplines of neurology, radiology, anesthesiology, physical medicine and rehabilitation, orthopedics and rheumatology. This may occur directly by rotation or indirectly by formal didactic conferences and/or exposure while on medical or surgical services. This exposure must be verified on intern's logs.

Prospective residents may also complete a stand-alone osteopathic traditional rotating internship (OGME-IT). It is strongly recommended that anyone completing an ogme-IT program complete at least one elective in NMM/OMM.

C. During the residency training program, the resident must:

1. Submit an annual report to the Postdoctoral Standards and Evaluation Committee of the American Academy of Osteopathy.

2. Prepare a minimum of one paper which is suitable for publication or in lieu of such a paper, he/she may participate in a study (clinical or basic research) from which a report or paper would evolve.

3. Attend the appropriate staff, departmental and hospital meetings.

4. Attend the American Academy of Osteopathy's convocation annually and sit for the yearly in-service exam. This exam is given at the convocation.

5. Sit for the annual residency in-service examination given at the convocation of the AAO.
APPENDIX A:
MODEL HOSPITAL POLICY ON
ACADEMIC AND DISCIPLINARY DISMISSAL

In July 1993, the Board of Trustees of the American Osteopathic Association adopted the following policy:

The hospital and department have clearly defined procedures for academic and disciplinary action. Academic dismissals result from a failure to attain a proper level of scholarship or non-cognitive skills, including clinical abilities, interpersonal relations, and/or personal and professional characteristics. Institutional standards of conduct include such issues as cheating, plagiarism, falsifying records, stealing, alcohol and/or substance abuse, or any other inappropriate actions or activities.

In cases of academic dismissal, the hospital and department will inform trainees, orally and in writing, of inadequacies and their effects on academic standing. The trainee will be provided a specified period in which to implement specified actions required to resolve academic deficiencies. Following this period, if academic deficiencies persist, the trainee may be placed on probation for a period of three (3) to six (6) months. The trainee may be dismissed following this period, if deficiencies remain and are judged to be unremediable. In accordance with institutional policy, the trainee will be provided an opportunity to meet with evaluators to appeal decisions regarding probation or dismissal. Legal counsel at hearings concerning academic issues will not be allowed.

In cases of disciplinary infractions that are judged unremediable, the hospital and department will provide the trainee with adequate notice, in writing, of specific ground(s) and the nature of the evidence on which the disciplinary action is based. The trainee will be given an opportunity for a hearing in which the disciplinary authority will provide a fair opportunity for the trainee’s position, explanations and evidence. Finally, no disciplinary action will be taken on grounds that are not supported by substantial evidence. The department and/or hospital intern training committee, or house staff education committee, or other appropriate committees will act as the disciplinary authority. Trainees may be allowed counsel at hearings concerning disciplinary issues. Pending proceedings on such disciplinary action, the hospital in its sole discretion may suspend the trainee, when it is believed that such suspension is in the best interests of the hospital or of patient care.
RESIDENT WORK HOURS AND SUPERVISION POLICIES

It is recognized that excessive numbers of hours worked by resident physicians can lead to errors in judgment and clinical decision-making. These can impact on patient safety through medical errors, as well as the safety of the physician trainees through increased motor vehicle accidents, stress, depression and illness related complications. The training institution, director of medical education (DME) and residency program director must maintain a high degree of sensitivity to the physical and mental well being of residents and make every attempt to avoid scheduling excessive work hours leading to sleep deprivation.

A. Work Hours

1. The following work hours policy will apply to all residents in all specialties.
   a. The resident shall not be assigned to work physically on duty in excess of eighty hours (80) per week averaged for each month, inclusive of night call.
   b. The resident shall not work in excess of twenty-four (24) consecutive hours inclusive of morning and noon educational programs. Allowance for, but not to exceed up to six (6) hours for inpatient and outpatient continuity, transfer of care, educational debriefing and formal didactic activities may occur. Residents may not assume responsibility for a new patient after twenty-four (24) hours.
   c. If moonlighting is permitted in the same institution as contracted for residency, the eighty (80) hour per week limit and moonlighting shall be inclusive.
   d. The resident shall have alternate forty-eight (48) hour weekends (Saturday and Sunday) off or at least one (1) twenty-four (24) hour period off each weekend (Saturday or Sunday).
   e. Upon conclusion of a twenty-four (24) hour duty shift, residents shall have a minimum of twelve (12) hours off before being required to be on duty again.
   f. Those rotations requiring the resident to be assigned to Emergency Department duty shall not be assigned longer than twelve (12) hour shifts. Basic Documents for Postdoctoral Training, Revised, BOT 07/02 38.
   g. The resident and training institution must always remember the patient care responsibility is not precluded by this policy. In the case where a resident is engaged in patient responsibility which cannot be interrupted, additional coverage should be provided to relieve the resident involved as soon as possible.
   h. The resident may not be assigned to call more often than every third night.

2. The training institution shall provide an on-call room for residents, which is clean, quiet and comfortable, so to permit rest during call. A telephone shall be present in the on-call room. Toilet and shower facilities should be present in or convenient to the room. Nourishment shall be available during the on-call hours of the night.

B. Supervision of Residents

1. The residency is an educational experience and must be designed by the institution to offer structured and supervised exposure to promote learning rather than service. An opportunity must exist for residents to be supervised and evaluated throughout their training with availability of teaching staff scheduled within the program. During daytime hours, residents will be responsible to attending physicians for assignment, of responsibility.
APPENDIX C: ADVANCED STANDING

A. If a resident is accepted from another NMM/OMM residency training program, the program director of the accepting program has the authority to determine which, if any, rotations from previous programs will qualify for a request for advanced standing.

B. An OGME-1 preliminary year (OGME-1P) or its equivalent is prerequisite for acceptance into a PGY 2 or PGY 3 position in any NMM/OMM program.

C. Postgraduate medical education training in programs other than NMM/OMM may be approved on a month by month basis as they meet the NMM/OMM basic standard. The accepting program director has the authority to approve up to three (3) months training on this basis.

D. Postgraduate medical education training of more than three (3) months will be considered on an individual basis for advanced credit in NMM/OMM residency programs. The request for advanced standing will be reviewed by the program director, who shall forward requests to the AAO Postdoctoral Standards and Evaluation committee (PS&E). In no instance is the program director compelled to recommend advanced standing to the AAO PS&E committee. Advanced standing may under no circumstance exceed twelve (12) months.

E. AOA board-certified physicians may apply for advanced standing based on prior AOA GME training and practice experience. Board certified physicians may receive more than the three (3) months of advanced standing, but not to exceed twelve (12) months. Credit may be considered for work and/or training done within four (4) years of entering the program. The credit will be given if the physician has worked in areas contained in the basic standard and has demonstrated enough evidence of meeting the basic standards. The request for advanced standing credit will be made by the resident, in conjunction with the program director to the AAO PS&E committee, which will take final action on the request.

F. A physician may participate in an NMM/OMM training program on a part-time basis; however, the program must be completed within a four (4) year time period. For the allotment of residency slots, the program will provide slots according to the time spent by the physician. For example, a ½ time program will constitute ½ a resident slot, a ¼ time program will constitute ¼ a resident slot, and a full-time program will constitute one resident slot. These residents must be included within the approved number of training positions for the training site. These programs must take place in an already approved and fully accredited NMM/OMM program. They must be equivalent to residency training as stated in the basic standards for residency training in NMM/OMM. The continuity of care portion of training is required. The program may not be completed as a weekend-only rotation and it must be done in a continuous period.