

IAIME Core Competencies Study Curriculum



PART ONE: Core Competencies

The following is a list of the Core Competencies (I-IX) relevant to the CMLE test offered by IAIME. The list is meant to be comprehensive in terms of topics and references are provided for more in-depth discussion of these topics. Some of the topics may require you to do your own research.

I. Biostatistics and research competencies

Key learning:

- Identify and apply strategies for differentiating high quality from low quality research
- Identify and apply strategies for applying evidence-based research findings to opinions on medicolegal issues, causation and disability
- Define evidence-based medicine and describe its role in the field of disability

Summary and rationale:

Evidence-based medicine can be defined as “a set of principles and methods intended to ensure that to the greatest extent possible, medical decisions, guidelines, and other types of guidance are based on and consistent with good evidence of effectiveness and benefit. (Pg. 69, AMA Guides WA & RTW, 2nd Edition)

The application of evidence-based medicine requires critical evaluation of relevant studies, point estimates, relative risk, odds ratios, confidence intervals, bias, and confounding. This section on biostatistics is essential to ensure accurate assessment of research for practice in the return-to-work arena, and when opining on causation, medico-legal issues, and disability/return to work issues. (Pg. 69, AMA Guides WA & RTW, 2nd Edition). Understanding the relevant statistics allows us to look at data and facts, rather than relying on opinions and persuasion.

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Refs: Chapter 5 in the *Return to Work* book, Chapter 2 in *Causation* book

Study guide:

- **Data sources and study designs:** understand literature pyramid and the relative value of study types (RCT, double-blinding, retrospective, prospective, etc.)
- **Epidemiology:** basic terminology, nature of the study, target population, type of study (e.g., retrospective vs. prospective)
- **Bias:** definition, three main categories – (selection, information and publication -Ch 5), methods for controlling
- **Descriptive statistics:** statistics for concisely summarizing data; mean (average), median, mode, standard deviation, range, sample size.
- **Inferential statistics:** statistics applied to a random sample of data from a specific population, in order to make inferences about the population; normal distribution, correlation, t-distributions, chi-square, confidence intervals, regression analysis/linear regression, factor analysis
- **P value:** the extent to which a particular result is (and is not) likely due to random variation (chance); definition, p values, thresholds for significance
- **Validity, reliability, precision, accuracy:** definitions, relationships between them, measurement
- **Sensitivity, specificity, base rate, positive predictive value, negative predictive value:** related to classification and diagnostic accuracy; definitions, relationships, applications to understanding measures used in diagnosis
- **Relative risk/Risk Ratio (RR) and odds ratio (OR):** definitions, distinctions, threshold values for relevance

II. Clinical competencies (History and Physical Examination; General and Musculoskeletal Anatomy and Diseases; Occupational vs. Non-occupational Risk Factors)

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Key learning:

- Describe the key components of a clinical examination for independent medical opinion and other work-relevant clinical purposes
- Describe the importance of the interview and the significance of medical history as documented in the medical records
- Understand the contribution of non-occupational risk factors to a condition

Summary and rationale:

Competence in disability medicine involves the appropriate application of clinical competence across a variety of evaluations and assessment of treatment in the context of workplace absence and return to work.

Causality examinations, examinations undertaken for impairment ratings, and other services delivered in medico-legal circumstances differ from a traditional clinical evaluation and treatment. Examination findings must be interpreted in terms of relevance to daily activities, including those required to perform job-related functions. A more detailed history and review of records is necessary. Clinical examination will frequently include adjacent joints, contralateral side and specific measurements/ clinical tests. For example: in a case of an injured R shoulder, examination of the L shoulder is necessary to establish normal - and examination should include cervical spine.

Refs:

General medical resources re: physical examination findings and imaging;
AMA Guides to the Evaluation of Disease and Injury Causation, 2nd Ed.;
Washington LNI IME chapter (online)

Study guide:

- **History and physical:** including but not limited to:
 - Cultural awareness, detailed documentation, handedness

