
# IANM
# Pillars of Practice

## for
## Advanced Practice
## Nonsurgical
## Neuromusculoskeletal Medicine
## Specialists©

## Study Guide
## and
## Examination Content
## Blueprint

## 8th Edition

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# International Academy of Neuromusculoskeletal Medicine (IANM)

# IANM Pillars of Practice© Specialty Study Guide and Examination Content Blueprint 8th Edition

## Prelude

This is a prelude to the 8th Edition of the pillars of Practice of the Advanced Practice of Nonsurgical, Neuromusculoskeletal Medicine.

The primary purpose of this document is the specific direction to educators, lecturers, administrators, curriculum writers, item writers, problem developers, test designers and examination planners for the creation of the specialty examinations and the educational content required leading to board certification.

Other purposes may be relevant for the adjudication and assessment by licensing boards and other governmental administrative entities, health care classes of providers, health care delivery plans, interested specialty boards, provider panels and groups, as well as informed consumers of the services provided by those certified by this board.

## Depth

The content of this document includes elementary education items expected to be relevant in all levels of practice. Although these items are present, we are specifically interested in the specialty level delivery of these tasks as well as the total command of the expert level knowledge, skills and tasks. We expect all board certified specialists to be expert at all levels of education, regardless of the elementary nature. Many tasks, skills and knowledge items identified herein that are expected to be possessed by non-expert practitioners, are none-the-less included for completeness.

The 8th Edition includes two Sections; Section 1, Nonsurgical, Neuromusculoskeletal Medicine Advanced General Specialty Practice and Section 2, Nonsurgical, Neuromusculoskeletal Medicine Advanced Specific Specialty Practice. Section 2 includes these sub sections: A – Injection Therapies, B – Forensics, C – Concussion Management, D – Diagnostic Ultrasound, E – Geriatric, F – Manipulation Under Anesthesia, G - Primary Care, H -Sports Neuromusculoskeletal Medicine and I - Whiplash Injury. Others are pending addition.

## Definitions and Requirements

Whereas many examination processes are concerned with Minimally Qualified Candidates (MQCs) or what is commonly referred to as “test takers,” the IANM is concerned with the measurement of expert level candidates. We have confidence that our examination process will separate the minimally qualified candidates from those who can behave and practice at expert level.

**DIANM:** To have been awarded a diplomate status with the IANM means that one has successfully completed the entire examination process currently or previously offered by the IANM. (Note) This is a one-time academic achievement award and does not expire.

**FIANM:** To have been awarded a Fellowship by one of the Specialty Sections within the IANM

means that one has successfully completed the requirements for DIANM, is current with the MOC for DIANM, is current with MOC for the specialty section, has completed the required minimum number of hours within the section, but not less than 100; has completed the section examination items, but not less than 100; has completed the section number and content articles reviewed, but not less than five(5); has completed the required and approved residency/mentee hours, but not less than 36; and has completed the section required original research articles published, but not less than two(2).

**MOC (Maintenance of Certification/Credentials)** means that one has provided evidence of currently meeting the requirements of IANM and any additional sections where certificates and/or fellowships are held.

The IANM holds the copyright and trademark for usage of the ACRONYM credentials (DIANM, FIANM and DACO) and is reserved for those whose Maintenance of Credentials (MOC) is current.

# Recommended Utilization

Recommended uses of the 8th Edition of the Pillars for the Advanced Practice of the Nonsurgical, Neuromusculoskeletal Medicine (NMSM) are:

- Examination designers, item writers, and problem developers should use this edition as a blueprint from which examinations can be built insuring specific testing in all aspects of the plan;
- Educators, instructors, and administrators should use the blueprint to build syllabi, curricula, courses and programs in NMSM and its specialties;
- Governmental agencies, legislatures, and regulatory bodies/state boards should use this edition to understand and enforce the usage of terminology and credentials surrounding board certification, certificate holders and fellows;
- Judiciary, administrative law jurisdictions and jury consultants should use this edition for the purpose of finding expert testimony regarding NMSM;
- Health care providers, lawful advocates, and health care institution administrators should use this edition to facilitate referrals for the highest level in NMSM care;
- Public consumers, third party payers, and steering groups should use this edition to seek out those practitioners trained and board certified at the highest level in NMSM.

# Taxonomy

The Specialty Taxonomy code number is available from the Academy and may be used by those who are board certified by IANM and current with MOC.

# Introduction

The specialty of non-surgical orthopedics originated in the late 1960s, when pioneers in chiropractic orthopedics recognized the need to advance academic excellence and apply specialized knowledge to improve patient care within the chiropractic profession.

The Academy strives for academic excellence in the content of material taught and maintaining clinically relevant material rigors. With Academy membership in and support for the ***Institute for Credentialing Excellence*** and the ***National Commission for Certifying Agencies***, the **IANM** applies the NCCA ***Standards for the Accreditation of Certification Programs*** and the consistency of examining candidates to determine proficiency.

Throughout the decades, developments in advanced clinical testing evolved as the examination Board became more knowledgeable in appropriate protocols and psychometric testing.

# Dundee, Scotland

In 1992, the Academy of Chiropractic Orthopedists Examination Board participated in and presented at the **International Conference on Approaches to the Assessment of Clinical Competence** in Dundee, Scotland. The conference setting was the University of Dundee, Ninewells Hospital and Medical School, Dundee, Scotland, held September 1-3, 1992.

Two-Hundred and forty examination Board delegates, in all healthcare disciplines, from 40 nations attended. The Academy of Chiropractic Orthopedists presented its theories and practices regarding non-institutionalized Objective Structured Clinical Examinations (OSCE) in the plenary session.

The Academy position was published in "***Approaches to the Assessment of Clinical Competence***."[1]

The Academy of Chiropractic Orthopedists' theory and OSCE practices were instrumental in the adoption of non-institutional examinations for various national board examinations and state licensure examinations following 1992.

The Academy demonstrated the rigor of the examination process for the chiropractic specialty.

# Job Analysis

In February 1993, the Academy of Chiropractic Orthopedists executive officers set into motion the Diplomate specialists' Job Analysis survey for the definition and scope of practice for a Chiropractic Orthopedic Diplomate.

Members of the American College of Chiropractic Orthopedists (ACCO) and the Council on Chiropractic Orthopedics (CCO) of the American Chiropractic Association (ACA) participated in this project.

Since its inception, the Job Analysis for Chiropractic Orthopedics has been reviewed and updated in 5-year cycles. The reviews rely upon evidence-based advances in the fundamental knowledge, skill sets, and related academic content defining chiropractic orthopedics.

# The Pillars of Practice

In 2019, the Academy of Chiropractic Orthopedists transformed into the **International Academy of Neuromusculoskeletal Medicine (IANM)** and retitled the Job Analysis to the **IANM Pillars of Practice for Advanced Practice Nonsurgical Neuromusculoskeletal Medicine Specialists (AKA IANM Pillars of Practice).©**

Since the IANM is the singular and ultimate credentialing body for chiropractic orthopedics and neuromusculoskeletal medicine, the IANM Pillars of Practice© is an essential element in defining a certified specialist and preparing NMM specialist candidates for the examination.

# Fundamental Chiropractic Education

At the non-specialist level of training, the following areas of study and practice are expected to include, but not be limited to (not central to International Academy of Neuromusculoskeletal Medicine specialist examinations):

- Cardiovascular System
- Dermatologic System
- Endocrine System
- Eyes, Ears, Nose, and Throat
- Gastrointestinal System/Nutrition
- Genitourinary System (Male and Female)
- Hematologic System
- Infectious Diseases
- Psychiatry/Behavioral Science
- Pulmonary System
- Renal System
- Reproductive System (Male and Female)

# Minimum IANM Requirements

Candidates completing fundamental chiropractic education and awarded a primary degree of Doctor of Chiropractic and seeking certification from the International Academy of Neuromusculoskeletal Medicine must provide a certificate of completion for a neuromusculoskeletal program of studies from a Council on Chiropractic Education (CCE) approved chiropractic college/university as presented by the institution.

To sit for the Diplomate examination offered by the International Academy of Neuromusculoskeletal Medicine (IANM), candidates must complete a minimum requirement of 300 hours of program studies.

These specialist program studies must focus on, but are not limited to:

- **Cerebral Vascular Disease/Vascular Disease**
- **Central Nervous System (CNS) Disorders**
- **Medical Conditions Resulting in Impairment or Disability**
- **Musculoskeletal – Occupational and Sports Injuries**

- **Neuromuscular Disorders**
- **Spinal Cord Injury**
- **Spine Disorders and Radiculopathy**
- **Traumatic Brain Injury**
- **Musculoskeletal Disorders – General**

# Specific Pillars of Practice

Generally, in broad healthcare realms, **advanced practice** is described within four pillars of practice. These pillars are Clinical Practice, Leadership and Management, Education, and Research.

For the International Academy of Neuromusculoskeletal Medicine, the **IANM Pillars of Practice**© represent the essential or core elements of orthopedic clinical healthcare practice. In neuromusculoskeletal specialization, these are the skills and knowledge base examined by the IANM for Board certification.

The **IANM Pillars of Practice**© are: (further defined in succeeding pages)

- **Patient History and Interview**
- **Physical, Laboratory, and Diagnostic Imaging Examination**
- **Most Likely Diagnosis Formulation and Differential Diagnosis Development**
- **Preparation and Implementation of Treatment Plans**
- **Assessment and Conclusion of Care**
- **Health Care Record Management, Clinical Documentation, and Medicolegal Reporting**
- **Evidence-based Practice, Patient-Centered Card, and Informed Consent**

Each **IANM Pillar of Practice**© is defined with
1) a task, 2) a knowledge base, and 3) required skills. These defining elements of a pillar are reviewed per the IANM schedule by practicing neuromusculoskeletal specialists for germane relevance to specialist activity.

# Chiropractic Orthopedics and Neuromusculoskeletal Medicine

Chiropractic Orthopedics (Neuromusculoskeletal Medicine) is *"that branch of chiropractic medicine that includes the continued acquisition of knowledge relative to both normal functions and diseases of the human body as they relate to the bones, joints, capsules, discs, muscles, ligaments, tendons, their complete neurological components, referred organ systems and adjacent tissues."*[2]

A chiropractic orthopedist or neuromusculoskeletal medicine practitioner is a chiropractic physician who has completed postgraduate training leading towards IANM Board certification.

Further, Chiropractic Orthopedics and Neuromusculoskeletal Medicine deliver "*the combined*

*knowledge and skill, on a primary basis, to patients who both need and desire this service, to the eventual outcome of remission, whenever resolution is not readily achievable.*"[3]

Advanced chiropractic neuromusculoskeletal medicine practice requires expert clinical knowledge and competence, enabling individuals to make complex clinical decisions.

The Academy views the chiropractic orthopedist and neuromusculoskeletal medicine specialist as a doctor who is an expert in diagnosing and treating neuro-orthopedic diseases and orthopedic health problems for certain parts of the body or specific age groups.

# IANM Examination Principals

The International Academy of Neuromusculoskeletal Medicine is committed to developing the best method for training the highest quality chiropractic orthopedic specialists in diagnostic and therapeutic patient care to both adults and children for a diverse spectrum of orthopedic disorders.

The IANM Pillars of Practice© content and certification examination blueprint provides information on how exam questions are allocated to the different content and task categories deemed necessary for certified chiropractic orthopedic neuromusculoskeletal medicine specialists.

The IANM exam specifications result from the most recent specialty-wide practice analysis. The examples provided for each global area of content and task category indicate the types of information included in the IANM testing.

Not all topics on a regular IANM certification exam appear in this guideline. It is probable that some questions on the IANM exam cover content not listed in the examples.

# IANM Examination Content Blueprint

A pre-established blueprint determines the examination content.

Exam questions are developed and reviewed by a committee of subject matter experts. The performance of the examination is checked after each test administration.

This blueprint is from the **IANM Pillars of Practice**© for a certified neuromusculoskeletal specialist (NMSM).

Part 1, a written on-line examination, consists of approximately 200 questions.

IANM Candidates have 3 hours to complete the assessment at an IANM approved online testing center or through an approved remote proctoring service during the published test window. Successful completion of Part I qualifies the candidate for the Part II Objective Structured Clinical Examination (OSCE).

# IANM Stakeholders

There are multiple stakeholders in the mission of the IANM. These include certainly the International Academy of Neuromusculoskeletal Medicine (IANM), formerly the Academy of Chiropractic Orthopedists (ACO), the American College of Chiropractic Orthopedists (ACCO), and the Council on Chiropractic Orthopedists (CCO), as well as the chiropractic colleges and universities offering programs in the orthopedic specialty, and not to be forgotten, the advanced learner, the chiropractic specialist.

The **IANM Pillars of Practice**© guide the academic institution to prepare specialist education and the trained candidate in preparing for IANM certification examinations.

Other stakeholders are the chiropractic profession, governmental, military entities, and administrative agencies, and lastly, but not least, the ***patient*** in the care of a neuromusculoskeletal specialist.

Graduate chiropractic scientists and specialists must continue the expansion of fundamental knowledge. They must also make that knowledge useful in the world. For this specialty, the **IANM Pillars of Practice**© are the core for training an individual to meet the definition as set forth by the IANM.

A certification process for advanced studies in chiropractic orthopedics has been in existence for over 50 years. These advanced classes and training standards are continually modified based on reliable methodology and certification examinations offered multiple times per year.

The International Academy of Neuromusculoskeletal Medicine is the accreditation body in the entire process, and in conjunction with other organized entities in chiropractic orthopedics, oversees the evolution of the specialty.

The goal for any candidate entering this program is to gain the skills and knowledge necessary to become a potential candidate for board certification via the IANM examination and credentialing process.

# IANM Pillars of Practice©
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# Pillar I

## *Patient History and Interview*

# Specific Tasks, Knowledge, and Skills

**Approximate Test Item Distribution in IANM Part 1 Exam - 24%**

# *Patient History and Interview*

## AXIOMS

**Besides patient history demographics, elements exacerbating or abating the condition are as essential as duration and onset.**

**All therapeutic history is critical information, including OTC and home remedies.**

**How a condition began, where it is in the body, and why it started is vital to describing what the patient is experiencing.**

**Patient-centered care** in chiropractic orthopedics and neuromusculoskeletal medicine improve patient healthcare experiences and outcomes.

Patient-centered care's primary functions are **fostering a healing relationship, exchanging information, addressing emotions, managing uncertainty, sharing decision-making, and enabling self-management**.

The chiropractic orthopedist's patient interview goal should be for the specialist to **encourage and support an open, two-way flow of information**. Failure to communicate effectively may contribute to poor outcomes and care that is not consistent with the patient's actual needs, values, and preferences.

## Task 1

**Obtain patient information for review to determine demographics, symptoms, complaints, co-existing and past disorders, family history, lifestyle, occupational history, prior diagnoses, prior treatments, medications, hospitalizations, surgeries, injuries, disabilities, and psychosocial status.**

### Task 1 Knowledge:

1. Relevance of patient's age, gender, and other demographic data to various diseases and conditions.
2. Occupational and environmental hazards that relate to disease.
3. Relationship of symptoms to multiple diseases and conditions.
4. Relevance of a patient's family history to various diseases (hereditary neurological/orthopedic disease).
5. Pharmaceutical agents that may have side effects and drug interactions.

6. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
7. Relevance of co-morbid conditions with the chief complaint.
8. Nutritional supplemental agents that have side effects and/or drug interactions.
9. Effects and adverse effects of various forms of treatment.
10. Nonorganic diseases with neurological/orthopedic manifestations.
11. Professional boundaries of history taking (e.g., confidentiality, minimizing the significance of a patient's complaint).

### Task 1 Skills:

1. Conduct the history in a clear, concise, and organized manner, actively listening and communicating with the patient at an understandable level.
2. Modify and apply history taking skills appropriate to challenging situations and difficult patients.
3. Question the patient with appropriate depth and pursue all relevant health concerns and symptoms.
4. Accurately record narratively elicited information and develop an initial problem list.

# Task 2

**Clarify and expand upon intake information by interview to identify the primary and secondary complaints and develop examination and clinical management parameters.**

### Task 2 Knowledge:

1. Interviewing techniques that emphasize listening, non-judgmental, and open-ended questions.
2. Relevance of patient's age, gender, and other demographic data to various diseases and conditions.
3. Occupational and environmental hazards that relate to disease.
4. Relationship of symptoms to multiple diseases and conditions.
5. Relevance of a patient's family history to various diseases (hereditary patterns of neurological/orthopedic disease).
6. Pharmaceutical agents that may have side effects and drug interactions.
7. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
8. Relevance of co-morbid conditions with the chief complaint.
9. Nutritional supplemental agents that have side effects and/or drug interactions.
10. Effects and adverse effects of various forms of treatment.
11. Nonorganic diseases with neurological/orthopedic manifestations.
12. Professional boundaries of history taking (e.g., confidentiality, minimizing the significance of a patient's complaint).

### Task 2 Skills:

1. Conduct the history in a clear, concise, and organized manner, actively listening and communicating with the patient at an understandable level.
2. Modify and apply history taking skills appropriate to challenging situations and difficult patients.
3. Question the patient with appropriate depth and pursue all relevant health concerns and symptoms.
4. Accurately record narratively elicited information and develop an initial problem list.

# Task 3

**Obtain records [e.g., special studies, accident reports, court records, medical files] for review to gather information about the patient's condition. Proper authorization.**

### Task 3 Knowledge:

1. How to obtain medical records.
2. Relevance of past medical history to the current condition.

### Task 3 Skills:

1. Interviewing techniques to elicit appropriate information from which to execute a request for medical records.

# Global Categories and Examination Content Examples for IANM Pillars of Practice Pillar I
## *Patient History and Interview*

The respondent pool of Advanced Practice Neuromusculoskeletal Medicine Specialists selected the following **IANM examination example topics** of disorders, injuries, diseases, or conditions in which **patient history and interview** are fundamental Pillar I elements for specialist function.

