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## **About MDGuidelines**

MDGuidelines is a clinical decision support solution that features the world's most trusted illness and injury duration estimates and evidence-based clinical practice guidelines from the American College of Occupational and Environmental Medicine (ACOEM).

Among other features, MDGuidelines includes a drug formulary, a diagnostic intervention and treatment recommendation tool, a medical code lookup tool, and a duration benchmarking utility. Together, the collection of MDGuidelines content, tools, and data helps case managers and clinicians manage health outcomes.

When used at the point of care, MDGuidelines' data and evidence-based medical content help foster physician-patient dialog, resulting in employees returning to health within expected timeframes.



## Overview of MDGuidelines' Content and Tools

#### **Health Advisor**

The MDGuidelines Health Advisor covers more than 1,200 medical topics, including illnesses, injuries, diagnostic tests, surgical procedures, and therapeutic interventions. Health Advisor topics present medical content and clinician-reviewed duration tables that help clinicians and case managers set recovery expectations with their patients.

#### **ACOEM Clinical Practice Guidelines**

The evidence-based guidelines from the American College of Occupational and Environmental Medicine (ACOEM) provide diagnostic and treatment recommendations for common injuries and illnesses. The guidelines take a comprehensive view of illness and injury, considering medical, psychosocial, and functional outcomes. ACOEM's Workflows and Medical History Questionnaires (MHQs) can be accessed from within the guidelines themselves and from the Dashboard page and Resources dropdown.

#### **Durations**

The Durations tool helps you manage patient cases by presenting return-to-activity timeframes for ill and injured individuals in a simplified, interactive dashboard. You can quickly see how long it takes someone to recover from a condition or procedure, guide patient care and set recovery expectations, and determine when a case needs additional support.

#### **ACOEM Recommendations**

The ACOEM Recommendations tool (formerly called "DART") enables users to quickly search and filter evidence-based diagnostic and treatment recommendations from the ACOEM Clinical Practice Guidelines. You can search using keywords or medical codes, and filter the results by guideline, topic, category, phase of care, recommendation status, or evidence strength. Each recommendation includes a summary, source guideline, applicable care phases. The tool provides explanations of evidence ratings and recommendation statuses through tooltips and referenced methodology tables.

#### **Formulary**

The MDGuidelines drug formulary promotes quality of care, positive therapeutic outcomes, and safe, cost-effective drug choices. Supported by medical evidence from the ACOEM Clinical Practice Guidelines, the drug formulary provides evidence support for therapeutic agents so that health care providers can choose the most appropriate medication therapy for their patients.



#### **Medical Codes**

The Medical Codes tool helps case managers and clinicians find medical codes and see related information such as code description, whether the code is "billable" or "non-billable," and what MDGuidelines durations and Health Advisor topics are associated with a medical code.

### **Duration Analyzer**

Duration Analyzer is designed for organizations and health professionals who want to compare their claims durations to MDGuidelines' physiological and population benchmarks. You can analyze how your population compares to other datasets to identify areas for improvement and cost savings.

## **Job Title Explorer**

The Job Title Explorer, based on information from the Department of Labor's Dictionary of Occupational Titles (DOT) and the Occupational Information Network (O\*NET), provides occupation-specific information about thousands of jobs. The tool enables you to quickly identify job tasks and core competencies so that return to work and modified duty expectations can be effectively managed.

#### Crosswalks

The Crosswalks tool allows you to find diagnostic and treatment recommendations using ICD and CPT medical codes. You can view evidence-based recommendations from the ACOEM Clinical Practice Guidelines, the State of California (MTUS) or the State of New York (MTG). Crosswalks is only available if your license supports CPT codes; if you don't see Crosswalks in your MDGuidelines resources, please contact your account manager for more information.

### **MDGuidelines Library**

The MDGuidelines Library is a collection of journal articles, research studies, webinar recordings, videos, product briefs, and more. You can find information about MDGuidelines' content development methodology and the latest MDGuidelines research in the field of disability and workers' compensation.