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- Extremity evaluation: document bilateral findings; uninjured contralateral side may serve as a baseline for defining normal for impaired extremity
- Validity indicators: Waddell's signs, behavioral observations, formal assessment, documentation
- History of previous injuries, illnesses, surgeries
- Relevant psychosocial history
- Consistency: between self-report and medical records, between providers, across time, between symptoms and signs, between stated capacity and behavioral observations
- Two-point discrimination, sensation, sensibility
- When are clinical tests such as SLR and Spurling's considered positive - what do they actually test?
- Circumferential measurements
- **Other data analysis:**
 - Imaging and labs: review of available imaging/ labs; obtain necessary imaging for personal review
 - Differential diagnosis: hip pain vs. sciatica, neck vs. shoulder pathology, decision trees, rule-outs
 - Motor evaluation: Grip strength, dexterity, motor speed; normal distribution, dominant vs. non-dominant expectation, variability over trials
 - Functional correlations: ADLs, IADLs, work tasks
- **Common musculoskeletal/ neurologic disorders and relevant occupational vs. non-occupational risk factors:** neck pain, low back pain, shoulder (RCT); dislocations of large joints; radiculopathy, peripheral nerve entrapment, Dupuytren's, carpal tunnel syndrome, ganglions, CRPS (?)
- **Common medical conditions and relevant risk factors:**
- **Common psychiatric condition and relevant risk factors:** PTSD, adjustment disorder, depressive disorders, anxiety disorders, personality disorders, somatic symptom disorders

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III. Work ability and return to work – principles

Key learning:

- Describe the key components considered in a return to work assessment
- Describe the differences between risk, capacity, and tolerance
- Describe the risk factors for failure to return to work
- Describe the role of non-occupational risk factors and psychosocial factors in returning an injured worker to work

Summary and rationale:

The AMA Guides to the Evaluation of Work Ability and Return to Work, 2nd ed., outlines the importance of staying at work or returning to work and how to think about work ability and restrictions. The distinction between risk, capacity, and tolerance and limitations is important, and often overlooked. For the physician, objectivity is important with respect to identifying of objective medical conditions that preclude specific activities vs. the individual's reported tolerance for activities and self-limiting behavior.

Refs:

AMA Guides to the Evaluation of Workability and Return to Work

Study guide:

- Why staying at work or returning to work is in the patient's best interest (Ch 1)
- **Negative prognostic factors** associated with delayed return to work, delayed recovery
 - Individual risk
 - Job risk
 - Psychosocial risk
- **Positive prognostic factors** associated with timely return to work, recovery

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- Resilience
- Employer support
- Psychosocial support
- **Definitions:** disability, activity, participation, activity limitation, participation restriction
- **Risk, capacity, tolerance**
- **Job strain**
- **Functional Capacity Evaluation:** definition, methods, value, validity
- **Dictionary of Occupational Titles:** sedentary, light, medium, heavy, very heavy
- **Work demands:** occasional, frequent, constant
- **Cognitive and psychological demands:** assessment, impact

IV. Causation Analysis – principles

Key learning:

- Describe the key components of a causation analysis
- Describe the importance of a reproducible methodology for determining causation
- Describe the differences between medical and legal causation

Summary and rationale:

Medical causation differs from legal causation and this distinction is important. The determination of medical causation is based on a scientific analysis using a standard methodology, discussed at length in the *AMA Guides to the Evaluation of Disease and Injury Causation*.

Legal causation refers to the threshold standards of the jurisdiction i.e. reasonable or simple medical probability (>50%), probable versus possible, more probable than not, or an iota of contribution. In some states, the incident need only be a contributing cause.

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As an expert, the criteria used to reach an opinion regarding causation and work-relatedness must be clear.

Refs:

AMA Guides to the Evaluation of Disease and Injury Causation, 2nd Ed.

ACOEM Guidelines, Work Relatedness, William W. Greaves, MD, MSPH, Rajiv Das, MD, MPH, MS, Judith Green McKenzie, MD, MPH, Donald C. Sinclair II, JD, and Kurt T. Hegmann, MD, MPH;

Study guide:

- **Causality:** types of causation, definitions, applications to IME
 - Causal event took place
 - Individual experiences a condition (exposure)
 - The event can cause the condition (epidemiological analysis)
 - The event caused or materially contributed to the condition within medical probability (causation analysis)
- **Hill criteria**
- **Medical causation vs. legal causation:** definitions, distinctions, language, jurisdiction-specific standards
- **Pre-existing conditions**
- **Aggravation vs. Exacerbation**
- **Methodology for Determining Work-Relatedness/ Causation**
(*AMA Guides to the Evaluation of Disease and Injury Causation*)
 - Diagnosis: evidence of disease
 - Epidemiology
 - Evidence of exposure
 - Other factors
 - Validity of testimony
 - Conclusion
- **Occupational vs. Non-Occupational Risk Factors for Common Conditions (e.g., carpal tunnel, low back pain, CRPS, TBI)**
- **Apportionment:** allocation of causation among multiple factors

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V. Report Writing

Key learning:

- Describe the core elements of a thorough report for medico legal purposes, and features of the variations based on specific settings (e.g., workers compensation, public disability, private disability, accident/personal injury, etc.)
- Describe the features of language, presentation style, and tone that are important to promote the integrity of the report and maximize the credibility of findings

Summary and rationale:

Independent medical evaluations and record reviews are intended to present an unbiased assessment of the individual's complaints and physical examination findings. History, physical examination findings, past medical history and the other standard parts of an evaluation should be documented clearly. Opinions related to diagnosis, causation analysis, return to work, etc. should be clear and concise, and may contain references to support those opinions.