1. **Cerebral Vascular Disease/Vascular Disease**
    a. Cervical Artery Dissection
    b. Headache at The Initial Stage of Stroke
    c. Migraine and Primary Headaches
    d. Post-Traumatic Horner's Syndrome

2. **Central Nervous System (CNS)**
    a. Benign Positional Vertigo vs. Pathologic Vertigo
    b. Central Sensitization (Component of Neuropathic Pain)
    c. Cervical Artery Dissection
    d. Chronic Pain

3. **Medical Conditions Resulting in Impairment or Disability**
    a. Cervical Spondylotic Myelopathy
    b. Multiple Myeloma
    c. Neuromusculoskeletal and Orthopedic Pain from Leukemia
    d. Pancoast Tumor
    e. Tietze Syndrome

4. **Musculoskeletal — Occupational and Sports Injuries**
    a. Anterior and Posterior Cruciate Ligament Tear
    b. Carpal Fractures
    c. Cervical Ligamentous Instability
    d. High Ankle Sprain
    e. Hip Osteoarthritis
    f. Hip Pointer
    g. Knee Instability
    h. Lisfranc Injury
    i. Lower Extremity Compartment Syndrome
    j. Meniscal Tear
    k. Olecranon Bursitis
    l. Overthrown Elbow Injury
    m. Pediatric Distal Radius Fracture
    n. Repetitive Posterior Glenohumeral Dislocation
    o. Rotator Cuff Lesion
    p. Thigh Adductor Strain

## 5. Neuromuscular Disorders

a. Amyotrophic Lateral Sclerosis
b. Axillary Nerve Injury
c. Brachial Plexopathies
d. Carpal Tunnel Syndrome
e. Elbow Dystonic Tremor
f. Notalgia Paresthetica
g. Peripheral Sensitization (Component of Neuropathic Pain)
h. Posterior Interosseous Nerve Palsy
i. Radial Tunnel Syndrome
j. Referred Pain from Internal Organs
k. Complex Regional Pain Syndrome (Reflex Sympathetic Dystrophy)
l. Thoracic Outlet Syndrome
m. Ulnar Nerve Entrapment (Cubital Tunnel Syndrome)
n. Wartenberg Syndrome

## 6. Spinal Cord Injury

a. Cauda Equina Syndrome
b. Cervical Spondylotic Myelopathy

## 7. Spine Disorders and Radiculopathy

a. Ankylosing Spondylitis
b. Cervical Pillar Fracture/Dislocation
c. Cervical Radiculopathy
d. Congenital Stenosis
e. Dens Fracture, Types I-IV
f. Intercostal Neuralgia
g. Lumbar Spinal Stenosis
h. Lumbar Spine Fracture
i. Lumbar Vertebral Transverse Process Fracture
j. Metastatic Spine Cancer
k. Pathophysiology of Cervical Disc Herniation
l. Pelvic Tearing
m. Sacroiliitis
n. Spondylolisthesis in the Adolescent Athlete
o. Spondylolysis in the Adolescent Athlete
p. Synovial Cysts
q. Tarlov Cysts
r. Thoracic IVD Herniation
s. Thoracic Vertebral Compression Fracture
t. Thoracolumbar Junction Syndrome (Maigne's Syndrome)
u. Whiplash Associated Disorders

## 8. Traumatic Brain Injury

a. Concussion
b. Ischemic Stroke or Dizziness

## 9. Musculoskeletal Disorders – General

a. Adolescent Knee Pain
b. Baker's Cyst (Popliteal Cyst)
c. Cauda Equina Syndrome
d. Cervical Spinal Stenosis
e. Congenital Hip Dysplasia
f. Costochondritis
g. Cubital Tunnel Syndrome
h. Femoroacetabular Impingement
i. Functional Shoulder Instability
j. Hallux Valgus with Metatarsus Adductus (Prima-Varus)
k. Hip – Imaging – Pediatric <5 Years of Age
l. Hip Labral Tear
m. Myofascial Pain Syndrome
n. Osteoarthritis Hip Joints
o. Osteochondritis Dissecans
p. Osteochondrosis Diseases of The Knee
q. Osteolysis Of the Distal Clavicle
r. Pelvic Floor Dysfunction
s. Peroneal Tendinosis
t. Pes Anserine Bursitis
u. Rib Fracture
v. Shoulder Impingement Syndrome
w. Slap Lesion
x. Symphysis Pubis Dysfunction
y. Talar Spur (Tibiotalar Impingement)
z. Tarsal Tunnel Syndrome
aa. Thoracic Cage Trauma
bb. Transitional Spinal Joint and Segment Biomechanics
cc. Triangular Fibrocartilage Complex Injury
dd. Ulnar Collateral Ligament Sprain
ee. Vacuum Phenomenon in Closed Pelvic Fracture

# Practice Pillar II

# *Physical, Laboratory, and Diagnostic Imaging Examination*

# Specific Tasks, Knowledge, and Skills

## Approximate Test Item Distribution in IANM Part 1 Exam - 20%

# *Physical, Laboratory, and Diagnostic Imaging Examination*

## AXIOMS

**A singular test or sign neither substantiates nor refutes the existence of a condition.**

**All findings must comport with the patient's complaint and symptoms.**

**Findings must reflect the patient's improvement or deterioration.**

The most valuable tool for diagnosing and treating orthopedic and musculoskeletal diseases is a comprehensive history **and physical examination.**

Review of systems (1) is the thread that links the (2) personal (patient-centered history) with the (3) objective (**provider-focused observation and physical examination**).

These three components are the cornerstone of critical thinking that allows for **accurate diagnosis and early treatment**.

## Task 1

**Obtain the patient's vital signs with observation and instrumentation to establish the patient's baseline and interpret abnormalities.**

### Task 1 Knowledge:

2. Well-patient anthropometric standards.
3. Professional boundaries of performing the examination (e.g., unnecessary disrobing).
4. Relevance of normal and abnormal findings.

### Task 1 Skills:

1. Ability to use thermometer, sphygmomanometer, and stethoscope.
2. Ability to obtain pulse and respiration rates.

# Task 2

**Assess the patient by observation to determine normality and abnormalities.**

## Task 2 Knowledge:

1. Well-patient anthropometric standards.
2. Professional boundaries of performing the examination (e.g., unnecessary disrobing).
3. Relevance of normal and abnormal findings.
4. Normal human anatomy.

## Task 2 Skills:

1. An ability to inspect and recognize normals and abnormalities.

# Task 3

**Correlate information by applying clinical rationale to select appropriate physical, neurologic, and orthopedic examination procedures.**

## Task 3 Knowledge:

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Hereditary patterns of neurological/orthopedic disease.
4. Occupational and environmental hazards and geographic conditions that might relate to the disease.
5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Adverse effects of various forms of patient self-care.
7. Normal human anatomy.
8. Neurological, orthopedic, and other physical examination procedures.

## Task 3 Skills:

1. Skill in selecting appropriate tests or examination procedures with minimum redundancy and a high degree of specificity or sensitivity.

# Task 4

**Examine the patient with physical, neurologic, and orthopedic procedures to determine the disorder's nature, discover other ailments, and determine what other tests are needed.**

## Task 4 Knowledge:

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.

3. Hereditary patterns of neurological/orthopedic disease.
4. Occupational and environmental hazards and geographic illnesses that might relate to the condition.
5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Adverse effects of various forms of patient self-care.
7. Normal human anatomy.
8. Neurological, orthopedic, and other physical examination procedures.
9. Grading and indexing systems.
10. Neuromusculoskeletal system and biomechanics.

### Task 4 Skills:

1. Correct performance of orthopedic, neurological, and physical examination procedures.
2. Correct interpretation of response to orthopedic, neurological, and physical examination procedures.
3. Assess the reliability of data elicited in the examination through repetition and selection of confirmatory procedures.

# Task 5

**Correlate patient's history, physical, neurologic, and orthopedic examination findings by applying clinical rationale to select appropriate diagnostic imaging, electrodiagnostic testing, physiological testing, and clinical laboratory testing or other tests or evaluations.**

### Task 5 Knowledge:

1. Clinical indications for and relative value of diagnostic studies.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Systemic diseases that may have neurological/orthopedic manifestations.
4. Normal human anatomy.
5. Grading and indexing systems.
6. Medical terminology, reporting language, and standard medical abbreviations.
7. The principles, applications, technical and procedural elements employed in diagnostic imaging, clinical laboratory, and other diagnostic studies.
8. Nutritional supplemental agents that have side effects and/or adverse drug interactions.
9. Human physiology and pathophysiology.

### Task 5 Skills:

1. Ability to select appropriate diagnostic imaging, biochemical laboratory procedures, electrodiagnostic studies, and other special studies.
2. Ability to correctly interpret and correlate special studies' findings with the physical examination and patient complaints and history.

# IANM Pillars of Practice Global Categories and Examination Content Examples for Practice Pillar II *Physical, Laboratory, and Diagnostic Imaging Examination*

The respondent pool of Advanced Practice Neuromusculoskeletal Medicine Specialists selected the following **IANM examination example topics** of disorders, injuries, diseases, or conditions in which **physical, laboratory, and diagnostic imaging examinations** are the principal and fundamental Pillar II elements for specialist function.

1. **Cerebral Vascular Disease/Vascular Disease**
    a. Acute Ischemic Stroke

2. **Central Nervous System (CNS)**
    a. Basilar Invagination
    b. Complex Regional Pain Syndrome, Type I And Type II
    c. Vertebral Artery Dissection (VAD)

3. **Medical Conditions Resulting in Impairment or Disability**
    a. Abdominal Aortic Aneurism
    b. Ankylosing Spondylitis (Sacroiliitis)
    c. Cluster Headache
    d. Costochondritis Secondary to Infectious Mononucleosis
    e. Diabetic Neuropathy
    f. Groin Chronic Pain
    g. Lower Back Pain
    h. Multiple Sclerosis
    i. Olecranon Bursitis
    j. Autoimmune Disorders with Neuromusculoskeletal Considerations

4. **Musculoskeletal — Occupational and Sports Injuries**
    a. ACL and PCL Tear
    b. Biceps Tendinopathy
    c. Carpal Scaphoid Fracture
    d. Carpal Tunnel Syndrome
    e. Fat Pad Sign in Fracture
    f. High Ankle Sprain
    g. Lateral Collateral Ligament Sprain
    h. Olecranon Bursitis
    i. Osteitis Pubis
    j. Patellar Tendonitis
    k. Posterior Labral Tears
    l. Repetitive Strain Injuries
    m. Shoulder Impact Syndrome
    n. Shoulder Labrum Tear
    o. Slap Lesions

p. Subcoracoid Dislocation
q. Trigger Finger

## 5. Neuromuscular Disorders

a. Anterior Interosseous Nerve Syndrome
b. Cervical Spine Modic Changes
c. Chronic Fatigue Syndrome
d. Entrapment Neuropathies

## 6. Spinal Cord Injury

a. Cervical Spondylotic Myelopathy
b. Pott's Disease (Thoracic Tubercular Spondylitis)

## 7. Spine Disorders and Radiculopathy

a. Adolescent Idiopathic Scoliosis
b. Andersson Lesion
c. Boxers Cervical Whip Injury
d. Burst Vertebral Fracture
e. Cervical Spine Modic Changes
f. Disc Disease
g. Geriatric Upper Cervical Spine Fracture/Dislocation
h. Infectious Discitis
i. Intercostal Neuralgia
j. Lumbosacral Transitional Segment
k. Osteitis Condensans Ilii
l. Sacroiliac Sprain
m. Sacroiliitis
n. Scoliosis
o. Spinal Osteomyelitis
p. Spondylolysis
q. Thoracic Kyphosis

## 8. Traumatic Brain Injury

a. Concussion and Post-Concussive Syndrome
b. Traumatic Brain Injury

## 9. Musculoskeletal Disorders – General

a. Adhesive Capsulitis of Shoulder
b. Ankle Sprain
c. Avascular Necrosis of The Hip
d. Carpal Instabilities
e. Carpal Tunnel Syndrome
f. Costochondritis
g. Cruciate Ligament Injury
h. Femoroacetabular Impingement
i. Greater Trochanteric Syndrome
j. Hip Fracture
k. Hip Labral Tear
l. Knee Internal Derangement

m. Knee, Normal Variants, Common Pathology on MRI
n. Legg-Calve-Perthes disease
o. Pars Interarticularis Injury
p. Peroneal Nerve Injury
q. Piriformis Syndrome (Deep Gluteal Syndrome)
r. Plica Syndrome
s. Rib Fracture in Thoracic Injury
t. Sever's Disease
u. Shoulder Labrum Tear
v. Slipped Capital Femoral Epiphysis
w. Thoracic Outlet Syndrome

# Practice Pillar III

## *Most Likely Diagnosis Formulation and Differential Diagnosis Development*

# Specific Tasks, Knowledge, and Skills

**Approximate Test Item Distribution in IANM Part 1 Exam - 8%**

# *Most Likely Diagnosis Formulation and Differential Diagnosis Development*

## AXIOMS

**In formulating a most likely diagnosis, the neuromusculoskeletal medicine specialist's recall of meaningful relationships or patterns is central to patient evaluation.**

**For differential diagnosis development, NMSM clinicians examine with a strong tie between information gathered and the clustering of signs and symptoms.**

**The NMSM specialist diagnosis formulation is based not only on disease data (findings that help validate or invalidate a diagnosis) but also on illness data regarding the patient's perception of how the disease affects their life.**

An **accurate diagnosis in neuromusculoskeletal medicine** is the foundation for guiding the patient back to a maximal functional state. It consists of medical history, physical examination, and diagnostic testing.

The key to patient history is listening, questioning, and **differentiating symptoms** to limit the list of orthopedic diagnostic possibilities.

The physical examination helps **confirm or deny possible diagnoses**. Importantly, trial treatments may be necessary, and considering all alternative diagnoses is warranted because a diagnosis not considered cannot be established.

**In neuromusculoskeletal medicine, the diagnosis determines the treatment**.

## Task 1

**Correlate findings with the history obtained from the patient to develop a general clinical impression.**

### Task 1 Knowledge:

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Hereditary patterns of neurological/orthopedic disease.
4. Occupational and environmental hazards and geographic illnesses that might relate to the condition.
5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Adverse effects of various forms of patient self-care.
7. Normal human anatomy.
8. The relevance of neurological, orthopedic, and other physical examination procedures.
9. Grading and indexing systems.
10. Neuromusculoskeletal system and biomechanics.

### Task 1 Skills:

1. Ability to correlate the physical examination findings and special studies with the patient's complaints.
2. Ability to correctly interpret clinical results and special studies.

## Task 2

**Rank the patient's disorder(s) according to levels of severity, importance, and urgency to develop a working diagnosis.**

### Task 2 Knowledge:

1. The prognosis and clinical importance of neurological, orthopedic, psychosocial, and systemic disorders.
2. Medical terminology.

### Task 2 Skills:

1. Ability to identify the clinical relevance of neurological, orthopedic, psychosocial, and systemic disorders.

## Task 3

**Establish the working diagnosis/diagnoses to direct patient management.**

### Task 3 Knowledge:

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Hereditary patterns of neurological/orthopedic disease.
4. Occupational and environmental hazards and geographic conditions that might relate to the disease.

5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Adverse effects of various forms of patient self-care.
7. Normal human anatomy.
8. The relevance of neurological, orthopedic, and other physical examination procedures.
9. Grading and indexing systems.
10. Neuromusculoskeletal system and biomechanics.

## Task 3 Skills:

1. Ability to identify the clinical relevance of neurological, orthopedic, psychosocial, and systemic disorders.

# IANM Pillars of Practice Global Categories and Examination Content Examples for Practice Pillar III *Most Likely Diagnosis Formulation and Differential Diagnosis Development*

The respondent pool of Advanced Practice Neuromusculoskeletal Medicine Specialists selected the following **IANM examination example topics** of disorders, injuries, diseases, or conditions in which the **development of a diagnosis or differential diagnosis** are principal and fundamental Pillar III elements for specialist function.

## 1. Cerebral Vascular Disease/Vascular Disease

a. Non-Traumatic Thoracic Aortic Emergencies
b. Vascular Headaches
c. Vertebral Artery Dissection

## 2. Central Nervous System (CNS)

a. Foot Drop
b. Central Sensitization (Component of Neuropathic Pain)
c. Normal Pressure Hydrocephalus
d. Syringomyelia

## 3. Medical Conditions Resulting in Impairment or Disability

a. Ankle and Foot Disability
b. Bone Infarction
c. Coronavirus and Long Covid versus Other URI's
d. Gout
e. Fibromyalgia & Post-Lyme Disease Syndrome
f. Multiple Sclerosis
g. Statin Myopathies

## 4. Musculoskeletal – Occupational and Sports Injuries

a. Cervical Spine Instability
b. Compression Fracture
c. Foot Stress Fracture
d. Hip Fracture
e. Medial Epicondylitis
f. Osteochondritis Dissecans of the Knee
g. Pes Anserine Bursitis
h. Radius Fracture
i. Sacroiliac Fracture
j. Scaphoid Fracture
k. Shoulder Impingement
l. Slap Lesion
m. Sport-Related Headache

n. Sternoclavicular Instability
o. Tears of The Rotator Cuff
p. Ulnar Collateral Ligament Sprain
q. Ulnar Neuropathy at The Elbow

## 5. Neuromuscular Disorders

a. Carpal Tunnel Syndrome Versus Vasculitis
b. Cervicogenic Headaches
c. Peripheral Sensitization (Component of Neuropathic Pain)

## 6. Spinal Cord Injury

a. Lumbosacral Plexus Impairment
b. Rehabilitation Following Spinal Cord Injury
c. Syrinx of the Spinal Cord
d. Tarlov Cysts of The Sacrum

## 7. Spine Disorders and Radiculopathy

a. Ankylosing Spondylitis
b. Axial Spondyloarthritis and Axial Psoriatic Arthritis
c. Cervical Spondylotic Amyotrophy
d. Discogenic Syndrome
e. Factors Affecting Early and 1-Year Motor Recovery Post-Lumbar Microdiscectomy
f. Lumbosacral Transitional Vertebrae
g. Pelvic Fracture
h. Progressive Kyphosis

## 8. Traumatic Brain Injury

a. Car Crash and Brain Injury
b. Chronic Traumatic Encephalopathy
c. Mild Traumatic Brain Injury
d. Pediatric Traumatic Brain Injury

## 9. Musculoskeletal Disorders – General

a. Achilles Tendinopathy
b. Anterior Knee Pain in Children and Adolescents
c. Avascular Necrosis
d. Axillary Nerve Injury
e. Clavicle Fracture
f. De Quervain's Disease
g. Elbow Septic Bursitis
h. Extra-Articular Hip Impingement Syndromes
i. Forearm Compartment Syndrome
j. Frozen Shoulder
k. Gluteal Compartment Syndrome
l. Hallux Rigidus
m. Hip Osteomyelitis in Children
n. Hip Osteonecrosis
o. Knee Hemarthrosis

p. Knee Plica Syndrome
q. Lateral/Medial Epicondylitis
r. Median Nerve Palsy
s. Morton's Neuroma
t. Patella Fracture
u. Peroneal Tendinosis and Subluxation
v. Pregnancy-Related Osteoporosis
w. Proximal Hamstring Tendinopathy
x. Psoas Syndrome
y. Rheumatoid Arthritis and Ankylosing Spondylitis
z. Sacroiliac Joint Dysfunction
aa. Septic Hip Joint
bb. Shoulder Osteochondritis
cc. Spontaneous Osteonecrosis of the Knee
dd. Thoracic Outlet Syndrome
ee. Traumatic Distal Nerve Injury
ff. Tumorous Conditions of the Hand and Upper Extremity
gg. Ulnar Neuropathy at the Elbow or Wrist

# Pillar IV

## *Prepare and Implement a Treatment Plan*

# Specific Tasks, Knowledge, and Skills

**Approximate Test Item Distribution in IANM Part 1 Exam - 22%**

# *Prepare and Implement a Treatment Plan*

## AXIOMS

Treatment planning describes the patient's condition and procedure(s) that will be needed, detailing the treatment and expected outcome, and expected duration of the treatment.