# **Getting Started with MDGuidelines**

- There are several ways to access the MDGuidelines website. Many subscribers have a specific Username and Password assigned to them. Some organizations allow their users to access MDGuidelines via Single Sign-On from a company's intranet or from a claims workflow system.
- If you have a Username and Password, you can access MDGuidelines by typing www.mdguidelines.com into your browser and then clicking the gold "Log In" button at the top right-hand corner of the page. Alternatively, you can reach the login page directly at app.mdguidelines.com/login (Figure 1).

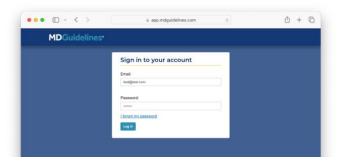


Figure 1: MDGuidelines Log-in screen

- If you ever forget your password, click the "I forgot my password" link on the login page. You will be provided with directions for resetting your password.
- For most users, the first time you log into MDGuidelines you will be asked to select a professional role or "persona" to use on the site. This selection is used to highlight specific MDGuidelines content and tools that may be most relevant to you and your work. Regardless of which role you select, you will have access to all of the MDGuidelines content and tools. You can always customize your shortcuts or change personas at any time by clicking on the Edit (pencil) icon in the "Shortcuts" box on the homepage.
- Once you are on the homepage (called the Dashboard), you can search for information using the search bar at the top of the page (Figure 2). The search bar allows you to enter a medical code or keyword to find information about a health topic.



Figure 2: MDGuidelines Dashboard



- MDGuidelines supports searching and displaying the American Medical Association's CPT codes. While using MDGuidelines, if you receive a message stating that "Your account does not support CPT codes" please contact your MDGuidelines Account Manager to discuss adding this feature to your license.
- From the Dashboard, click one of the buttons in the "Shortcuts" or "Resources" sections to jump straight to one of the many tools and content sets in MDGuidelines. You can also use the menus at the top of the page to navigate throughout the website.



## **Health Advisor**

- Health Advisor contains more than 1,200 condition and procedure topics with medical information about diagnosis, treatment, complications, prognosis, and recovery.
- From the Health Advisor landing page, use the "Browse A-Z" and "Browse by Body Part" buttons to quickly navigate to health topics of interest (Figure 3).
- Each Health Advisor topic page has a toolbar of icons at the top of the page (Figure 4).
   Using the toolbar, you can interact with content in numerous ways:
  - Search (magnifying glass icon): allows you to search for a keyword within the page.
  - Copy (clipboard icon): allows you to copy text to the clipboard for pasting into another document.
  - Bookmark (bookmark icon): allows you to save a page for reference at a later date.
     You can find your bookmarks on the Dashboard.

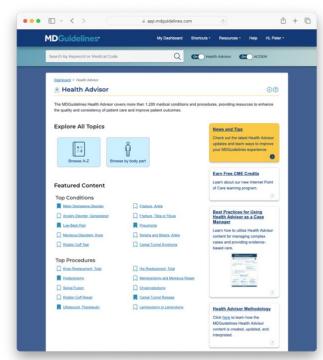


Figure 3: Health Advisor landing page

- o **Print** (printer icon): allows you to print the page.
- o Video (play button icon): directs you to a demo video about Health Advisor.
- Help (question mark icon): directs you to Help text.



- The "Expand All" button at the top of the page opens all the various sections of content found in a Health Advisor topic.
   Once content is opened, the button name changes to "Collapse All."
- Clicking the "Contents" icon on the gold palette on the left-hand side of the page allows you quickly jump to an area of interest. You can also rearrange content sections by clicking the Reorder button at the bottom of the Table of Contents.
- The "Duration" and "Medical Codes" icons on the left-hand side of the page direct you to related content that is available for a particular topic.
- Depending on the topic, there may be 12+ different content sections organized under various headings. For example:

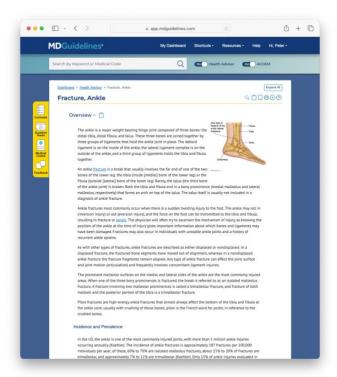


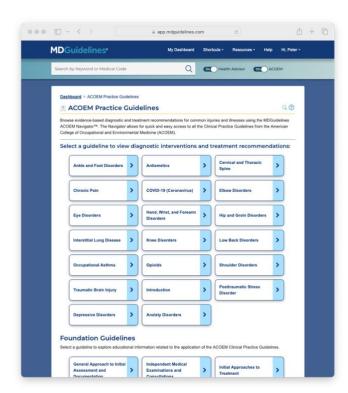
Figure 4: Health Advisor topic page

- Ability to Work: This content section helps you understand restrictions and/or accommodations an individual may require when returning to activity following illness or injury.
- <u>Failure to Recover:</u> The content in this section is used to understand the specifics
  of an individual's medical case and to discover why a patient has not recovered
  in the expected timeframe.
- <u>Length of Disability:</u> This content section may include duration tables that
  provide approximate recovery timeframes based on physiological healing times.
  These duration estimates show the amount of time needed to biologically
  recover from a specific illness, injury, medical procedure, or surgery. [For more
  information about duration tables, see the <u>Durations</u> section.]



# ACOEM Clinical Practice Guidelines and the ACOEM Navigator

- Guidelines from the American College of Environmental and Occupational Medicine
   (ACOEM) guidelines provide evidence-based recommendations on diagnostic interventions
   and treatment options for common injuries and illnesses. (Figure 5).
- The ACOEM guidelines are a valuable tool for clinicians to determine the most efficacious approach to clinical diagnosis and treatment. ACOEM guidance is based on randomized controlled trials in the medical literature and the clinical expertise of multidisciplinary panels. The guidelines are peer reviewed by clinicians and medical societies.
- Following evidence-based guidelines, such as those provided by ACOEM, can help clinicians avoid treatments that are low-value or even potentially harmful to the patient.
- The ACOEM guidelines can be explored using the *ACOEM Navigator* tool, which facilitates fast and easy access to the guidelines.





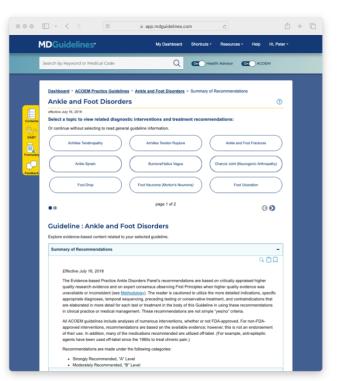


Figure 6: Ankle and Foot Disorder Guideline



- The ACOEM Navigator is integrated into the landing page that appears when you click the ACOEM Guidelines button on the Dashboard, or when you select "ACOEM Guidelines" from the top navigation bar.
- The ACOEM Navigator includes *bookmark*, *copy*, and *find* functions so you can save passages for future access, cite sections, and look up keywords within sections of text (*Figure 6*).
- The ACOEM Navigator also features a gold floating toolbar palette that includes each
  guideline's table of contents to help you see the full picture of the guideline at-a-glance
  and quickly jump to any section of interest, as well as links to the ACOEM
  Recommendations and Formulary tools.



## **Durations**

- The Durations tool provides estimates of a person's length of disability due to illness or injury.
- The dashboard features a speedometer with five distinct types of duration estimates: Real World Average, Early return, Expected return, Evaluate return, and Analytic Prediction. (Figure 7) Please refer to the Glossary of Terms for definitions of each type of estimate.
- The Activity Level slider allows you to see how physical demands impact the Early, Expected, and Evaluate duration milestones. Integration with the Job Title Explorer tool also allows you to search for an activity level by job title.
- The Analytic Prediction allows you to find duration estimates based on an individual's demographics and comorbidities. You can select age, sex, activity level, and program type to generate an estimated recovery time. This predictive model shows which comorbidities are most likely to affect recovery and adjusts the predicted duration accordingly.
- The Timeline combines all available duration estimates and allows you to add the date the claim started so you can see the exact calendar dates of these expected milestones.
- Duration Tables can be found by clicking the "Duration Table" link under the speedometer. There, you can view a single duration table and its related content, including Length of Disability and Factors Influencing Duration. (Figure 8).
- In cases where physical demands are irrelevant to the recovery (e.g., certain conditions and procedures) the duration table may display "Any" as the activity level.