Resources:

IAIME materials; Washington L&I IME guidelines (<http://www.lni.wa.gov/FormPub/Detail.asp?DocID=1668>), AMA Guides Newsletters, etc.

Study guide:

- **Language:** choice of words that reflect bias, all-or-none language, modifiers (inflators and minimizers), perjorative terms
- **Identifying inconsistencies:** symptom report, history, medical records, examination findings, expected course of recovery, behavioral observations, daily activities
- **Jurisdictional language:** reasonable degree of medical probability, reasonable degree of medical certainty, more probable than not

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- **Rationale for using references (or not):** “authoritative text,” citations, guidelines, AMA texts (pro/con)

VI. Opioids and Pharmacology

Key learning:

- Describe the key pharmacology (& psychopharmacology) of opioids and other analgesic medications, with appropriate uses, misuses, and potential abuse
- Identify and describe the key features of relevant guidelines for the use of opioid and other analgesic medications
- Describe the current state of knowledge about, and uses of marijuana and derivatives (including cannabinoid/CBD and psychoactive/THC components)

Summary & rationale:

Pain is a common part of medicolegal claims and evaluations, and because of that claimants are often taking analgesics, including opioids. Medicolegal evaluators need to be aware of the basic pharmacology of these medications, current guidelines for appropriate use, and how to address the impact of these medications on examination findings. Knowledge of alternative analgesics (e.g., NSAIDs, acetaminopen), with indications and contraindications is also necessary, as is an understanding of medications used for neuropathic pain. Finally, with the growing use of medical marijuana, recreational marijuana, and cannabinoids, medicolegal evaluators should be aware of the current state of research on the use of these drugs.

Refs:

CDC Guideline for Prescribing Opioids for Chronic Pain – United States, 2016. Recommendations and reports/ March 18,2016 / 65(1); 1-49

Study guide:

- **Long-term use of opioids for non-malignant pain**
 - Hyperalgesia
 - Opioid use disorder (definition)

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- Physical dependence, tolerance, addiction (definition)
- **Indications for appropriate use of opioids**
- **Indications and pharmacology for NSAIDS**
- **Indications and pharmacology for anticonvulsant medications in treating pain**
- **Guidelines for analgesic medications**
- **Current state of knowledge for cannabis-related drugs**

VII. Impairment ratings:

Key learning:

- Identify definitions and common features of impairment ratings, their applications, and potential misuses
- Describe and be able to apply the key edition-independent methods for evaluating and rating impairment

Summary and rationale:

Impairment ratings are designed to assess objective findings associated with a condition, rather than subjective complaints, although the ability to perform ADLs may be taken into consideration, depending on the version of *the Guides* being used. In some jurisdictions, chronic pain may be rated, in other jurisdictions, it is excluded, as are functional limitations. Some features are edition-specific, and others are generic principles that apply across editions and systems. Medicolegal evaluators should also have a working knowledge of alternative methods for determining impairment, including jurisdiction-specific methodology and the WHO approach to identifying and describing impairment and disability.

Refs:

AMA Guides to the Evaluation of Permanent Impairment, IAIME Resources

Study guide:

- Maximum medical improvement (MMI): definition, evaluation, and applications

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- ADLs and IADLs vs. other activities, including driving as a special case
- Range of motion measurements
- Principles for calculating impairment ratings, and general differences between editions of the *AMA Guides*
- General knowledge of jurisdiction-specific impairment ratings, including for federal employees
- Including a demonstration of how an impairment rating was determined, for including in a medicolegal report

VIII. Ethics and Medicolegal

Key learning:

- Describe the nature of an ethical dilemma, and the principles for resolving them
- Identify the key ethical concerns that can arise in medicolegal evaluations

Summary and rationale:

A medicolegal evaluator is obligated to make clear to the examinee that he or she is not providing care at the time of the evaluation. Although a physician-patient relationship is not established - and a disclaimer stating that should be part of the IME report - some jurisdictions have found that there is still an obligation to the examinee, with respect to medical conditions that might be unrelated. There is an inherent potential ethical conflict in being both an evaluator and treating provider, but despite this, compensation systems often require a level of overlap that poses challenges to health providers. Beyond these issues that are specific to medicolegal evaluations, other professional ethical principles continue to apply, and a competent evaluator should be aware of potential ethical concerns, as well as strategies for managing them.