A therapeutic goal means the expected outcome of any planned interventions, training, rehabilitation, habilitation, or support services that help a patient obtain or maintain an optimal functioning level.

Treatment planning focuses on meeting patients' health needs.

Preparing a chiropractic NMSM treatment plan involves a detailed evaluation of the patient's **neuromusculoskeletal system** within an appropriate **biopsychosocial** framework. Based on the findings from physical examinations, diagnostic imaging, and testing, the NMSM specialist formulates a targeted plan that may include spinal adjustments, joint mobilizations, and ancillary rehabilitation tailored to the patient's specific condition.

Therapeutic exercises and stretches are often incorporated to strengthen muscles, improve range of motion, and prevent future injuries, while ergonomic advice is provided to support posture and body mechanics.

Regular reassessments and modifications to the treatment plan are made based on the patient's response, gradually transitioning from active care to maintenance and injury prevention.

## Task 1

**Determine management goals (e.g., improve the patient status, restore function, and stabilize) to set care expectations.**

### Task 1 Knowledge:

1. Healing times for various conditions.
2. Standards of care for specific disorders.
3. Outcome assessment expectations.
4. Pathophysiology of multiple illnesses.
5. Natural progression and prognosis of various conditions, injuries, and diseases.

### Task 1 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Communicate effectively with the patient and appropriate parties regarding clinical management.

# Task 2

**Establish parameters and specifics of care based upon the condition's pathophysiology to determine the type, frequency, and duration of care, tailored to the patient's unique needs.**

### Task 2 Knowledge:

1. Healing times for various conditions.
2. Standards of care for specific disorders.
3. Outcome assessment expectations.
4. Pathophysiology of multiple conditions.
5. Natural progression and prognosis of various conditions, illnesses, and diseases.
6. Treatment options.
7. Contraindications for various treatments.
8. Issues surrounding informed consent.

### Task 2 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.

# Task 3

**Identify personal and professional care limitations and recognize the need for a referral or collaborative care.**

### Task 3 Knowledge:

1. Treatment options for various conditions.
2. Contraindications for multiple treatments.
3. Risks associated with treatment and non-treatment.
4. Issues surrounding informed consent.
5. Psychosocial and financial factors that may influence a treatment plan.
6. Issues of doctor-patient confidentiality.

### Task 3 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.

# Task 4

**Determine the likely benefit compared to possible complications to identify the appropriateness of care.**

### Task 4 Knowledge:

1. Treatment options for various conditions.
2. Contraindications for a variety of treatments.
3. Risks associated with treatment and non-treatment.
4. Issues surrounding informed consent.
5. Psychosocial and financial factors that may influence a treatment plan.
6. Issues of doctor-patient confidentiality.

### Task 4 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.

# Task 5

**Outline the management plan and explain goals and clinical rationale for the different procedures and possible complications to obtain informed consent.**

### Task 5 Knowledge:

1. Treatment options for various conditions.
2. Contraindications for various treatments.
3. Risks associated with treatment and non-treatment.
4. Issues surrounding informed consent.
5. Psychosocial and financial factors that may influence a treatment plan.
6. Issues of doctor-patient confidentiality.
7. Issues of informed consent.
8. Pathophysiology of various conditions.

9. Natural progression of various ailments.

### Task 5 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.

# Task 6

**Implement the clinical management plan to achieve goals of care.**

### Task 6 Knowledge:

1. Treatment options for various conditions.
2. Contraindications for various treatments.
3. Risks associated with treatment and non-treatment.
4. Issues surrounding informed consent.
5. Psychosocial and financial factors that influence a treatment plan.
6. Issues of doctor-patient confidentiality.
7. Pathophysiology of various conditions.
8. Natural progression of various diseases.
9. Appropriate application and parameters of physiological therapeutics.
10. Nutrition and appropriate use of vitamin/mineral supplementation.
11. Exercise physiology and proper exercise for rehabilitation.
12. Supports, orthoses, and appliances.

### Task 6 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.
4. Ability to adjust spinal and extremity articulations competently**.**
5. Ability to instruct and demonstrate the appropriate exercise**.**
6. Choose the right support, orthoses, or appliance, fit to patient**,** and advise on proper use.

# IANM Pillars of Practice Global Categories and Examination Content Examples for Practice Pillar IV *Prepare and Implement a Treatment Plan*

The respondent pool of Advanced Practice Neuromusculoskeletal Medicine Specialists selected the following **IANM examination example topics** of disorders, injuries, diseases, or conditions in which **preparation and implementation of a treatment plan** are fundamental Pillars IV elements for specialist function.

## General Condition Categories

1. **Cerebral Vascular Disease/Vascular Disease**
    a. Cervical Aneurysm
    b. Migraine with and Without Aura

2. **Central Nervous System (CNS)**
    a. Severe Acquired Brain Injury
    b. Central Sensitization (Component of Neuropathic Pain)
    c. Sport-Related Concussion

3. **Medical Conditions Resulting in Impairment or Disability**
    a. Adhesive Capsulitis
    b. Adult Acquired Flatfoot
    c. Degenerative Hip Joint Disease (OA)
    d. Elbow Fracture-Dislocation
    e. Foot and Ankle Disorders
    f. High Ankle Sprain
    g. Hip & Knee Arthroplasty – Pre-Surgical Planning
    h. Knee Osteochondritis Dissecans
    i. Low Back Disability
    j. Lumbar Spondylolysis
    k. Pelvic Floor Dysfunction
    l. Sacralization
    i. Scaphoid Fracture
    j. Scheuermann Disease
    k. Total Joint Arthroplasty
    l. Unstable Cervical Spine

4. **Musculoskeletal — Occupational and Sports Injuries**
    a. Cardiac Contusion
    b. Carpal Tunnel Syndrome
    c. Costochondritis
    d. Hip Muscles Weakness
    e. Hip Pointer Injury

f. Lateral Epicondylitis
g. Medial Meniscus Tear
h. NMS Hip, Knee, and Ankle Injuries
i. Patellofemoral Pain
j. Plantar Fasciitis
k. Rotator Cuff Tears
l. Shoulder, Superior Labrum Anteroposterior Tear (Slap Lesion)

## 5. Neuromuscular Disorders

a. Brachial Artery Disorder
b. Peripheral Sensitization (Component of Neuropathic Pain)
c. Muscular Dystrophies
d. Winging of the Scapula

## 6. Spinal Cord Injury

a. Spinal Cord Injuries
b. Trunk Muscle Coordination

## 7. Spine Disorders and Radiculopathy

a. Cervical Radiculopathy
b. Chiropractic Management of Neck Pain
c. Congenital Scoliosis
d. Disc Herniation
e. Facet Syndrome
f. Failed Back Surgical Syndrome
g. Intervertebral Disc Syndrome
h. Pelvic Tilt
i. Post-Surgical Lumbar Disc Herniation
j. Rheumatoid Arthritis

## 8. Traumatic Brain Injury

a. Limb Spasticity
b. Pediatric Traumatic Brain Injury (TBI)
c. TBI

## 9. Musculoskeletal Disorders – General

a. Acromioclavicular Joint Injuries Grade I And II
b. Adhesive Capsulitis (AC)
c. Chronic Foot Overpronation
d. De Quervain's Tenosynovitis
e. Distal Bicipital Strain
f. Dupuytren's Contracture
g. Elbow Tendinopathy
h. Forearm Contusion
i. Frozen Shoulder
j. Hip Bursitis
k. Hip Contusion
l. Hip Osteoarthritis
m. Knee Pain

n. Lateral Ankle Instability
o. Lateral Collateral Sprain
p. Lisfranc Injury
q. Low Back Disorders
r. Lumbar Spinal Stenosis
s. Medial Epicondylitis
t. Nonspecific Shoulder Pain
u. Patellofemoral Arthritis
v. Plantar Fasciitis
w. Rotator Cuff – Associated Disorders (RCS)
x. Rheumatoid Arthritis
y. Shoulder Fracture – Displacement of The Greater Tuberosity
z. Shoulder Impingement Syndrome (SIS)
aa. Trendelenburg Gait
bb. Trigger Finger

# Pillar V

## *Assessment and Conclusion of Care*

# Specific Tasks, Knowledge, and Skills

**Approximate Test Item Distribution in IANM Part 1 Exam - 7%**

# *Assessment and Conclusion of Care*

## AXIOMS

**Pain is a critical patient-reported outcome because it is often the chief complaint of patients seeking neuromusculoskeletal medicine consultation.**

**Persistent pain is an immense personal burden – affecting function, emotional wellbeing, and longevity – as well as a public health burden.**

**Proper management of early pain may deter chronic pain development.**

In orthopedics and neuromusculoskeletal medicine, **patients are at risk of transient or permanent loss of functioning.** These losses may be due to the deficiencies induced by the diseases, complications, co-morbidities, immobilization, old age, and frailty, regardless of their underlying health condition.

**Chiropractic orthopedists and neuromusculoskeletal specialists should assess deficiencies and identify patients'** risks for disability to make an appropriate rehabilitation intervention.

Several instruments are used in rehabilitation settings **to assess functioning in specific population groups**. The International Classification of Functioning, Disability, and Health (ICF)[4] provides a common framework globally recognized to understand and describe functioning and disability considering impairments in body structures and functions, limitations in activities, restrictions in participation, and environmental factors.

## Task 1

**Review of the patient's current condition (complaints, symptoms, etc.) compared to the presenting condition to determine the nature and extent of the patient's response to care.**

### Task 1 Knowledge:

1. Relevance of patient's age, gender, and other demographic data to various diseases and conditions.
2. Occupational and environmental hazards that relate to disease.
3. Relationship of symptoms to various diseases and conditions.
4. Relevance of a patient's family history to various diseases (hereditary patterns of neurological/orthopedic disease).
5. Pharmaceutical agents that may have side effects and drug interactions.

6. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
7. Relevance of co-morbid conditions with the chief complaint.
8. Nutritional supplemental agents that have side effects and/or adverse drug interactions.
9. Effects and adverse effects of various forms of treatment.
10. Nonorganic diseases with neurological/orthopedic manifestations.
11. Professional boundaries of taking history (e.g., confidentiality, minimizing the significance of the patient's complaint).
12. Interviewing techniques that emphasize listening, non-judgmental, and open-ended questions.

### Task 1 Skills:

1. Conduct the history in a clear, concise, and organized manner, actively listening and communicating with the patient at an understandable level.
2. Modify and apply history taking skills appropriate to challenging situations and difficult patients.
3. Question the patient with appropriate depth and pursue all relevant health concerns and symptoms.
4. Accurately record elicited information and develop a problem list.

# Task 2

**Re-examine the patient and compare the current findings to original findings by examination and diagnostic procedures to determine the current nature of the patient's problem(s) and their response to care.**

### Task 2 Knowledge:

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Hereditary patterns of neurological/orthopedic disease.
4. Occupational and environmental hazards and geographic conditions that might relate to the disease.
5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Adverse effects of various forms of patient self-care.
7. Normal human anatomy.
8. The relevance of neurological, orthopedic, and other physical examination procedures.
9. Grading and indexing systems.
10. Neuromusculoskeletal system and biomechanics.

### Task 2 Skills:

1. Ability to identify the clinical relevance of neurological, orthopedic, psychosocial, and systemic disorders.
2. Ability to properly conduct a physical, orthopedic, and neurological examination.
3. Ability to recognize the significance of normal and abnormal findings.

# Task 3

**Determine whether the patient requires modification of diagnosis and treatment, consultation, or referral based on current subjective and objective findings, to maximize the patient's recovery.**

### Task 3 Knowledge

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Natural history/progression of various conditions, disorders, and diseases.
4. Occupational and environmental hazards and regional diseases that might relate to the disease.
5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Adverse effects of various forms of patient self-care.
7. Normal human anatomy.
8. The relevance of neurological, orthopedic, and other physical examination procedures.
9. Grading and indexing systems.
10. Neuromusculoskeletal system and biomechanics.
11. Expected effects of various forms of treatment and knowledge of contraindications.
12. Expected healing times for different conditions, disorders, and diseases.
13. Relevance of co-morbid conditions with the chief complaint.
14. Nutritional supplemental agents that have side effects and/or adverse drug interactions.
15. Referral protocols.

### Task 3 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.
4. Ability to adjust spinal and extremity articulations competently**.**
5. Ability to instruct and demonstrate the appropriate exercise**.**
6. Choose the right support, orthoses, or appliance, fit to patient**,** and instruct on proper use.

# Task 4

**Review of patient's original condition and diagnoses, symptoms, and objective findings throughout care, duration of healing time, and current recovery status, to determine the patient's maximum medical improvement and discontinuation of the active phase of care, final prognosis, and potential for permanent residuals.**

## Task 4 Knowledge:

1. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
2. Pharmaceutical agents that may have side effects and drug interactions.
3. Natural history/progression and prognosis of various conditions, disorders, and diseases.
4. Occupational and environmental hazards and regional diseases that might relate to the disease.
5. Systemic diseases that may have neurological/orthopedic manifestations.
6. Effects (including adverse effects) of various forms of patient self-care.
7. Normal human anatomy and physiology.
8. The relevance of neurological, orthopedic, and other physical examination procedures.
9. Grading and indexing systems.
10. Neuromusculoskeletal system and biomechanics.
11. Expected effects of various forms of treatment.
12. Expected healing times for different conditions, disorders, and diseases.
13. Relevance of co-morbid conditions with the chief complaint.
14. Nutritional supplemental agents that have side effects.

## Task 4 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.

# Task 5

**Identify strategies based on the patient's recovery status after the active phase care and instruct the patient in information designed to prevent recurrence of the original condition or aggravation.**

## Task 5 Knowledge

1. Neuromusculoskeletal system and biomechanics.

2. Expected effects of various forms of treatment.
3. Expected healing times for different conditions, disorders, and diseases.
4. Relevance of co-morbid conditions with the chief complaint.
5. Nutritional supplemental agents that have side effects.
6. Pharmaceutical agents that may have side effects and drug interactions.
7. Natural history/progression and prognosis of various conditions, disorders, and diseases.
8. Occupational and environmental hazards and geographic illnesses that might relate to the disease.

## Task 5 Skills:

1. Ability to determine the cost to benefit ratio of various forms of treatment.
2. Ability to communicate effectively with the patient and appropriate parties regarding clinical management.
3. Ability to assess the appropriateness of care.
4. Ability to adjust spinal and extremity articulations competently**.**
5. Ability to instruct and demonstrate the appropriate exercise**.**
6. Choosing right support, orthoses, or appliance, fit to patient**,** and instruct on proper use.

# IANM Pillars of Practice Global Categories and Examination Content Examples for Practice Pillar V *Assessment and Conclusion of Care*

The respondent pool of Advanced Practice Neuromusculoskeletal Medicine Specialists selected the following **IANM examination example topics** of disorders, injuries, diseases, or conditions in which **assessment and conclusion of care** are fundamental Pillar V elements for specialist function.