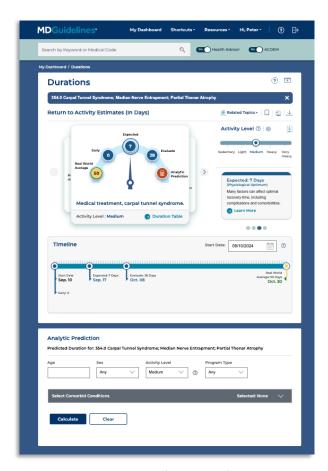


Figure 7: Durations Tool (Dashboard)

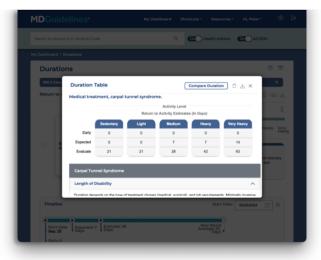


Figure 8: Durations tool (Sample duration table)



## **ACOEM Recommendations**

- The ACOEM Recommendations tool (formerly called "DART") enables users to quickly search and filter evidence-based diagnostic and treatment recommendations from the ACOEM Clinical Practice Guidelines.
- Start your search by entering a keyword or medical code. The tool uses medical codes and synonyms to ensure information is quickly found. (*Figure 9*).
- As you type, the tool will generate a dropdown list of suggestions based on the ACOEM guidelines. You can select an option directly from this list or hit the "Enter" on your keyboard or click the magnifying glass icon to see a comprehensive list of all matches.
- Search results include the name of the treatment or diagnostic intervention, a brief summary of the recommendation, the source guideline, specific topic, and any applicable phases of care. On the right-hand side, a bar graph image shows the recommendation status and the strength of evidence. By clicking "View More," you can access full details, including rationale and indications for discontinuation. (Figure 10).
- Search filters can be applied in two places: 1) When entering a search term (after selecting an item from the dropdown, use the Advanced Filters toggle for more options); and 2) When filtering results (click the Filters dropdown to refine your results).
- Detailed information about evidence ratings and recommendation statuses is available when you hover over the strength of evidence chart.

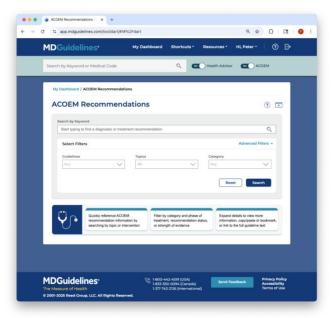


Figure 9: ACOEM Recommendations (landing page)

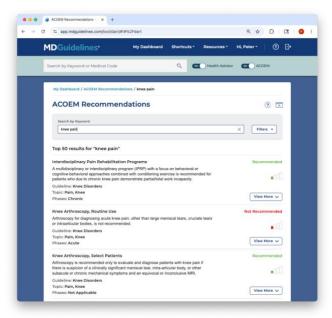


Figure 10: ACOEM Recommendations (search results)



# **Formulary**

- Based on recommendations from the ACOEM Clinical Practice Guidelines, the Formulary provides evidence support for therapeutic agents so that health care providers can choose the most appropriate medication therapy for work-related injuries.
- You can search the Formulary by condition or drug (Figures 11 and 12). Results can be sorted and filtered based on phase of care, pain classification, drug class, generic or brand, and evidence support.
- The formulary search results provide:
  - Specific conditions by category
  - Phase of treatment (acute and chronic)
  - Class of medications
  - Specific medications (generic listing and brand examples)
  - Evidence support
  - Pain classification (includes descriptors of pain to provide guidance on the selection of medication for the condition)
  - Comments to guide clinicians and claims professionals
  - Related medical codes
  - Average estimated cost
  - References