Refs:

- IAIME materials

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- Ebrahim S, Sava H, Kunz R, Busse JW. *Ethics and legalities associated with independent medical evaluations*. *CMAJ*. 2014;186(4):248–249. doi:10.1503/cmaj.131509. (free on PubMed)
- <https://www.ama-assn.org/delivering-care/ethics/work-related-independent-medical-examinations>
- www.aaos.org/downloadasset.aspx?id=31339
- https://ama.com.au/sites/default/files/documents/Ethical_Guidelines_for_Conducting_Independent_Medical_Assessments.pdf

Study guide:

- Ethical behavior for engaging with patient/examinee
- Conflict of interest between treating and examiner roles
- Duty of care and identifying medical conditions other than IME-related diagnosis
- Methods for identifying and resolving ethical conflicts
- Define and apply the concept of an ethical dilemma

IX. Psychology and Behavioral Health

Key learning:

- Identify the differences between psychiatric diagnoses, psychological symptoms, and psychosocial risk factors
- Identify strategies used for screening psychological symptoms and common psychosocial risk factors that impact medicolegal claims
- Describe the differences between screening measures and diagnostic tools for psychological symptoms and conditions

Summary and rationale:

One of the most significant developments in our understanding of chronic pain, and more generally of issues related to delayed recovery and return to work, is the application of a biopsychosocial understanding of conditions evaluated in a medicolegal context. The principles inherent to the biopsychosocial model apply to all conditions, whether there are obvious psychiatric issues or not.

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In addition, the *AMA Guides to the Evaluation of Permanent Impairment, 6th Ed.*, has a chapter that provides definitions for use in IMEs and impairment rating of psychiatric issues, and editions differ in how to evaluate and rate pain, which inherently involves psychological and social concerns, in addition to medical conditions. A competent medicolegal evaluator does not have to be an expert in diagnosing and treating psychiatric conditions, but should be able to identify potential psychiatric conditions, psychological symptoms, and/or psychosocial factors that are relevant to the evaluation and that may require the attention of a behavioral health professional.

Study guide:

- Definition/ etiology of chronic pain (AMA Guides, 6th)
- Definition of chronic pain *syndrome* (AMA Guides, 6th)
- Pain behaviors: facial expression, body habitus, reactivity to touch
- Risk factors for transition from acute to chronic pain (AMA Guides 6th)
- Definition of and strategies for identifying malingering, symptom exaggeration, and inadequate effort
- Common psychiatric conditions that may be comorbid with, and complicate, other medical conditions in medicolegal claims
- Common screening measures for psychological symptoms/psychiatric conditions
- Common screening measures for psychosocial risk factors in delayed recovery and return to work

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PART TWO: Understanding Disability Medicine, Independent Medical Evaluations, Return to Work and the Medicolegal System

The following topics are important for a thorough understanding of disability medicine, independent medical evaluations, return to work and the medicolegal system. There are currently no questions regarding these topics on the CMLE examination.

I. Compensation systems

- **Workers' compensation** is insurance paid by companies to provide benefits to employees who become ill or injured on the job. Through this program, workers are provided with income replacement, usually at a lower rate than regular pay, and medical care. Employers have the assurance that they will not be sued by the employee (in most cases). Payment for pain and suffering and negligence claims are not included in workers' compensation.

Workers' compensation carriers include self-insured companies, private carriers, state funds, non-participation (TX and OK) and other alternatives. Often, a third-party administrator is responsible for payment of healthcare providers. It is important to understand that the specific regulations related to workers' compensation differ depending on jurisdiction (state by state, federal, etc.)

- **Family medical and other leave systems** are designed to provide job protection for employees who need time away from work to care for their own, or a family member's, medical condition (there are other leave systems, but these are for administrative reasons and are not related to medicolegal evaluations). Leave may be paid or unpaid. Initial certification for medical leave is typically made by the treating provider(s), but under some circumstances employers may request/require a 2nd or 3rd medical opinion, in which medicolegal evaluators may be involved.

