IANM
Pillars of Practice

for
Advanced Practice
Nonsurgical
Neuromusculoskeletal Medicine
Specialists©

Study Guide
and
Examination Content
Blueprint

7th Edition

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Introduction

The specialty of chiropractic orthopedics dates to the late 1960s. Early pioneers in the specialty were devoted to the academics of advanced learning. The attention included its application within the profession and particularly to their patients.

A group of dedicated individuals continues to this day to strive for academic excellence in the content of material taught and the rigors of maintaining clinically relevant material, and the standardization of examining candidates to determine their proficiency.

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

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 practice were instrumental in the adoption of noninstitutional 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.[2]

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 every in 5-year cycles.[3],[4],[5],[6],[7] 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**

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[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] 2/23/93 First Edition Original Draft and Job Analysis adoption

[3] 9/1/98 Second Edition-First review and revision

[4] 2003 Third Edition-Second review and revision

[5] 2008 Fourth Edition-Third review and revision

[6] 2013 Fifth Edition-Fourth review and revision

[7] 2018 Sixth Edition-Fifth review and revision

Practice Nonsurgical Neuromusculoskeletal Medicine Specialist (AKA IANM Pillars of Practice).[8] ©

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

Fundamental Chiropractic Education

Specific fundamental chiropractic (Doctor of Chiropractic) educational requirements are the following: Of the four years of training to be a chiropractic doctor, two years of basic sciences are required, followed by completing National Boards, Part 1 successfully.

Following two years of chiropractic training in clinical sciences, students participate in the Part 2 National Boards examination. If the chiropractor plans to use physiological therapeutics, Part 3 of the National Boards chiropractic training is necessary. Part 4 tests three practical skill areas: Diagnostic imaging, Chiropractic Technique, and Case management.

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.

The minimum requirement is 300 hours of program studies to sit the Diplomate examination offered by the International Academy of Neuromusculoskeletal Medicine (IANM).

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

1. **Cerebral Vascular Disease/Vascular Disease**
2. **Central Nervous System (CNS)**
3. **Medical Conditions Resulting in Impairment or Disability**
4. **Musculoskeletal—Occupational and Sports Injuries**
5. **Neuromuscular Disorders**
6. **Spinal Cord Injury**
7. **Spine Disorders and Radiculopathy**
8. **Traumatic Brain Injury**
9. **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, Facilitating Learning, Leadership, and Evidence, Research, and Development.

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 chapters)

- **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**

[8] 2020 Seventh Edition-Sixth review and revision with ***retitling***

- **Health Care Record Management, Clinical Documentation, and Medicolegal Reporting**

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."*[9]

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*."[10], [11]

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 exemplars 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.

The listed references support all examination content exemplars.

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 chiropractic orthopedist.

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 on-

[9] http://www.hipaaspace.com/Medical_Billing/Coding/Healthcare.Provider.Taxonomy.Code.Set/111NX0800X

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

[11] 111NX0800X Taxonomy Code

line testing center or through an approved remote proctoring service during the published test window.

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 chiropractic orthopedist.
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 ©
2020 6th Review and Revision Committee

The International Academy of Neuromusculoskeletal Medicine initial specialty-wide pool for 2020 6th Review and Revision survey items included fifty-seven practicing specialists and educators. The Review and Revision Committee members are:

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[23] Strongly recommended by each Review and Revision Contributor

Pillar I

Patient History and Interview

Specific Tasks, Knowledge, and Skills

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 and 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's goal should be for the specialist to **encourage and support an open, two-way flow of information**. Failure to communicate effectively may contribute to poorer 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 Hx, prior Dx, prior Tx, 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 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.

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 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.

10. Effects and adverse effects of various forms of treatment.

11. Nonorganic diseases with neurological/orthopedic manifestations.

12. Professional boundaries of taking history (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 Exemplars for IANM Pillars of Practice Practice Pillar I *Patient History and Interview*

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

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. Axillary Nerve Injury
    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. Posterior Cruciate Ligament Tear
    o. Repetitive Posterior Glenohumeral Dislocation
    p. Rotator Cuff Lesion
    q. Thigh Adductor Strain

5. **Neuromuscular Disorders**
    a. Amyotrophic Lateral Sclerosis
    b. Brachial Plexopathies
    c. Carpal Tunnel Syndrome
    d. Elbow Dystonic Tremor
    e. Notalgia Paresthetica

f. Peripheral Sensitization (Component of Neuropathic Pain)
g. Posterior Interosseous Nerve Palsy
h. Radial Tunnel Syndrome
i. Referred Pain from Internal Organs
j. Reflex Sympathetic Dystrophy (Causalgia)
k. Thoracic Outlet Syndrome
l. Ulnar Nerve Entrapment (Cubital Tunnel Syndrome)
m. 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-Iii
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. Tarlov Cysts
q. Thoracic IVD Herniation
r. Thoracic Vertebral Compression Fracture
s. Thoracolumbar Junction Syndrome. (Maigne's Syndrome)
t. 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

IANM Pillars of Practice
Pillar I
Patient History and Interview
Global Category Content References

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Practice Pillar II

Physical, Laboratory, and Diagnostic Imaging Examination

Specific Tasks, Knowledge, and Skills

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:

1. Well-patient anthropometric standards.
2. Professional boundaries of performing the examination (e.g., unnecessary disrobing).
3. 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.