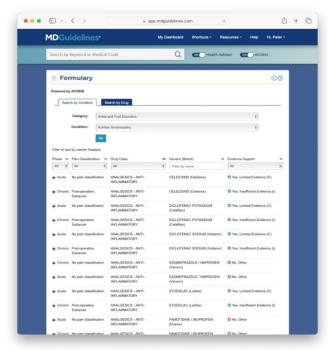


Figure 11: Formulary (Search by Condition)

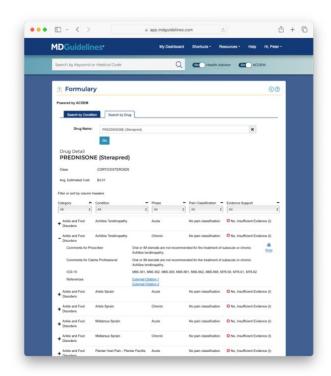


Figure 12: Formulary (Search by Drug)



## **Duration Analyzer**

- The Duration Analyzer measures the performance of your claims by benchmarking your data against physiological duration estimates and real-world datasets. These comparisons may suggest opportunities to help patients return to activity quickly and safely, improve clinical outcomes, and reduce unnecessary care and expenditures.
- The tool matches claims data on a case-by-case level, looking at diagnostic ICD codes, disability start and end dates, and related information such as job class, age, sex, comorbidities, and disability program type. Once matches are made, data is visualized, and you can drill down on diagnostic areas specific to your interests (*Figure 13*).
- Duration Analyzer uses statistics generated from MDGuidelines' population database. This
  database provides estimates of disability durations for more than 70,000 medical codes and
  sets a robust benchmark to help clients measure claims performance (Figure 14).
- First, upload your de-identified claims data into the Analyzer and then explore the interactive results by diagnostic category.
- You can download a report of your data in an Excel spreadsheet that includes the MDGuidelines benchmark duration for each claim.

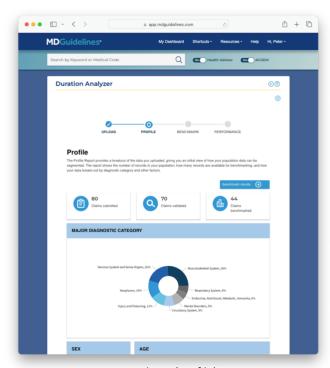


Figure 13: Duration Analyzer (Profile)

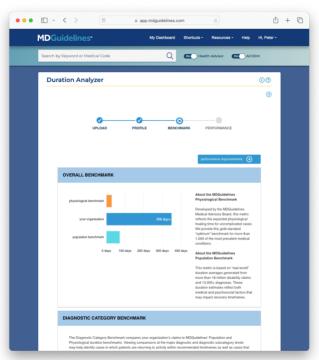


Figure 14: Duration Analyzer (Benchmark)



## **Medical Codes**

- The Medical Codes tool helps case managers and clinicians find medical codes and see related information such as code description, whether the code is "billable" or "nonbillable," and what MDGuidelines durations and Health Advisor topics are associated with a medical code.
- The tool allows you to browse by diagnostic category (*Figure 15*) or search by code/keyword (*Figure 16*).
- When available, the search results link to Health Advisor topics and the Durations tool so you can find additional MDGuidelines information related to a medical code.
- Filters are available to limit search results by whether a code is billable, if it has a Health Advisor topic, and if it has a related duration available.

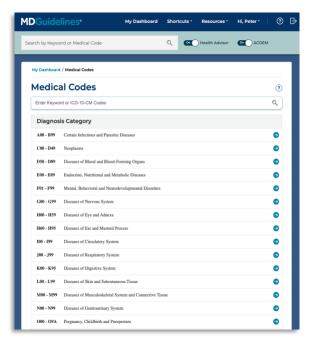


Figure 15: Medical Codes (browse diagnostic category)