## General Condition Categories

1. **Cerebral Vascular Disease/Vascular Disease**
    a. Headache/Muscular Imbalance

2. **Central Nervous System CNS)**
    a. Claw Hand
    b. Complex Regional Pain Syndrome of Upper Extremity
    c. Costochondritis
    d. High Impact Chronic Pain
    e. Medical Conditions Resulting in Impairment or Disability
    f. Metastatic Disease
    g. Pericarditis
    h. Popliteal Aneurysm
    i. Post-Traumatic Elbow Hyperuricemia
    j. Pudendal Nerve Entrapment Syndrome
    k. Restless Leg Syndrome

3. **Medical Conditions Resulting in Impairment or Disability**
    a. Claw Hand
    b. Costochondritis
    c. Hand Neuritis
    d. Metastatic Disease
    e. Pericarditis
    f. Popliteal Aneurysm
    g. Post-Traumatic Elbow Hyperuricemia
    h. Pudendal Nerve Entrapment Syndrome
    i. Sacroiliac Joint Fracture

4. **Musculoskeletal – Occupational and Sports Injuries**
    a. ACL Rupture
    b. Carpal Tunnel Syndrome
    c. Elbow Atrophy
    d. Elbow Stress Reactions and Fractures

e. Iliotibial Band Friction Syndrome
f. Pectoralis Major Tear
g. Shoulder Impingement Syndrome
h. Subacromial Impingement Syndrome
i. Tennis Elbow

## 5. Neuromuscular Disorders

a. Epidural Abscess

## 6. Spinal Cord Injury

**a.** Thoracic Outlet Syndrome

## 7. Spine Disorders and Radiculopathy

a. Atlantoaxial Instability
b. Chest and Thoracic Spine Pain
c. Epidural Hematoma
d. Lumbar Disc Disease
e. Lumbar Radiculopathy
f. Lumbar Spine Stenosis
g. Modic I Lumbar Spinal Discopathy
h. Nonoperative Cervical Disc Care
i. Pelvic Tilt Disorder
j. Pelvis and SI Dysfunction
k. Sacroiliac Osteoarthritis
l. Thoracic Spine Ankylosis
m. Whiplash Associated Disorders

## 8. Traumatic Brain Injury

a. Mental Distress

## 9. Musculoskeletal Disorders – General

a. Anterior Shoulder Instability
b. Chronic Hip Joint Pain
c. Degenerative Medial Meniscus Tear in Older Athletes
d. Elbow Dislocation
e. Emergent Shoulder
f. Injuries Affecting the Elbow
g. Internal Derangement of the Knee
h. Knee Joint Care/Treatment
i. Knee Overuse Injury
j. Lax Cervical Ligaments
k. Lisfranc Injury
l. Night Orthosis in Dupuytren's Contracture of the Hand
m. Pediatric Foot and Ankle Care
n. Plantar Fibromatosis (Ledderhose Disease)
o. Radial Nerve Entrapment
p. Scheuermann’s Disease
q. Shoulder Metastatic Disease
r. Snapping Hip Syndrome (Coxa Sultans or Dancer's Hip)

s. Symphysis Pubis Separation and Pregnancy
t. Tietze Syndrome and Scoliosis
u. Unstable Sternoclavicular Joint
v. Wartenberg Syndrome
w. Wrist and Hand Tenosynovitis
x. Wrist Osteoarthritis

# Pillar VI

# *Medical Record Management, Clinical Documentation, and Medicolegal Reporting*

# Specific Tasks, Knowledge, and Skills

## Approximate Test Item Distribution in IANM Part 1 Exam - 19%

# Medical Record Management, Clinical Documentation, and Medicolegal Reporting

## AXIOMS

**Good medical record keeping is at the forefront of orthopedic and neuromusculoskeletal medicine practice.**

**Not only do NMSM notes act as a learning tool, but they are also needed in medicolegal circumstances and, more importantly, for patient safety and communication between multidisciplinary team members.**

**The medical record is data collection on a patient, including a history, statement of the current problem, diagnosis, and treatment procedures.**

Orthopedic and neuromusculoskeletal medicine **expert testimony requires a different skill** base than general clinical practice.

Neuromusculoskeletal specialists in medicolegal work must **understand the ethical, legal, and business caveats** with such undertakings and their disparities from standard clinical practice.

The assessment and diagnostic formulation in medicolegal work **must meet current community practice standards and opinion and medicolegal testimony** (i.e., Daubert standards).

Chiropractic and neuromusculoskeletal medicine specialist examiners must understand and **appropriately use medicolegal terminology**.

When providing expert testimony, the specialist examiner must understand how to **incorporate preinjury, injury, and postinjury information**.

## Task 1

**Compile and maintain and preserve the patient record to include demographic data, clinical findings, patient care information, financial transactions, reports, correspondence, and communications to satisfy medical and legal requirements.**

### Task 1 Knowledge:

1. Clinical office forms.

2. Required information.
3. Issues of patient confidentiality.
4. How to prepare a discharge summary.
5. Medical terminology, reporting language, and standard medical abbreviations.

### Task 1 Skills:

1. Ability to record information in a logical order.
2. Ability to organize information from each office visit in SOAP format.

# Task 2

**Record the rationale to support the diagnosis, prognosis, and management, including all daily treatment forms.**

### Task 2 Knowledge:

1. Legal issues of patient confidentiality and release of information.
2. Statute of limitations regarding patient records.
3. Required information.
4. Clinical office forms.
5. Medical terminology, reporting language, and standard medical abbreviations.

### Task 2 Skills:

1. Ability to record and preserve the patient file.

# Pillar VII

## *Evidence-Based Practice, Patient-Centered Care, and Informed Consent*

## Specific Tasks, Knowledge, and Skills

**Approximate Test Item Distribution in IANM Part 1 Exam - 6%**

# Task 1

**Evidence-based practice** involves complex and conscientious decision-making, based not only on the available evidence, but also on patient characteristics, situations and preferences. It recognizes that care is individualized and ever changing and involves uncertainties and probabilities.

### Task 1 Knowledge:

Know the publications supporting:

1. Keys to diagnosis and differential diagnosis
2. Accepted trends in practice parameters
3. Effectiveness of procedures
4. Methodology for outcome assessments.

### Task 1 Skills:

1. Ability to discover and keep current on published research.
2. Ability to implement in-office procedures based on published evidence.

# Task 2

**Patient-centered care** is a model for providing health care that focuses not only on the patient's symptoms and medical history but also on the emotional, social, and financial factors that affect their life, as well as their values.

### Task 2 Knowledge:

1. Patient symptoms as a driving force for intake.
2. Past and present medical history.
3. Emotional factors.
4. Financial considerations.
5. Life Style situation and obstacle.

### Task 2 Skills:

1. Ability to implement patient-centered office systems.
2. Ability to empathize with patient complaints.
3. Ability to consult and console patients

Available from: https://publichealth.tulane.edu/blog/patient-centered-care/

# Task 3

**Informed consent** is a process through which a physician informs a patient about the risks and benefits of a proposed therapy and allows the patient to decide whether the therapy will be undertaken.

### Task 3 Knowledge:

1. Be aware of current requirements on consent.

2. Know the risks of all intended procedures.
3. Correlate risks vs benefits of intended procedures.

## Task 3 Skills:

1. Ability to discuss risks with patients.
2. Ability to explain risk vs. benefits.
3. Ability to motivate patients to be aware and manage outcomes vs. risks.

Pizzi LT, Goldfarb NI, Nash DB. Chapter 48. Procedures for obtaining informed consent. Thomas Jefferson University School of Medicine and Office of Health Policy & Clinical Outcomes. Evid Rep/Technol Assess, No. 43. Making health care safer: a critical analysis of patient safety practices. Prepared for: Agency for Healthcare Research and Quality, Contract No. 290-97-0013. [Cited October 28, 2007] Available from: http://www.ahrq.gov/Clinic/ptsafety/chap48.htm

# IANM Pillars of Practice Global Categories and Examination Content Examples for Practice Pillar VI *Medical Record Management, Clinical Documentation, and Medicolegal Reporting*

The respondent pool of Advanced Practice Neuromusculoskeletal Medicine Specialists selected the following **IANM examination example topics** of disorders, injuries, diseases, or conditions in which **medical record management, clinical documentation, and medicolegal reporting** are fundamental Pillar VI elements for specialist function.

## General Condition Categories

1. **Cerebral Vascular Disease/Vascular Disease**
    a. Harlequin Face

2. **Central Nervous System (CNS)**
    a. Concussion
    b. Traumatic Brain Injury

3. **Medical Conditions Resulting in Impairment or Disability**
    a. Alcohol Complicated Geriatric Chest Trauma
    b. Ankle and Foot Conditions
    c. Biceps Rupture
    d. Charcot Arthropathy
    e. Craniocervical Junction Disorders
    f. Fluoroquinolone Induced Tendinopathy
    g. Foot and Ankle Gout
    h. Herniated Lumbar Disc Work-Related
    i. Knee Surgery
    j. Leg Pain
    k. Legg-Calve-Perthes Disease
    l. Multi-Rib Fractures
    m. Olecranon Fracture
    n. Osteosarcoma
    o. Rhomboid Fatigue
    p. Sarcopenia and Fragile Hip
    q. Shoulder Injury Medicolegal Aspects
    r. Shoulder Osteonecrosis
    s. Slipped Capital Femoral Epiphysis
    t. Spinal Surgery
    u. Supracondylar Humerus Fracture (Pediatric)
    v. Total Hip Arthroplasty
    w. Vertebral Compression Fracture
    x. Wrist Scaphoid Fractures

## 4. Musculoskeletal – Occupational and Sports Injuries

a. Adhesive Capsulitis
b. Apophysitis of Patellar Ligament on the Anterior Tibial Tubercle
c. Distal Biceps Tendon Avulsion
d. Elbow Strain
e. Hip Fracture
f. Labral Tear
g. Occupational Injuries, Shoulder
h. Patella Fracture
i. Patellar Dislocation
j. Pediatric Exercise-Induced Compartment Syndrome
k. Pelvic Fracture
l. Repetitive Stress Injury to Hand and Thumb
m. Return to Work Following Hand Injury

## 5. Neuromuscular Disorders

a. Horner Syndrome Due to First Rib Fracture
b. Pudendal Nerve Injury with Sacral Cyst
c. Radial Tunnel Syndrome
d. Median Nerve Palsy

## 6. Spinal Cord Injury

a. Cervical Spinal Cord Injury

## 7. Spine Disorders and Radiculopathy

a. Charcot Spinal Arthropathy
b. Chordoma
c. Clinical Imaging of Conditions Mimicking Spondyloarthropathy of the Spine
d. Lumbar Spine Osteomyelitis
e. Motor Vehicle Pelvic Fracture
f. Progressive Lumbar Spondylolisthesis
g. Sacrococcygeal Joint Sprain
h. Whiplash Syndrome

## 8. Traumatic Brain Injury

a. Sports-Related Traumatic Brain Injury

## 9. Musculoskeletal Disorders – General

a. Hip Degenerative Joint Disease/Osteoarthritis
b. Hip Fractures
c. Foot Drop
d. Knee Degenerative Joint Disease/Osteoarthritis
e. Kohler's Disease
f. Lateral Epicondylitis
g. Lateral Collateral Ligament Knee Injuries
h. Lumbar Spondylolisthesis
i. Legg Calve Perthes Disease
j. Pelvic Floor Dysfunction

k. Lumbar Sprain
l. Thoracic Outlet Syndrome
m. Elbow Dislocation
n. Medial Meniscus Tear
o. Plantar Fasciitis
p. Domestic Violence
q. Rotator Cuff Tear
r. Sacroiliitis
s. Sever's Disease on ADL
t. SIJ Pain – Fusion Efficacy
u. Subtrochanteric Bursitis
v. Thoracic Sprain
w. Work-Related Shoulder Injury Rehabilitation

# References


1 Evans RC, Brandt JR, Testing Methodology and Protocol of The American Board of Chiropractic Orthopedists, Vol 1, pp 283-288, in Harden RM, Hart IR, Mulholland H: International Conference Proceedings: Approaches to The Assessment of Clinical Competence, part 1-2, Norwich, Great Britain, 1992, Page Brothers.

2 www.hipaaspace.com/Medical_Billing/Coding/Healthcare.Provider.Taxonomy.Code.Set/111NX0800X

3 From Council on Chiropractic Orthopedics, By-Laws; American College of Chiropractic Orthopedists; and Academy of Chiropractic Orthopedists.

4 Hernández-Lázaro H, Mingo-Gómez MT, Jiménez-Del-Barrio S, Rodríguez-Fernández AI, Areso-Bóveda PB, Ceballos-Laita L. Validation of the International Classification of Functioning, Disability, and Health (ICF) core set for post-acute musculoskeletal conditions in a primary care physiotherapy setting from the perspective of patients using focus groups. Disabil Rehabil. 2024 Aug;46(16):3594-3601. doi: 10.1080/09638288.2023.2251392. Epub 2023 Sep 5. PMID: 37667886.

# Section Pillars

**In addition to the items listed in each of the above Pillars, each Specialty Section contains specific knowledge, tasks and skills.**

# *Section A – Injection Therapy*

## *Pillars of Practice for Injection Therapies Fellowship

## 1. Defining the Specialty

**Injection Therapies** is a specialty within advanced neuromusculoskeletal medicine focused on the precise administration of therapeutic agents to specific anatomical structures. These therapies aim to alleviate pain, restore function, and promote tissue regeneration or healing in musculoskeletal and related conditions. Injection Therapies encompasses techniques utilizing:

- Homeopathic solutions
- Platelet-Rich Plasma (PRP)
  - And other platelet concentrations
- Ozone injections
- Other approved regenerative modalities (depending on local scope of practice)
  - Nutritional - vitamins and minerals
  - Prescriptions
  - Peptides
  - HA
  - Biologics
  - State Scopes

### Considerations for Terminology

While "Injection Therapies" is broad, it allows flexibility in incorporating new technologies and methods. Should

the specialty expand to include additional therapeutic modalities, the terminology may be revisited. A potential alternative could be "Regenerative Injection Therapies" or “Conservative Injection Therapies", contingent on committee consensus.

# 2. Pillars of Practice Section A

**Introduction**

The "Pillars of Practice" for Injection Therapy build on foundational principles of neuromusculoskeletal medicine. These pillars address the unique requirements of practitioners pursuing Fellowship-level expertise in Injection Therapy.

**Pillar 1: Clinical Competency**

Practitioners must demonstrate advanced knowledge in:

- Anatomy and physiology relevant to injection therapy
- Pathophysiology of musculoskeletal and systemic conditions treated with injections
- Pharmacology of injectable agents, including regenerative substances

**Pillar 2: Patient Assessment**

- Comprehensive history and physical examination to determine injection therapy suitability
- Use of diagnostic imaging (e.g., ultrasound, fluoroscopy) for precision targeting
- Risk stratification and contraindication screening

**Pillar 3: Technical Proficiency**

Practitioners must achieve competency in:

- Aseptic techniques to minimize infection risk
- Safe preparation and administration of injections
- Palpation-based injection techniques and
- Ultrasound-guided injection techniques

**Pillar 4: Treatment Planning and Implementation**

- Development of individualized treatment plans integrating injection therapy with broader care strategies
- Informed consent and patient education
- Post-procedure monitoring and outcome assessment

**Pillar 5: Ethics and Professional Development**

- Adherence to ethical standards in patient care
- Commitment to ongoing education and research in injection therapies
- Collaboration with interdisciplinary teams

**As a subspecialty under the IANM, the program’s goals are aligned with the IANM’s Pillars of Practice, specifically Pillars II, V, and VI.**

**Pillar IV: Prepare and Implement a Treatment Plan**

**Goal:**
**To equip practitioners with the clinical reasoning, biological knowledge, and decision-making skills needed to develop and implement safe, effective treatment plans using drug-free injectable therapies.**

**Task 1: Determine Management Goals**

**Knowledge Outcomes:**

1. Understand healing timelines for various tissue types and injuries.
2. Recognize standard-of-care expectations in regenerative injection therapy.
3. Identify outcome measures applicable to different musculoskeletal conditions.
4. Understand the natural progression and prognosis of common orthopedic conditions.
5. Apply pathophysiological reasoning to biologic treatment decisions.

**Skill Outcomes:**

1. Formulate regenerative treatment plans based on patient-specific needs and goals.
2. Communicate therapeutic goals and expected outcomes to patients and collaborators.

**Task 2: Tailor Care Parameters Based on Condition Pathophysiology**

**Knowledge Outcomes:**

1. Know the biological mechanisms and indications for each injectable agent.
2. Understand contraindications, informed consent, and adverse effect profiles.
3. Apply evidence-based standards to determine appropriate frequency and duration of care.

**Skill Outcomes:**

1. Justify clinical decisions based on cost–benefit and scope of practice.
2. Effectively discuss treatment strategies with patients, staff, and co-managing providers.

**Task 3: Recognize Scope Limitations and Referral Needs**

**Knowledge Outcomes:**

1. Understand psychosocial, ethical, and interdisciplinary factors affecting care.
2. Recognize risks of overuse, misuse, or misapplication of injectable therapy.

**Skill Outcomes:**

1. Assess when collaborative care or referral is indicated.
2. Clearly communicate role boundaries and responsibilities to patients and providers.

**Task 4: Evaluate Risk–Benefit and Appropriateness of Care**

**Knowledge Outcomes:**

1. Identify contraindications and risks associated with each type of injectable therapy.
2. Understand informed consent elements and ethical considerations.

**Skill Outcomes:**

1. Assess appropriateness of care plans and revise based on patient response or clinical status.

**Task 5: Explain Procedures and Obtain Informed Consent**

**Knowledge Outcomes:**

1. Clarify benefits, risks, and alternatives of each injectable method.
2. Articulate rationale for combining or sequencing therapies.

**Skill Outcomes:**

1. Secure comprehensive informed consent using appropriate documentation and educational materials.

**Task 6: Implement Clinical Management Plan**

**Knowledge Outcomes:**

1. Apply precise injection techniques and post-injection protocols.
2. Understand rehabilitation, nutrition, and adjunctive support strategies.

**Skill Outcomes:**

1. Deliver biologic treatments competently, including PRP, ozone, and homeopathics.
2. Educate patients and staff on expectations, care instructions, and progress evaluation.

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## Pillar VI: Medical Record Management, Clinical Documentation, Medicolegal Reporting

**Goal:**
**To ensure accurate, complete, and defensible documentation of injection therapy to support continuity of care, legal compliance, and interprofessional communication.**

**Task 1: Maintain Comprehensive Clinical Records**

**Knowledge Outcomes:**

1. Understand key components of injection therapy records, including demographic data, consent, procedure notes, and follow-up.
2. Recognize confidentiality standards, record retention laws, and common reporting formats.

**Skill Outcomes:**

1. Consistently document injections in a structured and organized format (e.g., SOAP).
2. Log procedural data with clarity, accuracy, and defensible clinical reasoning.

**Task 2: Justify Diagnosis, Prognosis, and Treatment**

**Knowledge Outcomes:**

1. Know medicolegal standards for documenting treatment rationale and outcomes.
2. Understand terminology and language conventions used in insurance and legal reports.

**Skill Outcomes:**

1. Create clinical notes and case logs that demonstrate competency and decision-making.
2. Prepare documentation suitable for peer review, case submission, and board recognition.

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**As a subspecialty under the IANM, the program's goals are aligned with the IANM's Pillars of Practice, specifically Pillars II, V, and VI.**

## Pillar IV: Prepare and Implement a Treatment Plan

**Goal:**
**To equip practitioners with the clinical reasoning, biological knowledge, and decision-making skills needed to develop and implement safe, effective treatment plans using drug-free injectable therapies.**

**Task 1: Determine Management Goals**

**Knowledge Outcomes:**

1. Understand healing timelines for various tissue types and injuries.
2. Recognize standard-of-care expectations in regenerative injection therapy.
3. Identify outcome measures applicable to different musculoskeletal conditions.
4. Understand the natural progression and prognosis of common orthopedic conditions.
5. Apply pathophysiological reasoning to biologic treatment decisions.