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- **Private disability systems** are contractually-based, and designed to provide income replacement for employees who are found unable to perform important job duties as a result of a medical condition. Medicolegal evaluators may be involved in IMEs or Independent Records Reviews (IRRs) to assist the disability carrier in determining whether there is a medical basis for impairment, and the degree to which functionality is impaired. It is important to be aware that the medicolegal evaluator’s role is to address functional impairment (activity limitations and/or participation restrictions); the determination of disability is reserved for the claims payor, who makes the final determination in the context of the relevant contract.
- **Public disability systems** are similar to private payors, but are based in legislation and regulation rather than on contract. In the US, Social Security Disability Insurance (SSDI) is an example, and some states also have public disability systems. As in private disability systems, medicolegal evaluators may be asked to examine applicants (called consultative examinations in SSDI) and/or to review records, to assist administrators in making the determination of eligibility for benefits under the regulatory rules.
- **Americans with Disability Act (ADA/ADAAA)** is a US law that requires employers to provide reasonable accommodations for individuals who claim a medical disability, if such accommodations will allow the employee to do his or her job. Medicolegal evaluators are usually not involved in ADA determinations, but may be asked, in the course of their other roles, to recommend accommodations that would allow the individual to continue, or return to, work. For example, an individual with an impairment in hand function that prevents typing, may be able to continue doing the job if provided with speech-to-text dictation software.

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Resources:

- AMA Guides to Navigating Disability Benefit Systems
- SSA “Blue Book”
- <https://www.ssa.gov/benefits/disability/>
- https://www.eeoc.gov/laws/statutes/adaaa_info.cfm

II. Medicolegal Issues - principles

Physicians have traditionally been regarded as an authority in their craft and are accustomed to having their expert opinions accepted as the final truth. However, there have been changes in the court’s approach to expert opinion, including Daubert criteria. In a legal proceeding, the physician’s opinion when unsupported by science can lead to challenges and cause needless frustration and anxiety for the physician and others. (Pg. 27, AMA Guides PIR 6th Edition, 2009)

Judicial decisions state that arbitrary and dogmatic opinions, even from well-qualified experts, are not credible. Therefore, doctors providing independent medical examinations and expert testimony must be aware that their opinions must be supported by scientific evidence or they risk losing credibility. (Pg. 28, AMA Guides PIR 6th Edition, 2009)

Medico-legal is the intersecting subset where medical considerations and legal considerations overlap.

Knowing the medical-legal standards and being able to defend a medical legal opinion based on scientific evidence are of importance to physicians who are asked to opine on medicolegal issues. (Pg. 184, *AMA Guides to the Evaluation of Disability and Injury Causation*, 2nd Edition)

This section addresses medicolegal ethics, report writing, testimony and evidence, and deposition skills, that are intended to assist with expressing medical legal opinions that are clear, accurate, and supported by scientific evidence.

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- Resources:
 - IAIME meetings
 - Medicolegal ethics (see above)
 - Report writing (see above)
 - <https://www.uscourts.gov/sites/default/files/Rules%20of%20Evidence.nce>. (Federal Rules of Evidence)

III. Applying treatment guidelines

ODG, ACOEM/MDA are treatment/ duration guidelines available for use. They are used in many states to determine reasonable care as it relates to industrial injuries, and in some cases for conditions outside of WC. It is important to recognize that treatment guidelines are not a proxy for standard of care (a legal term applied in malpractice actions). They may be useful in the context of peer review; however, it is important to have adequate knowledge of the clinical scenario before determining whether guidelines as written, are applicable.

Duration guidelines provide useful information about expected return to work dates in various capacities (light vs. full duty) and often provide recommendations for work restrictions and transitions to full duty. Again, it is important to have information about the individual's diagnosis and expected outcome of treatment for that diagnosis, as well as functional status when considering RTW guidelines.

Terms and sources:

- Treatment guidelines
- Duration guidelines
- Clinical association guidelines
- State Worker's Compensation guidelines (e.g., Washington, Colorado)

Independent Medical Evaluations/ Report Writing

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These are often requested to answer specific questions about the relationship between the incident and claimed injury, the need for further treatment, whether treatment to date has been appropriate, and return to work. Impairment ratings may also be requested. The skill set for performing IMEs differs from that of the treating physician and maintaining objectivity is important, while at the same time recognizing other issues that may play a role in delayed recovery .

Resources: IAIME meetings and materials

- Answering referral questions
- Mental status evaluations
- Behavioral observations
- Documenting findings

Independent Records Reviews

To perform Independent Records review, one must understand clinical epidemiologic research, and would be well-served by understanding current evidence-based treatment guidelines. The objective of a record review may be to determine if diagnosis is accurate, treatment is appropriate, and future care needs. An understanding of population-based epidemiological research is required if opining on causation/work relatedness. As in IMEs, a causation analysis may be required.

We will discuss in greater depth in the following sections:

- Reviewing / interpreting forensic evidence
- Causation/work relatedness
- Utilization review
- System-specific guidelines