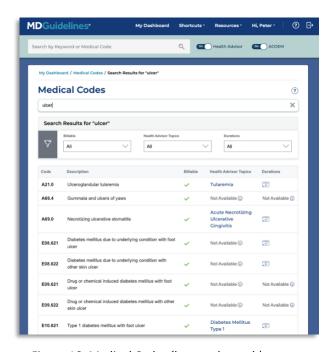


Figure 16: Medical Codes (keyword search)



# Job Title Explorer

- The Job Title Explorer provides occupationspecific information about thousands of jobs utilizing the Department of Labor's Dictionary of Occupational Titles (DOT) and the Occupational Information Network (O\*NET). These datasets are used to quantify the skills and cognitive demand needed to be successful at work.
- The tool enables you to quickly identify job tasks so that return-to-work (RTW) and modified duty expectations can be set using data-driven information.
- Job titles and activity levels are integrated in the *Durations* tool to help you quickly find the expected recovery duration based on physical work requirements.
- To get started with the Job Title Explorer, enter a job title or keyword to find occupational information on more than 13,000 job titles (Figures 17 and 18).
- The Job Title Explorer can be used to review the physical and mental demands required to be successful at the job including sedentary, light, medium, heavy, or very heavy work and link it to the diagnosis to review the expected duration of recovery.
- The information in the Job Title Explorer enables employers and case managers to have a productive talk with their employees and claimants about modified duty or return-to-work expectations.

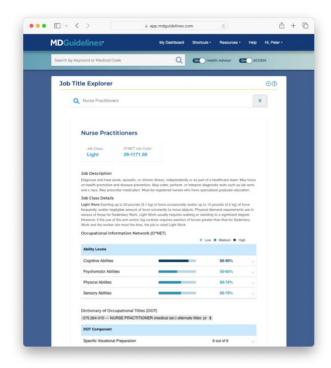


Figure 17: Job Title Explorer (Nurse Practitioner)

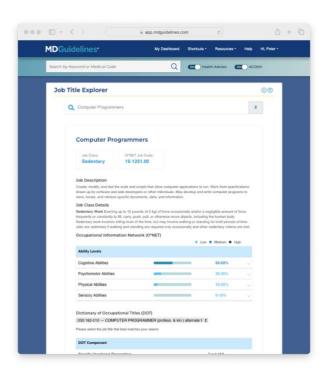
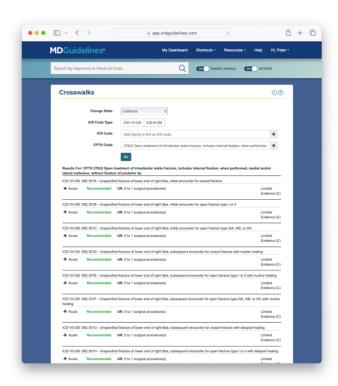


Figure 18: Job Title Explorer (Programmer)



## Crosswalks

- If your license supports CPT codes, the Crosswalks tool matches diagnosis and procedure codes to recommendations found in evidence-based guidelines.
- To begin, select a specific guideline dataset to work with: ACOEM, State of California (MTUS), or State of New York (MTG).
- To review the recommendations, enter one of the following code types:
  - o ICD-9-CM
  - o ICD-10-CM
  - CPT code (Note: CPT codes are only available for subscribers who have purchased the "CPT code option" with their license. For information about this add-on feature, please contact your MDGuidelines Account Manager.)
- Diagnoses and procedures covered in the selected guideline dataset will appear in the search results (*Figures 19 and 20*).





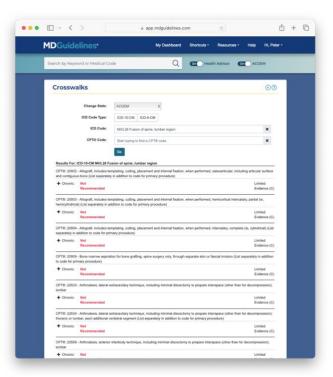


Figure 20: Crosswalks (ICD code search)



# **MDGuidelines Library**

- The MDGuidelines Library is a collection of white papers, webinar recordings, product briefs, and news articles related to the MDGuidelines product (*Figure 21*).
- The Library includes a collection of video tutorials that provide a visual overview of distinct parts of the MDGuidelines website, including ACOEM Recommendations, Formulary, Crosswalks, Medical Codes, Duration Analyzer, Health Advisor, Durations, and the Search Bar (Figure 22).
- The Library features recent publications on topics such as Workplace Health and Opioids, Traumatic Brain Injury, Long COVID, Anxiety, and PTSD Treatment and Recovery.
- Use the search bar to explore the content collection or click on the topic navigation on the left-hand side of the page to select a *Topic* or *Content* area of interest.