**Skill Outcomes:**

1. Formulate regenerative treatment plans based on patient-specific needs and goals.
2. Communicate therapeutic goals and expected outcomes to patients and collaborators.

**Task 2: Tailor Care Parameters Based on Condition Pathophysiology**

**Knowledge Outcomes:**

1. Know the biological mechanisms and indications for each injectable agent.
2. Understand contraindications, informed consent, and adverse effect profiles.
3. Apply evidence-based standards to determine appropriate frequency and duration of care.

**Skill Outcomes:**

1. Justify clinical decisions based on cost–benefit and scope of practice.
2. Effectively discuss treatment strategies with patients, staff, and co-managing providers.

**Task 3: Recognize Scope Limitations and Referral Needs**

**Knowledge Outcomes:**

1. Understand psychosocial, ethical, and interdisciplinary factors affecting care.
2. Recognize risks of overuse, misuse, or misapplication of injectable therapies.

**Skill Outcomes:**

1. Assess when collaborative care or referral is indicated.

2. Clearly communicate role boundaries and responsibilities to patients and providers.

**Task 4: Evaluate Risk–Benefit and Appropriateness of Care**

**Knowledge Outcomes:**

1. Identify contraindications and risks associated with each type of injectable therapy.
2. Understand informed consent elements and ethical considerations.

**Skill Outcomes:**

1. Assess appropriateness of care plans and revise based on patient response or clinical status.

**Task 5: Explain Procedures and Obtain Informed Consent**

**Knowledge Outcomes:**

1. Clarify benefits, risks, and alternatives of each injectable method.
2. Articulate rationale for combining or sequencing therapies.

**Skill Outcomes:**

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**Knowledge Outcomes:**

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**Skill Outcomes:**

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## Pillar VI: Medical Record Management, Clinical Documentation, Medicolegal Reporting

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**To ensure accurate, complete, and defensible documentation of injection therapies to support continuity of care, legal compliance, and interprofessional communication.**

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1. Know medicolegal standards for documenting treatment rationale and outcomes.
2. Understand terminology and language conventions used in insurance and legal reports.

**Skill Outcomes:**

1. Create clinical notes and case logs that demonstrate competency and decision-making.

2. Prepare documentation suitable for peer review, case submission, and board recognition.

# *Section B – Forensics*

## Forensic Science Subspecialty of the International Academy of Neuromusculoskeletal Medicine
## Practice Analysis Study Guide and Examination Content

## Blueprint 1st Edition

**Introduction**

The history of forensic sciences can be traced into antiquity: the Latin word “forensis” pertaining to a forum. In Rome the forum was a marketplace where people gathered, not just to buy things, but to conduct all kinds of business, including that of public affairs. The meaning of forensics later came to be restricted to refer to the courts of law and entered English usage in 1691.

In the 1800s the field of forensic science saw substantial progress. The first use of forensic science by the police and the courts was the evidence of medical practitioners to assist in determining the cause of death. Early forensic specialists were self-taught. There were no special schools, university courses or formal training. Almost every year in the 1900s recorded an advance in the field.

With education, training and medicolegal experience, modern forensic/expert witnesses gain an understanding of the trial process, and their unique role in it.

Introducing scientific uncertainty (junk science) into the uncertainty of the legal process only leads to still more uncertainty and a dissonance in court proceedings. The last two decades have seen an increasing use and wider range of scientific expertise in the courtroom. This presents more complexity and challenges to all participants (experts, attorneys, judges, juries etc.).

Demand for special postgraduate training in the field of forensics is increasingly important to ascertain the value

of chiropractic care in courts of law and other legal venues. This training assures a contemporary doctor remains knowledgeable and competent to address the constantly increasing and complicated interaction between a Doctor of Chiropractic (DC) and the law.

Affiliation with the International Academy of Neuromusculoskeletal Medicine (IANM) and alignment with the Institute for Credentialing Excellence (I.C.E.) and the National Commission for Certifying Agencies (NCCA) affords the forensic subspecialty a framework for proficiency certification.

Historical Perspective

The Academy of Forensic & Industrial Chiropractic Consultants (AFICC) was founded in 1988 by DCs dedicated to expanding their knowledge of forensic medical legal practice. The National Board of Forensic Chiropractors (NBOFC) was a for-profit South Carolina corporation and began offering classes in the field of chiropractic forensics in 1997. They strived to academically improve the chiropractic physician's knowledge and skills regarding assessment, diagnostics, treatment, documentation, report writing, communication, standards of practice, updated research and expert testimony.

In 1998 the advisory executive board of NBOFC investigated the requirements to achieve national accreditation in the field of chiropractic forensics. They formed a corporation (circa. 2000) which was named the International Board of Forensic Scientists and Examiners (IBOFSE) and was awarded non-profit status.

The goal was to award a certificate entitled Certified Independent Forensic Chiropractic Medical Examiner (CIFCME). The IBOFSE with the assistance of several DCs wrote and administered two examinations in 1999.

Per the recommendation of legal counsel, the IBOFSE applied for and received permission from the Arizona Corporation Commission for a name change to the American Board of Forensic Professionals (ABFP). The ABFP has received a service mark for a Diplomate of the American Board of Forensic Professionals (DABFP). The ABFP initially was a member of the National Organization for Competency Assurance (NOCA) and progressed towards reaching a compliant status with the standards set forth by the National Commission for Certifying Agencies (NCCA) guidelines. The ABFP has administered yearly examinations since 2000.

**Practice Analysis**

Forensics is the application of medical facts to legal issues and/or proceedings. A forensic examiner is a medical professional who by virtue of education, experience, specialized training, and knowledge is qualified to render expert opinions in response to questions regarding adherence to standards of care, and acceptable practice parameters within their profession and areas of expertise.

An accepted method for identifying the work and skills required of a healthcare specialty is through a practice analysis. This is a formal process that solicits input from a representative sample of specialty practitioners. The goal is to map out practice related elements such as practice domains and tasks, and the knowledge, skills, and abilities (KSAs) required for successful performance.

The development of the current ABFP practice analysis leaned heavily on a previous project by a related chiropractic specialty certification program, the American Board of Chiropractic Consultants (ABCC). The ABCC project was completed in the year 2000 and involved a two day in-person conference consisting of 12 DC panelist and a professional facilitator from the field of psychology with a focus in practice analysis and testing psychometrics. The panel was diverse with respect to geographical regions, practice settings/roles, years of experience, certification status and other demographic variables.

The ABFP and ABCC practice focus historically was very similar and several practitioners completed both

certifications. The ABCC certification program is not currently active. Current leadership from their supporting organization was contacted and consent was given to proceed with adaptations from the ABCC practice analysis for use by the ABFP.

Any profession must have the ability to routinely monitor its own practice through an ongoing process of self-regulation. Paramount is the establishment of a credentialing program that enables the profession to safeguard consumers by stating who is competent to practice. A valid practice analysis is essential to the integrity of a credentialing program and its associated certifying examination (test objectives, targeted cognitive level, and content weighting). This analysis delineates the important tasks and knowledge deemed necessary for competent practice. It translates practice into a usable format for test development.

Domains of Practice

The ABFP practice analysis provides content for the forensics examination. It defines broad domains of practice and specific tasks, as well as the current knowledge, skills, and abilities (KSAs) that must be demonstrated by forensic professionals to effectively provide services. KSAs are validated according to their frequency of use and importance.

The broad domains identified for the practicing forensic chiropractor are:

- **Clinical case review** including document analysis, expert judgements and report
- **Medical legal testimony** including the ability to verbally communicate complex information, within your area of expertise, accurately and effectively to prescribed stakeholders/audience.
- **Administrative roles and functions** including the ability to capture and apply specific industry and professional standards for corporate and governmental entities
- **Ethical, professional, and legal issues** including the ability to know and observe specific professional duties and responsibilities, and mitigate unwanted personal influences on opinions
- **Independent medical examination** including all aspects of the examiner/claimant encounter, and providing informed and relevant opinions The practice analysis will be updated in 5-year cycles.

**Practice and Test Item Writing Content Areas:**

**Forensic Science Subspecialty of the International Academy of**

**Neuromusculoskeletal Medicine**

**DOMAIN I - CLINICAL CASE REVIEW (40%)**

(Depending on the question(s) posed, clinical case review will include some combination of the tasks listed below.)

A. Review of the Documentary Record

The skillful performance of these tasks requires an accurate and contextual analysis of complex clinical, legal and other relevant records

T-A.1 Determine if the documentary record provides sufficient information to make the judgment(s) necessary to respond to the question(s) posed.

The effective performance of this task requires knowledge of:

K-1 Elements of a clinical record

K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to clinical case records

T-1A.2 Identify and evaluate the extent of the history and complaints/conditions documented

The effective performance of this task requires knowledge of:
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-33 Self-reported pain and functional questionnaires

T-1A.3 Identify and evaluate the examinations performed

The effective performance of this task requires knowledge of:
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)

T-1A.4 identify and evaluate the diagnostic testing performed

The effective performance of this task requires knowledge of:
K-9 Protocols, indications, and interpretations of diagnostic testing

T-1A.5 Correlate diagnosis rendered with history, examination, and diagnostic testing

The effective performance of this task requires knowledge of:
K-1 Elements of a clinical record
K-4 Record keeping systems pertaining to clinical case records
K-5 Elements of a history
K-6 The parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-33 Self-reported pain and functional questionnaires

T-1A.6 Identify and evaluate treatment records

The effective performance of this task requires knowledge of:
K-1 Elements of a clinical record
K-4 Record keeping systems pertaining to these records
K-11 Elements of a treatment plan
K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-25 Concepts and applications of informed consent

T-1A.7 Identify and evaluate the circumstances expected to influence recovery

The effective performance of this task requires knowledge of:

K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)

K-14 Natural history of conditions (tissue repair physiology, degenerative processes)

K-15 Bio/psycho/social elements (e.g., comorbidity, risk factors, yellow flags, standardized tests/questionnaires)

T-1A.8 Identify and correlate coding and billing documentation

The effective performance of this task requires knowledge of:

K-35 Treatment and diagnosis coding and billing rules and applications (e.g., CPT, HCFA, ICD-10 or later)

## B. **Expert Judgments**

The skillful performance of these tasks requires the ability to formulate and apply informed, unbiased, evidence based and relevant judgements.
(Depending on the questions posed, the forensic examiner performs one or more of the tasks listed below.)

T-1B.1 Formulate an opinion regarding causation

The effective performance of this task requires knowledge of:

K-1 Elements of the clinical record

K-2 Types and parameters of case reviews

K-3 Published guidelines pertaining to clinical reviews

K-4 Record keeping systems pertaining to clinical case records

K-5 Elements of a history

K-6 Parameters of complaints/conditions (OPQRST)

K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations

K-9 Protocols, indications, and interpretations of diagnostic testing

K-10 Elements and formulation of diagnosis

K-14 Natural history of conditions (tissue repair physiology)

K-15 Bio/psycho/social elements (e.g., comorbidity, risk factors, yellow flags, standardized test/questionnaires)

K-17 Literature search tools and techniques

K-18 Interpretations of scientific literature

T-1B.2 Formulate an opinion regarding diagnosis

The effective performance of this task requires knowledge of:

K-1 Elements of a clinical record

K-4 Record keeping systems pertaining to her medical case records

K-5 Elements of a history

K-6 Parameters of complaints/conditions (OPQRST)

K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations

K-9 Protocols, indications, and interpretations of diagnostic testing

K-10 Elements and formulation of diagnosis

K-14 Natural history of conditions (tissue repair physiology)

K-15 Bio/psycho/social elements (e.g., comorbidity, risk factors, yellow flags, standardized test/questionnaires)

T-1B.3 Formulate an opinion regarding the appropriateness, medical necessity, and/or relatedness of services rendered (e.g., exams, diagnostic testing, treatment)

The effective performance of this task requires knowledge of:

K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to clinical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-11 Elements of a treatment plan
K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g., comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-41 Recognition, action and follow up of emergent presentations

T-1B.4 Formulate an opinion regarding treatment frequency and duration, maximum therapeutic benefit (MTB), and maximum medical improvement (MMI)

The effective performance of this task requires knowledge of:

K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to her medical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-11 Elements of a treatment plan

K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g. comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature

T-1B.5 Formulate an opinion regarding the need for referral, consultation, and/or other evaluation

The effective performance of this task requires knowledge of:
K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to her medical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent
Impairment (per state mandate)
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-11 Elements of a treatment plan
K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g. comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-41 Recognition, action and follow up of emergent presentations

T-1B.6 Formulate an opinion regarding standard of care

The effective performance of this task requires knowledge of:
K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to her medical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations

K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-11 Elements of a treatment plan
K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g. comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-24 Medical/legal definitions (e.g., fraud, waste, abuse, negligence, standard of care, malpractice)
K-25 Concepts and applications of informed consent
K-31 Laws, rules, regulations, and legal and contractual definitions of scope of practice
K-33 Self-reported pain and functional questionnaires
K-34 Chiropractic clinical education and training program standards
K-36 Testimony setting process (e.g., deposition, arbitration, trial, examining board, administrative hearing)
K-41 Recognition, action and follow up of emergent presentations

C. **Expert Report**

The skillful performance of this task requires the ability to write and communicate accurately and effectively within the confines of the task at hand

T-1C.1 Report findings, opinions, and/or rationales

The effective performance of this task requires knowledge of:
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-19 Content structure of medical/legal reports including disability, impairment etc.
K-20 Medical/legal implications and risk management of reporting and testimony

## DOMAIN II – EXPERT TESTIMONY (20%)

The skillful performance of these tasks requires the ability to verbally communicate complex information, within your area of expertise, accurately and effectively to prescribed stakeholders/audiences

(Depending on the question(s) posed, testimony will include some combination of the tasks listed below.)

T-2.1 Provide expert testimony

The effective performance of this task requires knowledge of: K-20 Medical/legal implications and risk management of reporting and testimony

K-21 Requirements for qualifying as an expert (e.g., licensure/scope of practice, conflict of interest, Federal/civil rules, Frye/modified Frye/Daubert, voir dire, Daubert challenges)
K-22 The role of the expert witness
K-23 Legal venues
K-24 Medical/legal definitions (e.g., fraud, waste, abuse, negligence, standard of care, malpractice)
K-25 Concepts and applications of informed consent
K-36 Testimony setting process (e.g., deposition, arbitration, trial, examining board, administrative hearing)

T-2.2 Provide consultation in legal proceedings

The effective performance of this task requires knowledge of: K-24 Medical/legal definitions (e.g., fraud, waste, abuse, negligence, standard of care, malpractice)
K-25 Concepts and applications of informed consent
K-26 The role of the expert

## DOMAIN III – ADMINISTRATIVE ROLES AND FUNCTIONS (10%)

The skillful performance of these tasks requires the ability to capture and apply specific industry and professional standards for corporate and governmental entities
(Depending on the question(s) posed, administrative roles and functions will include some combination of the tasks listed below.)

T-3.1 Develop and manage quality assurance processes (e.g. utilization management (UM), quality management (QM), quality improvement (QI), credentialing, accreditation compliance)

The effective performance of this task requires knowledge of:
K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to her medical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-11 Elements of a treatment plan
K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g. comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-16 Other healthcare entities and their domains
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature

K-27 Accreditation and compliance requirements (e.g., NCQA, URAC, TJC, HIPAA)
K-28 Patient/member rights and responsibilities
K-35 Treatment and diagnosis coding and billing rules and applications (e.g., CPT, HCFA, ICD-10 or later)

T-3.2 Interpret contracts and medical policy

The effective performance of this task requires knowledge of: K-24 Medical/legal definitions (e.g., fraud, waste, abuse, negligence, standard of care, malpractice)
K-27 Accreditation and compliance requirements (e.g., NCQA, URAC, TJC, HIPAA)
K-28 Patient/member rights and responsibilities
K-31 Laws, rules, regulations, and legal and contractual definitions of scope of practice
K-32 Legal and contractual terminology

T-3.3 Provide advice and counsel in the development of contracts and medical policies

The effective performance of this task requires knowledge of:
K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to her medical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-11 Elements of a treatment plan
K-12 Patient management protocols
K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g. comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-16 Other healthcare entities and their domains
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-20 Medical/legal implications and risk management of reporting and testimony

## DOMAIN IV – ETHICAL, PROFESSIONAL, AND LEGAL ISSUES (5%)

The skillful performance of these tasks requires the ability to know and observe specific legal and professional duties and responsibilities and mitigate unwanted personal influences on opinions.

(Depending on the question(s) posed, ethical, professional, and legal issues will include some combination of the tasks listed below.)

T-4.1 Apply ethical principles in the performance of expert tasks

The effective performance of this task requires knowledge of:

K-29 Published ethics codes (e.g. CFS, ACA, ICA, IANM, professional licensure)

K-42 Conflict of interest, objectivity, impartiality, personal bias, prejudice, slanting, clinical and decision-making bias

K-43 Professional standards of confidentiality

T-4.2 Formulate opinions based on the best available evidence and best practices (e.g. evidence based clinical care guidelines)

The effective performance of this task requires knowledge of:

K-17 Literature search tools and techniques

K-18 Interpretations of scientific literature

K-30 Statistical analysis including definitions of validity, reliability, specificity, sensitivity, statistics, research design, etc.

T-4.3 Render expert services in a manner consistent with scope of practice, laws, rules, regulations, contracts and other professional obligations

The effective performance of this task requires knowledge of: K-20 Medical/legal implications and risk management of reporting and testimony

K-31 Laws, rules, regulations, and legal and contractual definitions of scope of practice

K-32 Legal and contractual terminology

K-43 Professional standards of confidentiality

## DOMAIN V – INDEPENDENT MEDICAL EXAMINATION (25%)

(Depending on the question(s) posed, independent medical examination (IME) will include some combination of the tasks listed below.)