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, 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.

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's complaints and history.

IANM Pillars of Practice Global Categories and Examination Content Exemplars 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. Listed references support each exemplar topic in this Pillar.

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 Disability
   h. Multiple Sclerosis
   i. Olecranon Bursitis

4. **Musculoskeletal—Occupational and Sports Injuries**
   a. ACL 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. Elbow Radiculopathy
e. Entrapment Neuropathies
f. Pronator Teres Syndrome
g. Radial Tunnel Syndrome
h. Ulnar Neuropathy

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. Geriatric Upper Cervical Spine Fracture/Dislocation
g. Intercostal Neuralgia
h. L5 Disc Disease
i. Lumbar Osteomyelitis
j. Lumbosacral Transitional Segment
k. Osteitis Condensans Ilii
l. Sacroiliac Sprain
m. Sacroiliitis
n. Spondylolysis
o. Thoracic Kyphosis

8. Traumatic Brain Injury

a. Post-Concussive Syndrome
b. Traumatic Brain Injury

9. Musculoskeletal Disorders—General

a. Adhesive Capsulitis of Shoulder
b. Ankle Sprain in Elders
c. Avascular Necrosis of The Hip
d. Carpal Instabilities.
e. Carpal Tunnel Syndrome
f. Costochondritis
g. Cruciate Ligament Injury
h. Femoroacetabular Impingement/Labral Tear
i. Greater Trochanteric Syndrome
j. Hip Fracture
k. Knee Internal Derangement
l. Knee, Normal Variants, Common Pathology on MRI
m. Legg-Calve-Perthes disease
n. Pars interarticularis Injury
o. Peroneal Nerve Injury
p. Piriformis Syndrome
q. Plica Syndrome
r. Rib Fracture in thoracic injury
s. Sever's Disease
t. Shoulder Labrum tear
u. Slipped Capital Femoral Epiphysis
v. Thoracic Outlet Syndrome

IANM Pillars of Practice
Pillar II
Physical, Laboratory, and Diagnostic Imaging Examination
Global Category
Content References

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Practice Pillar III

Most Likely Diagnosis Formulation and Differential Diagnosis Development

Specific Tasks, Knowledge, and Skills

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 (NMM master clinician) recall of meaningful relationships or patterns is central to patient evaluation.

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

The NMM 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 lives.

An **accurate diagnosis in orthopedics** 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 orthopedics, 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 Exemplars
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. Listed references support each exemplar topic in this Pillar.

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 2019 Versus Strep Pneumonia
    d. Gout
    e. Multiple Sclerosis

4. **Musculoskeletal—Occupational and Sports Injuries**
    a. Cervical Spine Instability
    b. Compression Fracture
    c. Foot Stress Fracture
    d. Hip Fracture
    e. Interstitial Tears of The Rotator Cuff
    f. Medial Epicondylitis
    g. Osteochondritis Dissecans of the Knee
    h. Pes Anserine Bursitis
    i. Radius Fracture
    j. Sacroiliac Fracture
    k. Scaphoid Fracture
    l. Shoulder Impingement
    m. Slap Lesion
    n. Sport-Related Headache
    o. Sternoclavicular Instability
    p. Ulnar Collateral Ligament Sprain
    q. Ulnar Neuropathy at The Elbow

5. **Neuromuscular Disorders**
    a. Carpal Tunnel Syndrome Versus Vasculitis

b. Peripheral Sensitization (Component of Neuropathic Pain)
c. Cervicogenic Headaches
d. Ulnar Tunnel Syndrome

6. Spinal Cord Injury

a. Lumbosacral Plexus Impairment
b. Rehabilitation Following Spinal Cord Injury
c. 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. Factors Affecting Early And 1-Year Motor Recovery Post-Lumbar Microdiscectomy
e. Lumbosacral Transitional Vertebrae
f. Pelvic Fracture
g. Progressive Kyphosis
h. Thoracic Discogenic Syndrome

8. Traumatic Brain Injury

a. A Car Crash and Brain Injury
b. Mild Traumatic Brain Injury
c. Pediatric Traumatic Brain Injury (TBI)

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. Growing Pains
m. Hallux Rigidus
n. Hip Osteomyelitis In Children
o. Hip Osteonecrosis
p. Knee Hemarthrosis
q. Knee Plica Syndrome
r. Lateral Epicondylitis
s. Median Nerve Palsy
t. Morton's Neuroma
u. Patella Fracture
v. Peroneal Tendinosis and Subluxation
w. Pregnancy-Related Osteoporosis
x. Proximal Hamstring Tendinopathy
y. Psoas Syndrome
z. Rheumatoid Arthritis and Ankylosing Spondylitis
aa. Sacroiliac Joint Dysfunction
bb. Septic Hip Joint
cc. Shoulder Osteochondritis
dd. Spontaneous Osteonecrosis of The Knee
ee. Traumatic Distal Nerve Injury
ff. Tumorous Conditions of The Hand and Upper Extremity
gg. Ulnar Neuropathy at The Elbow

IANM Pillars of Practice
Pillar III
Most Likely Diagnosis Formulation and Differential Diagnosis Development
Global Category Content References

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Pillar IV

Prepare and Implement a Treatment Plan

Specific Tasks, Knowledge, and Skills

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.