T-5.1 Review of the documentary record

The skillful performance of these tasks requires an accurate and contextual analysis of complex clinical, legal and other relevant records

The effective performance of this task requires knowledge of:

K-1 Elements of a clinical record

K-4 Record keeping systems pertaining to clinical case records

K-5 Elements of a history

K-6 Parameters of complaints/conditions (OPQRST)

K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations

K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)

K-9 Protocols, indications, and interpretations of diagnostic testing

K-10 Elements and formulation of diagnosis

K-11 Elements of a treatment plan

K-12 Patient management protocols

K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)

K-14 Natural history of conditions (e.g., tissue repair physiology, degenerative processes)

K-15 Bio/psycho/social elements (e.g., co-morbidity, risk factors, yellow flags, standardized tests/questionnaires)

T-5.2 Elicit a pertinent accident/injury, condition and treatment history and perform an appropriate physical examination

The skillful performance of this task requires the ability to utilize appropriate and respectful interview methods that capture essential and relevant historical information, and to choose targeted examination procedures that expose and quantify injuries, conditions, impairments and disability

The effective performance of this task requires knowledge of:

K-5 Elements of a history

K-6 Parameters of complaints/conditions (OPQRST)

K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations

K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent

Impairment (per state mandate)

K-9 Protocols, indications, and interpretations of diagnostic testing

` K-15 Bio/psycho/social elements (e.g., co-morbidity, risk factors, yellow flags, standardized tests/questionnaires)

K-37 Type (e.g., workers compensation, bodily injury, VA, DOT), scope and boundaries of the IME

K-38 Adversarial relationship mitigation in IME

K-40 Video and audio recording rules and consents

T-5.3 Formulate an opinion regarding the appropriateness, medical necessity, and/or relatedness of services rendered (e.g., diagnostic testing, treatment)

The skillful performance of these tasks requires the ability to formulate and apply informed, unbiased, evidence based and relevant judgements

The effective performance of this task requires knowledge of:

K-1 Elements of a clinical record

K-4 Record keeping systems pertaining to clinical case records

K-5 Elements of a history

K-6 Parameters of complaints/conditions (OPQRST)

K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations

K-9 Protocols, indications, and interpretations of diagnostic testing

K-10 Elements and formulation of diagnosis

K-11 Elements of a treatment plan

K-12 Patient management protocols

K-13 Protocols of treatment modalities and procedures (including indications, absolute and relative contraindications, dosage and frequency)

K-14 Natural history of conditions (e.g., tissue repair physiology, degenerative processes)

K-15 Bio/psycho/social elements (e.g., comorbidity, risk factors, yellow flags, standardized test/questionnaires)

K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-42 Conflict of interest, objectivity, impartiality, personal bias, prejudice, slanting, clinical and decision-making bias

T-5.4 Formulate and opinion regarding causation, relatedness of illness/injury, MMI, physical ability, return to work/fitness for duty, reasonable accommodation and apportionment

The skillful performance of this task requires the ability to correlate elements of the history and examination and apply informed, unbiased, evidence based and relevant judgements that are consistent with evidence, and professional and industry standards.

The effective performance of this task requires knowledge of:
K-1 Elements of the clinical record
K-4 Record keeping systems pertaining to clinical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-9 Protocols, indications, and interpretations of diagnostic testing
K-10 Elements and formulation of diagnosis
K-14 Natural history of conditions (tissue repair physiology)
K-15 Bio/psycho/social elements (e.g., comorbidity, risk factors, yellow flags, standardized test/questionnaires)
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-42 Conflict of interest, objectivity, impartiality, personal bias, prejudice, slanting, clinical and decision-making bias

**T-5.5 IME report**

The skillful performance of this task requires the ability to write and communicate accurately and effectively within the confines of the task at hand

The effective performance of this task requires knowledge of:
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-19 Content structure of medical/legal reports including disability, impairment etc.
K-20 Medical/legal implications and risk management of reporting and testimony

**Disclaimer**

The forensic examination specifications result from the most recent forensics practice analysis. The exemplars provided for each domain and task indicate the types of information included in the forensic testing. Test item distribution percentages are noted after each domain heading. Not all topics on a regular forensic certification

examination appear in this document. It is probable that some questions on the forensic examination cover content not listed in the examples.

**Review Committee**

William Tellin, DC

Warren Jahn, DC, MPS

Leanne Cupon, DC

**Listing of knowledge areas**

K-1 Elements of a clinical record
K-2 Types and parameters of case reviews
K-3 Published guidelines pertaining to clinical reviews
K-4 Record keeping systems pertaining to clinical case records
K-5 Elements of a history
K-6 Parameters of complaints/conditions (OPQRST)
K-7 Elements, procedures, and interpretation of physical, chiropractic, neuromusculoskeletal etc. examinations
K-8 Concepts of disability (SSA, SSI, VA, Railroad, Longshoreman, etc.) and impairment and the AMA Guides to the Evaluation of Permanent Impairment (per state mandate)
K-9 Protocols, indications, and interpretations of diagnostic testing
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K-16 Other healthcare entities and their domains
K-17 Literature search tools and techniques
K-18 Interpretations of scientific literature
K-19 Content and structure of medical/legal reports including disability, impairment etc. K-20 Medical/legal implications and risk management of reporting and testimony
K-21 Requirements for qualifying as an expert (e.g., licensure/scope of practice, conflict of interest, Federal/civil rules, Frye/modified Frye/Daubert, voir dire, Daubert challenges)
K-22 The role of the expert witness
K-23 Legal venues
K-24 Medical/legal definitions (e.g., fraud, waste, abuse, negligence, standard of care, malpractice)
K-25 Concepts and applications of informed consent
K-26 The role of the expert as a consultant
K-27 Accreditation and compliance requirements (e.g., NCQA, URAC, TJC, HIPAA)
K-28 Patient/member rights and responsibilities
K-29 Published ethics codes (e.g. CFS, ACA, ICA, IANM, professional licensure)
K-30 Statistical analysis including definitions of validity, reliability, specificity, sensitivity, statistics, research design, etc.
K-31 Laws, rules, regulations, and legal and contractual definitions of scope of practice
K-32 Legal and contractual terminology
K-33 Self-reported pain and functional questionnaires
K-34 Chiropractic clinical education and training program standards
K-35 Treatment and diagnosis coding and billing rules and applications (e.g., CPT, HCFA, ICD-10 or later)
K-36 Testimony setting process (e.g., deposition, arbitration, trial, examining board, administrative hearing)
K-37 Type (e.g., workers compensation, bodily injury, VA, DOT), scope and boundaries of the IME

K-38 Adversarial relationship mitigation in IME
K-40 Video and audio recording rules and consents
K-41 Recognition, action and follow up of emergent presentations
K-42 Conflict of interest, objectivity, impartiality, personal bias, prejudice, slanting, clinical and decision-making bias
K-43 Professional standards of confidentiality

(Creation date: November 2024)

# Section C – Concussion Management

### Minimum IANM Specialty Fellowship Requirements for Concussion Management

Candidates who have completed the IANM certification process and are board certified by the IANM or an equivalent board, and who desire to obtain additional certification as a Fellow in Concussion Management, must provide a certificate of completion in an IANM approved course in concussion management.

A minimum of 100 hours is required to be eligible to sit for the Concussion Management Examination administered by the IANM.

The specialty program in concussion management must focus on, but is not limited to:

1. Current Concepts in Concussion
2. Basic Brain Neuroanatomy
3. The American Congress of Rehabilitation Medicine Diagnostic Criteria for mTBI (2023)
4. Amsterdam Consensus (2023)
5. Sports Concussion Assessment Tools (SCAT 6)
6. Initial Visit Concussion PCS
7. Neurologic Co-Management
8. Buffalo Concussion Treadmill/Bike Test (BCTT)
9. Vestibulo-Ocular Evaluation
10. Cervicogenic PCS Evaluation
11. Balance Error Scoring System (BESS)
12. Visit 1 Treatment Plan Considerations
13. Visit 2 Sub-Symptom Threshold Treatment Plan
14. Visit 3: Vestibulo-Ocular Rehabilitation
15. Cervicogenic PCS Rehabilitation
16. Psychological PCS Considerations
17. Diagnostic Imaging/Testing
18. Return to Learn (RTL) / Return to Play (RTP)

In addition to all knowledge, and tasks listed in the Current edition, Concussion Management Certification must

include the following:

## Pillar I *Patient History and Interview*

Specific Tasks, Knowledge and Skills
**TASK 1:** Obtain patient information for review to determine demographics, symptoms, complaints, co-existing and past concussive disorder, and identify red flags requiring emergent referral or advanced imaging considerations.
**KNOWLEDGE 1:** Concussion classification, definition, epidemiology, Glasgow Coma Scale, Injury Threshold, Red Flags, Current Research.

## Pillar II *Physical, Laboratory, and Diagnostic Imaging Examination*

Specific Tasks, Knowledge and Skills

**Knowledge 1:** Brain Neuroanatomy, ATP Synthesis, , Coup-Contre Coup, Neurometabolic cascade, Second Impact Syndrome, Neurovascular coupling vs uncoupling.
**Knowledge 2:** Amsterdam Consensus, SCAT 6,
**Knowledge 3:** Vestibulo-ocular, cervicogenic, Benign Positional Paroxysmal Vertigo, Balance Error Scoring System,
**Knowledge 4**: CT w w/o contrast, MRI, fMRI, DTI, H-MRS, SPECT, VNG, EEG, VEP, BAEP, PSG

**Task 1:** Examine speech, mental status, skull fracture, CNS, Cranial nerves, pyramidal tracts, cerebellar.
**Task 2:** Neurocognitive testing, oculomotor testing, VNG testing, Neurologic Co-management
**Task 3:** Exertional Testing, Buffalo Concussion Treadmill Test, Buffalo Concussion Bike Test, Sub symptom Threshold testing, Sub-Symptom Threshold calculations without formal exertional testing.
**Task 4:** Vestibulo-Ocular PCS evaluation, Cervicogenic PCS evaluation, Balance Error Scoring System evaluation,

## Pillar III *Most Likely Diagnosis Formulation and Differential Diagnosis Development*

Specific Tasks, Knowledge and Skills

**Knowledge 1:** Implement diagnostic criteria from The American Congress of Rehbilitation Medicine Diagnostic Criteria for mTBI (2023)
**Knowledge 2**: Skull fracture, intracranial bleeds, Cerebral contusion vs concussion

## Pillar IV *Prepare and Implement a Treatment Plan*

Specific Tasks, Knowledge and Skills

**Knowledge 1:** Sub-symptom Threshold, Adaptation, Habituation, Neuroplasticity, Vestibulo-Ocular Rehabilitation, Convergence Insufficiency
**Knowledge 2:** Psychological Considerations,
**Knowledge 3**: Rest vs Exercise, Amsterdam Consensus, Return to Learn/Sport

**Task 1:** Vestibulo-Ocular Rehabilitation Exercises- VOR, Canolith Repositioning Procedures , Geotrophic vs Apogeotrohpic Nystagmus and treatment,
**Task 2:** Cervicogenic Rehabilitation Exercises
**Task 3:** Sub-symptom Threshold cognition, Work/Play/School Status,
**Task 4:** Psychological Treatment/Referral, PTSD, PHQ-9, GAD-7

# Section D – Diagnostic Ultrasound

## Pillar II: subspecialty Task 1 (or subtask of task 5)*

To perform and interpret ultrasound imaging studies relevant to neuromusculoskeletal pathologies.

**Task 1 Knowledge:**
1. Clinical indications for and relative value of ultrasound diagnostic studies.
2. Systemic diseases that may have ultrasound imaging manifestations.
3. The sonographic appearance of normal human anatomy
4. The terminology relevant to ultrasound imaging.
5. The principles, applications, technical and procedural elements employed in Ultrasound imaging.
6. The sonographic appearance of pathology.
7. Common ultrasound imaging artifacts.
8. The location of relevant anatomical structures

**Task 1 Skills:**
1. Ability to select which structures need to be imaged *and the best way to image them.
2. Ability to correctly interpret and correlate findings with the physical examination and patient's complaints and history to inform the clinical impression.
3. Ability to choose appropriate settings and an appropriate probe.

## *Pillar V: Subspecialty Task 1 (or subtask of Task 2)*

Re-examine the patient using diagnostic ultrasound and compare the current findings to original findings to determine the current nature of the patient's problem(s) and their response to care.

**Task 1 Knowledge:**
1. Clinical indications for and relative value of ultrasound diagnostic studies.
2. Systemic diseases that may have ultrasound imaging manifestations.
3. The sonographic appearance of normal human anatomy
4. The terminology relevant to ultrasound imaging.
5. The principles, applications, technical and procedural elements employed in Ultrasound imaging.
6. The sonographic appearance of pathology.
7. Common ultrasound imaging artifacts.
8. The location of relevant anatomical structures

**Task 1 Skills:**
1. Ability to select which structures need to be imaged *and the best way to image them.
2. Ability to correctly interpret and correlate findings with the physical examination and patient's complaints and history to inform the clinical impression.
3. Ability to choose appropriate settings and an appropriate probe.

## *Pillar VI: Subspecialty

**Task 1***
To produce ultrasound imaging records consistent with acceptable standards

**Task 1 Knowledge:**
1) Best practices when creating ultrasound imaging reports: minimum required information and image annotation.
2) Minimum standards for insurance billing
**Task 1 Skills:**
1) Ability to create ultrasound imaging reports adhering to best practices.

# *Section E – Geriatrics*

**Chiropractic Geriatric Medicine**
**Chiropractic Geriatric Medicine (Chiropractic Geriatrics)**

**A specialty practiced by Board certified Chiropractic Physicians/Doctors of Chiropractic who also hold certification **based on fellowship training and knowledge of the aging process and special skills in the diagnostic, therapeutic, preventive, and rehabilitative healthcare of the elderly.**

**Chiropractic Geriatrics is the specialty focused on high-quality, patient-centered care that is especially critical in an aging population.**

**"High-quality care" aims to improve the health, independence, and quality of life for older people.**

**"Patient-centered care" fosters a relationship of trust, exchange of information, emotional management, shared decision making and personal priorities.**

**Patient History and Interview**
**Task 1**
Obtain patient information for review to determine demographics, symptoms, complaints, co-existing and past disorders, family history, lifestyle, occupational history, prior diagnoses, prior treatments, medications, hospitalizations, surgeries, injuries, disabilities, psychosocial status and other possible effectors of the patient's health.
Task 1 Knowledge:

1. Relevance of patient's age, gender, and other demographic data to various diseases and conditions.
2. Present occupational and environmental hazards that relate to disease.
3. Relationship of symptoms to multiple diseases and conditions. Relevance of a patient's family history to various diseases (hereditary neurological/orthopedic disease).
4. Pharmaceutical agents that may have side effects and drug interactions.
5. Neurological/orthopedic and systemic diseases implicated by the patient's chief complaint.
6. Relevance of co-morbid conditions with the chief complaint.

7. Nutritional supplemental agents that have side effects and/or drug interactions.
8. Effects and adverse effects of various forms of treatment.
9. Nonorganic diseases with neurological/orthopedic manifestations.
10. Ethics and professional boundaries of history taking (e.g., confidentiality, not minimizing the significance of a patient's complaint).
11. Personal history issues that may affect the patient's present health (e.g. abuse, exposure to substances, work, sports or military history, trauma, socioeconomic/educational factors, nutrition, addiction, sexual history, STDs, mental health, past diagnoses, etc).
12. Patient's sense of their present health, nutrition, exercise, sleep, quality of life, living conditions, social or support structure, limitations, barriers and goals, emotional status, concerns and priorities.
13. Potential and present boundaries or reasons for non-completion of recommended or prescribed consultations or treatments.
14. Accommodation for patients with disabilities or language barriers to ensure accurate history and dialogue.
15. Use of appropriate documentation forms and screening tools.

**Task 1 Skills:**

5. Conduct the history in a clear, concise, and organized manner, with accommodation for any dialogue barriers. Employing active listening and communication with the patient at the appropriate literacy level. Utilize non-judgmental open ended questions.
6. Modify and apply history taking skills appropriate to challenging situations and difficult patients.
7. Identify which health providers, networks and other individuals are permitted to be consulted or have access to the patient's healthcare information.
8. Determine the patient's sense of their health status, safety, function and contributing factors or barriers (functional, financial, social, etc.).
9. Determine patient's present needs (services or items) for independent function.
10. Determine the patient's main concern and priorities.
11. Question the patient with appropriate depth pursuant to all relevant health concerns and symptoms.
12. Determine if there are any potential life-threatening conditions and if the patient carries emergency response treatment with them.
13. Determine if there are any allergies, dietary restrictions or preferences.
14. Determine all present health providers of services, products and pharmaceuticals (office, home or community based).
15. Determine list of pharmaceuticals, OTC medications or nutritional supplements, the prescribing provider or source, the indication, dosage and patient's perceived effect.
16. Determine if there have been recommended or prescribed consultations or treatments from other providers that have not been completed and the reason for non-completion.

17. Accurately record narratively elicited information and develop an initial problem list.

18. Obtain authorization/release for and acquisition of relevant patient records.

**Physical Examination**

**TASK 1**
The most valuable tool for diagnosing and diseases in geriatric patients is a comprehensive history and physical examination.
Review of systems (1) is the thread that links the (2) personal (patient-centered history) with the (3) objective (provider-focused observation and physical examination).
These three components are the cornerstone of critical thinking that allows for accurate diagnosis and early treatment.

**Task 1**
Obtain the patient's vital signs with observation and instrumentation to establish the patient's baseline and interpret abnormalities.

**Task 1 Knowledge:**

1. Well-patient anthropometric standards for patient's age.

2. Professional boundaries of performing the examination (e.g., unnecessary disrobing).

3. Relevance of normal and abnormal findings.

4. Knowledge of options and alternatives for assessment if standard procedures cannot be utilized.

**Task 1 Skills:**

3. Ability to obtain pulse, blood pressure, pulse oxygen saturation, height, weight and respiration rates using appropriate instruments for the specific patient.

**Task 2**

1 Assess the patient by observation to determine normality and abnormalities.

**Task 2 Knowledge:**

1 Well-patient anthropometric and functional standards for the patient's specific age.
2 Professional boundaries of performing the examination (e.g., unnecessary disrobing).
3 Relevance of normal and abnormal findings.
4 Normal human anatomy.
5 Options and alternatives if standard observational procedures cannot be utilized.
6 Specific observations required for type of assessment.

**Task 2 Skills:**

1 An ability to inspect and recognize normals and abnormalities and to utilize alternative methods of inspection if warranted.

**Task 3**

1 Correlate information by applying clinical rationale and required assessments to select appropriate physical, neurologic, and orthopedic examination procedures.

**Task 3 Knowledge:**

**1** Neurological, orthopedic and systemic diseases indicated by the patient's chief complaints
2 Pharmaceutical agents that may have side effects and drug interactions.
3 Hereditary patterns of disease.

4 Occupational and environmental hazards and geographic conditions that might relate to the disease.
5 Systemic diseases and comorbidities especially those that may have neurological/orthopedic manifestations.
6 Adverse effects of various forms of patient self-care, habits or lifestyle.
7 Normal human anatomy.
8 Neurological, orthopedic, and other physical examination procedures.
9 Required evaluation procedures based on type of assessment performed.
10 Past history of factors that may affect patient's present complaints
11 Other providers' recommendations or prescribed treatments and their effect on the present condition.

**Task 3 Skills:**

**1** Skill in selecting appropriate tests or examination procedures with minimum redundancy and a high degree of specificity or sensitivity.
2 Skill in selecting required screenings

**Annual Wellness Visit, Screenings**

CMS/Medicare and other reimbursement entities require specific assessments and specific components of those assessments relative to geriatric patients. Chiropractic geriatricians should be knowledgeable of, be able to discern the appropriateness of and be able to perform those assessments. They should also be knowledgeable of appropriate action indicated by the assessment outcomes including referral to another professional. Some components require in depth discussion with the specific patient, completion of specific documents or potential referral to another professional. Chiropractic geriatricians should be knowledgeable of and able to demonstrate or discuss the factors involved in those components, their completion and indications for further action including referral to another professional.

**Task 1 Knowledge:**
Knowledge of the types and components of required geriatric assessments. (e.g. Annual Wellness Visit)

**Task 1 Skills:**
Demonstrate the ability to state the basic required geriatric assessments and their components.

**Task 2 Knowledge:**
Knowledge of acceptable options for required screenings or components of required geriatric assessments.

**Task 2 Skills:**
Demonstrate the ability to discern the best acceptable options for components of required geriatric assessments

**Task 3 Knowledge:**
Knowledge of the skills to perform or complete components of the AWV and similar required geriatric assessments.

**Task 3 Skills:**
Demonstrate administering or performing components of the AWV and similar required geriatric assessments.

**Task 4 Knowledge:**
Knowledge of indications of assessments and screenings and action steps for positive findings.

**Task 4 Skills:**
Demonstrate the ability to discuss the indications of various components of required assessments and screenings and what further actions could be taken in response to positive findings.

**Task 5 Knowledge:**
Knowledge of components of geriatric patient assessments requiring individual interviews, specific documents and/or referral.

**Task 5 Skills:**
Demonstrate the ability to discuss the interview process, specific documents or referral relative to components of required assessments.

**Pharmaceuticals, Supplements, Nutrition**
**Task 1**
Due to comorbidities and other factors, geriatric patients often present with polypharmacy (prescribed, OTC and self-administered medications, herbs and supplements). It is critical to recognize the appropriate use and potential side effects or interactions of these substances.

**Task 1 Knowledge:**
Knowledge of common pharmaceuticals prescribed for geriatric patients and common supplements with the indications, contraindications and potential side effects from them.

**Task 1 Skills:**
Demonstrate the ability to utilize available sources to ascertain the use, indications, contraindications and potential side effects of a specific patient's prescribed medications and supplements.

**Task 2**
Some medications are inappropriate, ineffective or produce side effects that supersede the desired effects in certain geriatric patients. Furthermore, geriatric patients may have specifically prescribed or self-imposed dietary habits or nutritional intake.

**ask 2 Knowledge:**
Knowledge of Beer's Criteria, pharmacogenomics and other methods of assessing potential interactions, appropriateness, safety and efficacy of the pharmaceutical, supplement, dietary habits and nutritional intake of a specific patient.

**Task 2 Skills:**
Demonstrate the ability to utilize Beer's Criteria, pharmacogenomics and other available sources to assess potential interactions, appropriateness, safety and efficacy of the pharmaceutical, supplemental, dietary habits and nutritional intake of a specific patient.

**Task 3**
Geriatric patients may have diverse nutritional needs, dietary requirements or restrictions. Dehydration is a frequent finding in geriatric patients.

**Task 3 Knowledge:**
Knowledge of nutritional requirements for geriatric patients, including hydration, as well as indications or implications of paucity or excess, and common sources for specific nutrients.
Knowledge of specialized diets, nutritional needs, allergic responses and other individualized recommendations in geriatric patients.

**Task 3 Skills:**
Demonstrate the ability to utilize available sources to ascertain nutritional requirements for geriatric patients, including hydration.
Demonstrate the ability to recognize indications or implications of paucity or excess of specific nutrients.
Demonstrate the ability to utilize available sources to determine and recommend common sources for specific nutrients.
Accounting for special or individual needs, demonstrate the ability to assess and advise a specific geriatric patient regarding their diet, nutritional intake and hydration.

**Posture, Gait, Balance**
**Task 1**
Posture, gait and balance are all critical components of a geriatric patient's safety, health and well being. The

knowledge and skill of assessing those factors as well recognition and treatment for abnormalities could prove to be life-saving for the immediate impact as well as the implications of forced immobility due to injury.

**Task 1 Knowledge:**
Knowledge of assessment of posture, balance and gait, normal and abnormal, and what conditions any abnormalities might indicate.

**Task 1 Skills:**
Demonstrate the basic assessment of a geriatric patient's posture, balance and gait, determination if they are in normal parameters and the recognition of any abnormalities

**Task 2 Knowledge:**
Knowledge of indicated tests based on suspected causes of abnormalities in a geriatric patient's posture, balance or gait.

**Task 2 Skills:**
Demonstrate or indicate what further assessment(s) would utilized to determine potential causes of abnormalities

**Task 3 Knowledge:**
Knowledge of conditions resulting from abnormal posture, balance and gait in geriatric patients.

**Task 3 Skills:**
Discuss health conditions that may result from or be exacerbated by abnormal posture, balance or gait in geriatric patients.

**Task 4 Knowledge:**
Knowledge of sources of potential treatment or correction of posture, balance or gait abnormalities in geriatric patients.

**Task 4 Skills:**
Discuss potential forms of treatment or mitigation that might aid in treatment of posture, balance or gait abnormalities in geriatric patients.
(consider manipulation, modalities, orthotics, exercise as well as treatment of any underlying contributing condition)

**Task 5 Knowledge:**
Knowledge of risk factors for geriatric patient falls and means of mitigation. (e.g. rug removal, footwear, balance training, grab bars)

**Task 5 Skills:**
Discuss risk factors for geriatric patient falls and means of mitigation.

**Special Geriatric Assessments**
Geriatric patients may display or report health concerns beyond their chief complaint or these issues may be encountered during patient assessment or treatment. Some of these may be life threatening. Chiropractic geriatricians should be able to recognize these concerns and articulate the need for appropriate diagnosis and treatment

**Task 1 Knowledge:**
Knowledge of the risk of swallowing abnormalities, assessment of and resources for mitigation of swallowing abnormalities in geriatric patients.

**Task 1 Skills:**
Discuss swallowing abnormalities and the risks associated with them. Demonstrate methods of mitigation or

referral sources for assessment and correction.

**Task 2 Knowledge:**
Knowledge of common dermatological conditions in geriatric patients and resources for diagnosis and treatment of those conditions.

**Task 2 Skills:**
Recognize common dermatological conditions in geriatric patients and resources for diagnosis and treatment of those conditions.

**Task 3 Knowledge:**
Knowledge of sleep conditions and disturbances in geriatric patients, especially those that might indicate or generate a serious health condition and means and resources for assessment, mitigation and treatment.

**Task 3 Skills:**
Discuss common sleep conditions and disturbances in geriatric patients, potential indications and means of assessment, mitigation and treatment.

**Disabilities**
Geriatric patients may present with one or more disabilities in addition to their primary complaint. Chiropractic geriatricians should have knowledge of common disabilities, terminology used to describe the disability and the means to increase accessibility or accommodate the disability during clinic navigation, history or interview, communication, examination and treatment. This may involve clinic access or safety additions, technology, assistive devices, options for communication as well as communication skills.

**Task 1 Knowledge:**
Knowledge of potential disabilities or other factors that might be a barrier to access, communication, safety, examination or treatment of geriatric patients and potential methods of mitigation of those factors.

**Task 1 Skills:**
Discuss common disabilities in geriatric patients that might provide barriers to a positive patient experience and what accommodations or mitigations might be utilized to improve that experience.

**Task 2 Knowledge:**
Knowledge of appropriate terminology and communication skills to be used in communication with geriatric patients with disabilities.

**Task 2 Skills:**
Ability to discuss appropriate terminology and communication with geriatric patients with disabilities.

**Task 3 Knowledge:**
Knowledge of assistive devices or technology for geriatric patients with disabilities and sources for those devices or technology.

**Task 3 Skills:**
Discuss assistive devices, technology or resources that might be recommended for geriatric patients with disabilities and sources for them.

**Comorbidities**
Along with their chief (neuromusculoskeletal) complaint, geriatric patients may have one or more co-morbidities. These co-morbidities may contribute to the presentation or intensity of the chief complaint and complicate its assessment. Co-morbidities often indicate polypharmacy. Furthermore, assessment or treatment of the chief (neuromusculoskeketal) complaint may impact the co-morbidities. The chiropractic geriatrician should have knowledge of the common co-morbidities in geriatric patients, the usual treatments or pharmaceuticals prescribed for those conditions, the impact of those conditions on neuromusculoskeletal complaints and

potential effects of treatment of neuromusculoskeletal complaints on those co-morbidities.

**Task 1 Knowledge:**
Knowledge of common comorbidities in geriatric patients, appropriate diagnostic procedures and the standard treatment for those comorbidities.

**Task 1 Skills:**
Demonstrate the ability to define common co-morbidities in geriatric patients and standard diagnostic procedures and treatment for them.

**Task 2 Knowledge:**
Knowledge of how common comorbidities could affect evaluation, treatment and outcomes of geriatric patients and possible methods of compensating for those factors.

**Task 2 Skills:**
Demonstrate and discuss the effects of common geriatric co-morbidities on assessment, treatment and anticipated outcomes of primary neuromusculoskeketal complaints.

**Task 3 Knowledge:**
Knowledge of how common evaluation and treatment procedures in the chiropractic clinic could affect comorbidities and alternatives to mitigate any negative outcomes. (e.g. pacemaker, osteopenia)

**Task 3 Skills:**
Demonstrate and discuss potential effects of assessment and treatment of neuromusculoskeletal complaints on common geriatric co-morbidities and options to mitigate any potential negative outcomes.

**Task 4 Knowledge:**
Knowledge of conditions that may have unusual presentations in geriatric patients.

**Task 4 Skills:**
Ability to discuss co-morbidities or neuromusculoskeletal conditions that may have atypical presentations in geriatric patients and methods of screening for them.

**Task 5 Knowledge:**
Knowledge of non-neuromusculoskeletal conditions that may mimic or display symptoms of neuromusculoskeletal disease.

**Task 5 Skills:**
Ability to discuss non-neuromusculoskeletal conditions that may mimic or display neuromusculoskeletal signs or symptoms and methods of screening for them.

**Communication Skills**
Geriatric patients may have one or more disabilities or conditions that may affect usual communications between the patient and staff or physician (e.g. hearing, vision, literacy). This could occur outside of the actual office encounter, during the patient's intake or history, during assessment or examination or during reporting of findings, recommendations or treatment. Chiropractic geriatricians should be aware of these potential situations and provide alternatives to improve communication. Also, chiropractic geriatricians should be aware of terminology, forms of address, assumptions, elderspeak and other facets of communication with geriatric patients that could prove offensive or indicate the physician's or staff's lack of concern. Conversations should be patient-centric with continued focus on the patient's main concern or goal.
With patient-centric care in mind, chiropractic geriatricians should be aware of a geriatric patient's personal focus on restorative treatment vs palliative care and be able to offer treatment recommendations and prognoses based on that specific patient's goal.
Some concerns of geriatric patients may involve conversations about sensitive topics such as driving ability, urinary or sexual dysfunction or sleep. Chiropractic geriatricians should be aware of these concerns and

demonstrate the ability to address them respectfully and offer appropriate recommendations.

**Task 1 Knowledge:**
Knowledge of communication skills relative to geriatric patients with communication disabilities.

**Task 1 Skills:**
Discuss and demonstrate the ability to accommodate a patient with a potential communication disability to address their out of office communication as well as any in office communication and interaction**.**

**Task 2 Knowledge:**
Knowledge of communication skills with geriatric patients especially those involving sensitive issues (e.g. driving, urinary or sexual dysfunction, sleep).

**Task 2 Skills:**
Discuss and demonstrate the ability to discuss sensitive issues with a geriatric patient as well as recommendations for assessment or treatment.

**Task 3 Knowledge:**
Knowledge of appropriate terminology and forms of address and the avoidance of assumptions, elderspeak and other verbiage utilized with geriatric patients.

**Task 3 Skills:**
Discuss and demonstrate appropriate terminology and forms of address and the avoidance of assumptions, elderspeak and other verbiage utilized with geriatric patients.

**Task 4 Knowledge:**
Knowledge of performing and maintaining a patient-centered interview, examination, report of findings, recommendations and treatment of a geriatric patient, respecting their goals and priorities.

**Task 4 Skills**
Discuss and demonstrate a patient-centered interview, examination, report of findings, recommendations and treatment of a geriatric patient, respecting their goals and priorities.

**Emotional, Psychological & Non-organic Conditions**
The physical health of geriatric patients may be impacted by emotional, psychological or non-organic conditions. The chiropractic geriatrician should have knowledge of factors in the geriatric patient's life and environment that may contribute to these conditions. There is also increasing concern for opioid use or abuse in geriatric patients. The chiropractic geriatrician should be alert to and have knowledge of signs of these conditions and resources for mitigation or treatment of them. Furthermore, the role of caregiver for a geriatric patient, especially if the caregiver is also an older individual, provides increased stressors and impacts on physical and mental health. The chiropractic geriatrician should be alert for signs of these effects in the caregiver and offer recommendations for mitigation. Finally, suspected elder abuse is a reportable condition for physicians. Chiropractic geriatricians should be aware of signs of abuse and the methods of reporting.

**Task 1 Knowledge:**
Knowledge of emotional, psychological or non-organic conditions affecting especially geriatric patients. (dementia, loneliness, grief)

**Task 1 Skills:**
Ability to discuss the various emotional, psychological and non-organic conditions that may affect geriatric patients as well as their sources or contributing factors.

**Task 2 Knowledge:**
Knowledge of how emotional, psychological and non-organic conditions may manifest and their potential effect on the geriatric patient's physical health.

**Task 2 Skills:**
Ability to discuss how emotional, psychological and non-organic conditions may manifest and their potential effect on the geriatric patient's physical health.

**Task 3 Knowledge:**
Knowledge of methods and sources of assessment, mitigation and treatment of emotional, psychological or non-organic conditions in geriatric patients.

**Task 3 Skills:**
Ability to discuss means of assessment, mitigation and treatment of emotional, psychological or non-organic conditions in geriatric patients including sources of referral.

**Task 4 Knowledge:**
Knowledge of signs of abuse in geriatric patients and means of reporting.

**Task 4 Skills:**
Demonstrate and discuss types, methods of recognition and assessment of potential elder abuse in a geriatric patient and means of reporting.

**Task 5 Knowledge:**
Knowledge of signs of caregiver syndrome or fatigue and means of mitigation.

**Task 5 Skills:**
Discuss the signs of caregiver syndrome or fatigue both in geriatric patients or in caregivers themselves and treatment and recommendations of self-care or sources of mitigation.

***Task 6 Knowledge:**
Knowledge of contributing factors in and dangers of opioid use or abuse in geriatric patients and means of prevention and treatment for overdose.

**Task 6 Skills:**
Discuss the contributing factors and dangers of opioid use or abuse in geriatric patients and means of prevention as well as demonstration of treatment for opioid overdose.
[*this is also one of the required components of certain CMS/Medicare assessments]

# *Section F – Manipulation Under Anesthesia*

Candidates who have completed the IANM certification process and are board certified by the IANM or an equivalent board, and -who desire to obtain additional certification as a Fellow in Manipulation Under Anesthesia, must provide a certificate of completion in an IANM approved course in Manipulation Under Anesthesia. This Fellowship also includes at least 50 hours in Primary Care observation.

A minimum of 100 hours is required to be eligible to sit for the Manipulation Under Anesthesia

examination administered by the IANM.

Additional requirements and Pillar items to be added.

# Section G – Primary Care

### Minimum IANM Specialty Fellowship Requirements for Primary Care

Candidates who have completed the IANM certification process and are board certified by the IANM or an equivalent board, and -who desire to obtain additional certification as a Fellow in Primary Care, must provide a certificate of completion in an IANM approved course in Primary Care. This Fellowship also includes at least 50 hours in Primary Care observation.

A minimum of 100 hours is required to be eligible to sit for the Primary Care examination administered by the IANM.

Additional requirements and Pillar items to be added.