The physician treating a patient with an orthopedic problem faces a veritable **blizzard of potentially relevant clinical information**. Some of these data are critical to the outcome of treatment.

The importance of **environmental and psychosocial factors** seems obvious. The evidence for their influence is irrefutable and is particularly strong in chronic pain.

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 may 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 Exemplars
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. Listed references support each exemplar topic in this Pillar.

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
   - m. Scaphoid Fracture
   - n. Scheuermann Disease
   - o. Total Hip Arthroplasty for Congenital Hip Dislocations in Adults
   - p. Unstable Cervical Spine

4. **Musculoskeletal—Occupational and Sports Injuries**
   - a. Cardia 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 Muscles 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. Pediatric Traumatic Brain Injury (TBI)
    b. TBI
    c. Wrist Spasticity

9. **Musculoskeletal Disorders—General**
    a. Acromioclavicular Joint Injuries Grade I And Ii
    b. Adhesive Capsulitis (Ac)
    c. Chronic Pronation
    d. De Quervain's Tenosynovitis
    e. Distal Bicipital Strain
    f. Dupuytren's Contracture
    g. Elbow Rheumatoid Arthritis
    h. Elbow Tendinopathy
    i. Forearm Contusion
    j. Frozen Shoulder
    k. Hip Bursitis
    l. Hip Contusion
    m. Hip Osteoarthritis
    n. Knee Pain
    o. Lateral Ankle Instability
    p. Lateral Collateral Sprain
    q. Lisfranc Injury
    r. Low Back Disorders
    s. Lumbar Spinal Stenosis
    t. Medial Epicondylitis
    u. Nonspecific Shoulder Pain
    v. Patellofemoral Arthritis
    w. Plantar Fasciitis
    x. Rotator Cuff-Associated Disorders (RCS)
    y. Shoulder Fracture – Displacement of The Greater Tuberosity
    z. Shoulder Impingement Syndrome (SIS)
    aa. Trendelenburg Gait
    bb. Trigger Finger

IANM Pillars of Practice

Pillar IV
Prepare and Implement a Treatment Plan
Global Category Content References

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Pillar V

Assessment and Conclusion of Care

Specific Knowledge, Tasks and Skills

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)[24] provides a common framework globally recognized to understand and describe functioning and disability considering impairments in body structures and functions, limitations in activities, and restrictions in participation 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.
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.

[24] Paschoal, L. N., et al. (2019). "**Identification of relevant categories for inpatient physical therapy care using the International Classification of Functioning, Disability and Health: a Brazilian survey**." Brazilian Journal of Physical Therapy **23**(3): 212-220.

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.

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.

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 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.

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 residuals' 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. Choose right support, orthoses, or appliance, fit to patient**,** and instruct on proper use.

IANM Pillars of Practice
Global Categories
and
Examination Content Exemplars
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. Listed references support each exemplar topic in this Pillar.

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 Wad

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 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

IANM Pillars of Practice *Assessment and Conclusion of Care* Global Category Content References

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Pillar VI

Medical Record Management, Clinical Documentation, Medicolegal Reporting

Specific Knowledge, Tasks and Skills

Test Item Distribution in IANM Part 1 Exam 19%

Medical Record Management, Clinical Documentation, Medicolegal Reporting

AXIOMS

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

Not only do NMM 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.

IANM Pillars of Practice Global Categories and Examination Content Exemplars for Practice Pillar VI *Medical Record Management, Clinical Documentation, 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 Pillars VI elements for specialist function. Listed references support each exemplar topic in this Pillar.

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 & 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 Level Spinal Cord Injury

7. Spine Disorders and Radiculopathy

a. Charcot Arthropathy Trunk and Lumbar Spine
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 Foot
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 Sprain
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

IANM Pillars of Practice *Medical Record Management, Clinical Documentation, and Medicolegal Reporting* Global Category Content References

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IANM Pillars of Practice

Conditions of Special Interest[25]

Achilles Tendon Injury Associated with Levaquin Antibiotic

Acute lumbar disc herniation with pudendal nerve and gynecological/urological problems with a vast Tarlov cyst at S2-3

Cervical Spondylolytic Myelopathy

Chronic wrist complaint with an eventual diagnosis of triangular fibrocartilage tear of the wrist

Fibromyalgia & Post-Lyme disease syndrome

Frontal MVA with ejection and fracture of the left clavicle and fracture without compression in the vertebral bodies of T6, T7, and T8, without root damage

High impact chronic pain condition

Multiple myeloma with a young male, 44 years of age

Metastatic breast cancer to the thoracic spine

Relapsing-remitting Multiple Sclerosis

Spinal metastasis

Statin myopathies

[25] As selected by Review and Revision Committee