# Section H – Sports Neuromusculoskeletal Medicine

**Pillar 1. Patient History and Interview**

**Task 1. Be able to tailor the history and interview process to not only the active individual, but the individual sport athlete, and the team sport athlete**

## Task 1 Knowledge

1. Understand specific athletic and sporting history questions
2. Understand the concept of early sport specialization
3. Demonstrate knowledge of different type of active individuals (youth, recreational, collegiate, professional)
4. Demonstrate a basic understanding of most sports and athletic activities as they pertain to injury
5. Have knowledge about current supplements that active individuals maybe taking within the injury healing process
6. Have knowledge about the role of orthobiologics active individuals may have tried in their injury healing process

## Task 1 Skill

1. Be able to conduct a proper history in many different environments that may not private or quiet
2. Be able to conduct a condensed patient history while still obtaining the most pertinent information
3. Be able to connect the sport or physical activity to asking relevant history questions
4. Be able to make the patient feel comfortable in different types of environments

**Task 2. Be able to obtain concurrent history from other healthcare professionals such as athletic trainers and strength and conditioning coaches**

## Task 2 Knowledge

1. Know how to work with different members of an athlete's potential healthcare team
2. Understand how and who to find pertinent information from when the athlete may not have it or know it
3. Understand that different professionals will have different, yet equally valuable pieces of information to contribute for patient care
4. Be able to have respect for the other members of the performance health team

## Task 2 Skill

1. Demonstrate the ability to consume information from different sources in the history taking process
2. Demonstrate the scope of practice of different members of the performance healthcare team in their relation to the patient
3. Understand the roles of different members in the healthcare team and their interaction with the patient

**Pillar 2. Physical, Laboratory, and Diagnostic Imaging Examination**
**Task 1. Appreciate physical and anthropometric data specific to a sport**

## Task 1 Knowledge

1. Demonstrate mastery in knowledge specific to sport
2. Understand how anthropometry intertwines with biomechanics in sport
3. Appreciate how the physical characteristics of athletes affects their performance and injury profile
4. Understand the anthropometry of the human body

## Task 1 Skill

1. Be able to assess height and weight of an athlete
2. Be able to calculate and interpret the BMI of an athlete
3. Be able to understand normative levels of body fat within different sports

4. Be able to understand normative levels of body fat within different types of athletes

**Task 2. Be able to interpret blood panels appropriate to sport and physical activity**

## Task 2 Knowledge

1. Demonstrate an understanding of exercise physiology testing specific to athlete fitness levels
2. Demonstrate an understanding of pathology specific impairments to physical activity and sport
3. Understand how internal metabolic diseases can impair physical performance

## Task 2 Skills

1. Accurately interpret physiologic lab tests such as blood lactate results along with their meanings
2. Accurately describe the different types of anemias and their potential for hinderance in sport
3. Understand measures like fasting blood glucose, cortisol, etc. and their implication on sport performance

**Task 3. Be able to recognize orthopedic injuries both acute and chronic on advanced imaging such as MRI, CT, and Diagnostic Ultrasound as an advanced practitioner**

## Task 3 Knowledge

1. Demonstrate mastery in the rationale of using MRI for the diagnosis of injuries within sport
2. Demonstrate mastery in the rationale of using CT for the diagnosis of injuries within sport
3. Demonstrate mastery in the rationale of using Diagnostic Ultrasound of injuries within sport
4. Understand the indications and contraindications of when to use imaging in the diagnosis of sport injuries with different types of patients

## Task 3 Skills

1. Be able to interpret and convey findings of an MRI in any portion of the body as it relates to sport injuries
2. Be able to interpret and convey findings of a CT in any portion of the body as it relates to sport injuries
3. Be able to interpret and convey findings of a Diagnostic Ultrasound in most portions of the body as it relates to sport injuries

**Pillar 3. Most Likely Diagnosis Formulation and Differential Diagnosis Development**
**Task 1 Be able to work as part of an inter-disciplinary team to establish a differential diagnosis**

## Task 1 Knowledge

1. Know the other roles of the high-performance medical team
2. Appreciate the complexity of the team environment, especially when financials are involved and how that may affect clinical judgement
3. Understand the concept of being ‘non-biased’

## Task 1 Skills

1. Being an effective communicator
2. Being humble
3. Having the ability to be a good listener
4. Being able to take criticism

**Task 2 Be able to work collaboratively as a team with athletic trainers, physical therapists, strength and**

**conditioning coaches, registered dieticians, and sport psychologists**

## Task 2 Knowledge

1. Know the role of an athletic trainer within that sport
2. Know the role of a physical therapist within that sport
3. Know the role of a strength and conditioning within that sport
4. Know the role of a registered dietician within that sport
5. Know the role of a sport psychologists within that sport

## Task 2 Skills

1. Be able to integrate and collaborate with an athletic trainer in caring for an athlete while formulating a differential diagnosis
2. Be able to integrate and collaborate with a physical therapist in caring for an athlete while formulating a differential diagnosis
3. Be able to integrate with a strength and conditioning coach in caring for an athlete
4. Be able to integrate with a registered dietician in caring for an athlete
5. Be able to integrate with a sport psychologist in caring for an athlete

**Task 3 Use advanced analytical thinking, movement analysis, and special testing to rule out/in pathology and arrive at a most likely diagnosis**

## Task 3 Knowledge

1. Possess advanced knowledge in the field in the field of movement science
2. Possess advanced proficiency in clinical biomechanics
3. Have knowledge of how pathomechanics contribute to injury in multiple types of sports
4. Have knowledge of special tests in the spine
5. Have knowledge of special tests in the extremities

## Task 3 Skills

1. Have the ability to perform a full-body movement assessment
2. Have the ability to perform a joint specific movement assessment
3. Have the ability to perform a sport specific movement assessment
4. Have the ability to perform spinal special tests as they relate to patient signs/symptoms
5. Have the ability to perform extremity special tests as they relate to patient signs/symptoms

**Pillar 4. Preparation and Implementation of Treatment Plans**
**Task 1 Be able to create, communicate, and defend a treatment plan for acute, sub-acute, and chronic injuries**

## Task 1 Knowledge

1. Understand the physiologic phases of healing
2. Understand how the different tissues of the bodies heal (bone, muscles, tendons)
3. Possess advanced knowledge of acute injuries as they relate to sport
4. Possess advanced knowledge of sub-acute injuries as they to sport
5. Possess advanced knowledge of chronic injuries as they relate to sport

## Task 1 Skills

1. Be able to formulate a full treatment plan for an acute injury across many sports
2. Be able to formulate a full treatment plan for a sub-acute injury across many sports
3. Be able to formulate a full treatment plan for a chronic injury across many sports

4. Be able to communicate treatment plans to different types of stakeholders

Task 2 Be able to take individuals from injury diagnosis to return to performance within the full spectrum of performance medicine

## Task 2 Knowledge

1. Understand the difference between return to play, return to sport, and return to performance
2. Understand the different phases of rehabilitation

## Task 2 Skills

1. Be able to provide the highest level of return of play to athletes depending on their goals on the spectrum of return to performance
2. Implement the different phases of rehabilitation

**Task 3 Understand and implement advanced concepts of rehabilitation, exercise therapy, and strength and conditioning**

## Task 3 Knowledge

1. Possess mastery in rehabilitation of the spine as it relates to sport
2. Possess mastery in rehabilitation of the upper extremity as it relates to sport
3. Possess mastery in rehabilitation of the lower extremity as it relates to sport
4. Possess competency in creating strength and conditioning programs within the rehabilitation process

## Task 3 Skills

1. Demonstrate a comprehensive plan of a spinal injury in sport
2. Demonstrate a comprehensive plan of an upper extremity injury in sport
3. Demonstrate a comprehensive plan of a lower extremity injury in sport
4. Demonstrate a supportive strength and conditioning plan as an athlete returns to their sport

**Task 4 Understand and Implement return to play protocols**

## Task 4 Knowledge

1. Have knowledge on isometric testing
2. Have knowledge on isokinetic testing
3. Have knowledge into force plate monitoring

## Task 4 Skills

1. Be able to conduct and interpret isometric testing on multiple devices
2. Be able to administer and interpret isokinetic testing
3. Be able to conduct and interpret force plate testing on multiple devices

**Task 5 Be able to explain and defend current return to play protocols specific to a sport or activity**

## Task 5 Knowledge

1. Have a working knowledge of return to running benchmarks
2. Have a working knowledge of return to jumping benchmarks
3. Have a working knowledge of return to contact benchmarks

## Task 5 Skills

1. Provide rationale for when an athlete can return to running
2. Provide rationale for when an athlete can return to jumping

3. Provide rationale for when an athlete can return to contact

**Pillar 5. Assessment and Conclusion of Care**
Task 1. Be able to transition care appropriately within the sport environment

## Task 1 Knowledge

1. Understand that in sport, care is rarely concluded and rather it is performed on a continuum by different providers
2. Be able to assume differing levels of responsibilities for the athletes at stages of their injury/performance career
3. Be able to share information as it pertains to their care with the appropriate healthcare providers

## Task 1 Skills

1. Be able to transition care up and down the chain of command
2. Be able to communicate often with many different stakeholders regarding the status of the athlete
3. Be able to play differing levels of roles within the performance health team

**Pillar 6. Health Care Record Management, Clinical Documentation, and Medicolegal Reporting**

1. The Sports Fellow must have a strong documentation system with all of their patient activities

## Task 1 Knowledge

1. Beyond the team or organization, the fellow must understand the specific laws of their state when it comes to patient documentation

## Task 1 Skills

1. The fellow must have a robust documentation system beyond what their organization may offer unless they are full-time employees of said organization and have their own EMR system

2. The sports fellow must have a clear role delineation within their team or organization(s) that allows them to provide the highest and safest level of care

## Task 2 Knowledge

1. The sports fellow should have their own clear job description

## Task 2 Skills

1. Be able to convey the worth of a sports neuromusculoskeletal medicine fellow beyond that of a traditional chiropractor
2. Be able to convey the value of having a sports NMSK Medicine fellow on staff as a full-time practitioner
3. Be able to explain the difference between a traditional, residency-trained, diplomate, and fellowship trained chiropractor.

# *Section I – Cervical*

# *Whiplash Injury*

## Minimum IANM Specialty Fellowship Requirements for Cervical CAD/Whiplash Injury

Candidates who have completed the IANM certification process and are board certified by the IANM or an equivalent board, and -who desire to obtain additional certification as a Fellow in Cervical CAD/Whiplash Injury, must provide a certificate of completion in an IANM approved course in Cervical CAD/Whiplash Injury. This Fellowship also includes at least 50 hours in concussion management

A minimum of 100 hours is required to be eligible to sit for the Cervical CAD/Whiplash Injury Examination administered by the IANM.

The specialty program in Cervical CAD/Whiplash Injury must focus on, but is not limited to:

1. Current Concepts in Cervical Acceleration/Deceleration Injuries
2. Current Research in CAD/Whiplash Injuries
3. Definitions of cervical whiplash
4. Overview of Anatomy
5. Biomechanical components
6. Mechanism of Injury
7. Signs and Symptoms
8. Specific Neurologic Symptoms
9. Cognitive or Delayed Symptoms
10. Diagnosis
11. Imaging
12. Management and Therapy
13. Outcome Measures
14. Accident Physics and Acceleration
15. Accident Reconstruction Myths
16. Prognosis
17. Complications
18. Permanent Partial Impairment
19. Prevention
20. Legal and Insurance Considerations
21. Summary

Consolidated Pillars to:

**A. Foundations of Cervical Acceleration–Deceleration Injury**

**Didactic Topics**

1. Current Concepts in Cervical CAD / Whiplash
2. Definitions and Classification Systems (WAD, Quebec Task Force, etc.)
3. Historical vs. Contemporary Perspectives
4. Epidemiology and Societal Impact

**Measurable Learning Objectives**

On completion, the Fellow will be able to:

1. **Define** cervical acceleration–deceleration injury using accepted international classifications.
2. **Differentiate** historical and current models of whiplash pathology.
3. **Explain** the epidemiologic burden and economic impact of whiplash injuries.
4. **Critically appraise** contemporary literature regarding whiplash mechanisms and outcomes.

**B. Relevant Anatomy & Neuroanatomy**

**Didactic Topics**

1. Functional Cervical Spine Anatomy
2. Disc, Ligament, and Facet Anatomy
3. Upper Cervical (C0–C2) Complex
4. Spinal Cord, Nerve Root, and ANS Anatomy
5. Vertebral Artery and Cervical Vascular Structures

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Identify and label** all critical osseous, discal, ligamentous, and neurovascular cervical structures.
2. **Correlate** upper cervical anatomy with clinical symptom patterns.
3. **Differentiate** somatic vs. autonomic neurologic contributions to whiplash symptomatology.
4. **Apply** anatomic knowledge to mechanism-specific injury analysis.

**C. Biomechanics & Mechanisms of Injury**

**Didactic Topics**

1. Cervical Spine Biomechanics
2. Rear, Frontal, Side-Impact, and Rotational Mechanisms
3. Seat-Back Kinematics and Energy Storage
4. S-Curve Formation
5. ΔV, Rise Time, Pulse Duration
6. Accident Reconstruction Myths

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Describe** the phases of cervical motion during acceleration–deceleration events.
2. **Analyze** the biomechanical differences between rear-end, frontal, and oblique impacts.
3. **Interpret** ΔV, rise time, and crash pulse limitations in injury prediction.
4. **Refute** common reconstruction myths using biomechanical evidence.
5. **Integrate** occupant biomechanics with vehicle kinematics.

**D. Clinical Presentation**

**Didactic Topics**

1. Acute and Chronic Symptom Profiles

2. Neurologic Manifestations
3. Vestibular and Ocular Disturbances
4. Cognitive and Delayed Symptoms
5. Autonomic Dysfunction

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Recognize** acute vs. delayed symptom patterns of CAD injuries.
2. **Distinguish** peripheral cervical symptoms from central neurologic symptoms.
3. **Identify** vestibulo-ocular and autonomic indicators of injury.
4. **Correlate** symptom profiles with likely injured tissue types.

**E. Concussion & Mild Traumatic Brain Injury Integration**

*(Minimum 50 Hours Required) see Concussion Management Section*

**Didactic Topics**

1. Neurometabolic Cascade
2. Cervicogenic vs. Central Symptoms
3. Vestibulo-Ocular Reflex Dysfunction
4. Neurocognitive Testing
5. Sub-Symptom Threshold Rehab
6. Whiplash Without Head Strike
7. Persistent Post-Concussion Syndrome

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Explain** the neurometabolic cascade of concussion.
2. **Differentiate** cervicogenic dizziness from central vestibular dysfunction.
3. **Interpret** neurocognitive and oculomotor testing results.
4. **Design** a staged concussion rehabilitation protocol.
5. **Determine** when whiplash alone is sufficient to cause concussion.
6. **Assess** risk factors for persistent post-concussion syndrome.

**F. Diagnostic Evaluation**

**Didactic Topics**

1. Clinical Examination Protocols
2. Orthopedic and Neurologic Testing
3. Differential Diagnosis
4. Red Flags
5. EMG/NCS
6. Balance and Cognitive Testing

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Perform** a complete CAD-focused neurologic and orthopedic examination.
2. **Differentiate** whiplash injury from other cervical pathologies.
3. **Identify** red flags requiring urgent referral.
4. **Interpret** EMG/NCS findings in cervical trauma.
5. **Evaluate** postural control and balance impairment.

**G. Imaging**

**Didactic Topics**

1. Plain Film Radiography
2. CT and MRI
3. Disc, Facet, and Ligament Injury
4. DTI and Functional Neuroimaging
5. Imaging Pitfalls
6. Clinical-Radiologic Correlation

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Select** appropriate imaging modalities for CAD injuries.
2. **Identify** traumatic vs. degenerative imaging patterns.
3. **Interpret** DTI findings in traumatic brain injury.
4. **Recognize** false-negative and false-positive imaging results.
5. **Correlate** imaging findings with clinical presentation.

**H. Management & Treatment**

**Didactic Topics**

1. Acute, Subacute, and Chronic Care (Phases of Healing)
2. Conservative Treatment Strategies
3. Manual Therapy and Exercise
4. Vestibular and Oculomotor Rehab
5. Pharmacologic Considerations
6. Interventional Procedures
7. Multidisciplinary Care

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Develop** phase-specific treatment plans for CAD injuries.
2. **Select** evidence-based conservative and rehabilitative interventions.
3. **Implement** vestibular and oculomotor rehabilitation protocols.
4. **Evaluate** the role of pharmacologic and interventional therapies.
5. **Coordinate** multidisciplinary care for complex cases.

**I. Outcomes, Prognosis & Complications**

**Didactic Topics**

1. Outcome Measures
2. Prognostic Indicators
3. Risk Factors for Chronicity
4. Central Sensitization
5. Psychosocial Sequelae
6. Failed Whiplash Syndrome

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Apply** validated outcome measures to track recovery.
2. **Predict** prognosis based on clinical risk factors.
3. **Identify** early indicators of central sensitization.
4. **Assess** psychosocial contributors to chronic pain.
5. **Formulate** management strategies for failed whiplash cases.

**J. Permanent Impairment & Disability**

**Didactic Topics**

1. AMA Guides (5th & 6th Editions)
2. DRE vs. ROM Models
3. Cervical Impairment Rating
4. Apportionment & Causation
5. Functional Capacity Evaluation

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Calculate** cervical impairment using AMA Guides methodology.
2. **Differentiate** DRE and ROM impairment models.
3. **Determine** causation vs. pre-existing degenerative change.
4. **Apply** permanent work restrictions based on impairment data.

**K. Prevention & Public Safety**

**Didactic Topics**

1. Seat Design and Head Restraint Geometry
2. Vehicle Safety Systems
3. Injury Prevention Strategies
4. Workplace and Sports Applications

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Evaluate** vehicle safety features in injury prevention.
2. **Explain** head-restraint and seat-back design principles.
3. **Recommend** prevention strategies across occupational and sports settings.
4. **Educate** patients on risk reduction following CAD injury.

**L. Medico-Legal, Forensic & Insurance Considerations**

**Didactic Topics**

1. Documentation Standards
2. IME Methodology
3. Causation vs. Correlation
4. Crash Metrics vs. Clinical Evidence
5. Bias and Pseudoscience
6. Insurance Models
7. Expert Testimony Standards

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Prepare** legally defensible clinical documentation.
2. **Conduct** impairment-based IMEs using objective criteria.
3. **Analyze** causation using biomechanical and medical evidence.
4. **Identify** insurer-driven injury denial models.
5. **Apply** Daubert standards to expert testimony.

**M. Summary & Clinical Integration**

**Didactic Topics**

1. Case-Based Analysis
2. Evidence-Based Synthesis
3. Clinical Decision-Making
4. Biomechanical–Clinical Integration
5. Board Review Preparation

**Measurable Learning Objectives**

The Fellow will be able to:

1. **Synthesize** biomechanics, imaging, and clinical data into unified diagnoses.
2. **Formulate** defensible treatment and impairment opinions.
3. **Demonstrate** readiness for board-level clinical and written examinations.
4. **Apply** evidence-based decision-making to complex CAD cases.