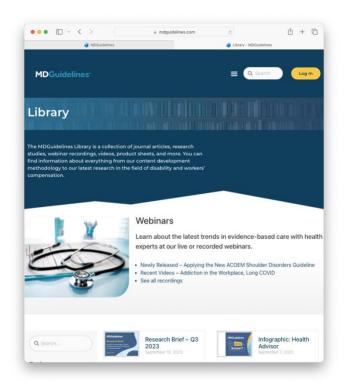


Figure 21: MDGuidelines Library landing page

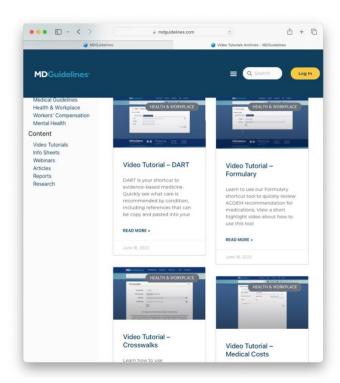


Figure 22: MDGuidelines Library (Video Tutorials)



# **Glossary of Terms**

ACOEM	Acronym for the American College of Occupational and Environmental Medicine.
Activity Level	In most MDGuidelines physiological duration tables, five activity levels are displayed ( <i>Sedentary, Light, Medium, Heavy, Very Heavy</i> ). These levels are based on the amount of physical effort required to perform the work. For certain conditions or procedures where physical demand level is irrelevant to the recovery period, activity level is combined into one column and displayed as " <i>Any</i> ."
	The activity levels (also known as job classifications) are defined by the U.S. Department of Labor's Dictionary of Occupational Titles (DOT). The definitions from that publication are as follows:
	Sedentary—Exerting up to 10 pounds (4.5 kg) of force occasionally and/or a negligible amount of force frequently or constantly to lift, carry, push, pull, or otherwise move objects or the body. Tasks involve sitting most of the time with brief periods of walking or standing.
	Light— Exerting up to 20 pounds (9.1 kg) of force occasionally and/or up to 10 pounds (4.5 kg) of force frequently to lift, carry, push, pull, or otherwise move objects. Tasks involve a significant amount of walking or standing or using arm and/or leg controls with some force while sitting.
	Medium—Exerting up to 50 pounds (22.7 kg) of force occasionally, and/or up to 25 pounds (11.3 kg) of force frequently, and/or up to 10 pounds (4.5 kg) of force constantly to move objects.
	Heavy— Exerting up to 100 pounds (45.4 kg) of force occasionally, and/or up to 50 pounds (22.7 kg) of force frequently, and/or in excess of 20 pounds (9.1 kg) of force constantly to move objects.
	Very Heavy—Exerting in excess of 100 pounds (45.4 kg) of force occasionally, and/or in excess of 50 pounds (22.7 kg) of force frequently, and/or in excess of 20 pounds (9.1 kg) of force constantly to move objects.
Analytic Prediction	The estimate of when an individual is likely to be able to return to activity, calculated using the real-world population dataset and adjusted by factors specific to each case (including age, sex and comorbid conditions).
CME Credits (IPoC)	Continuing Medical Education (CME) credits can be earned by using MDGuidelines as part of the Internet Point-of-Care (IPoC) learning program. IPoC learning is a certified activity in which a physician or other health care professional engages in self-directed, online learning on topics relevant to their clinical practice by reading MDGuidelines.



СРТ	Acronym for Current Procedural Terminology. These codes, published by the American Medical Association, offer doctors and health professionals a uniform language for coding medical services and procedures. To view CPT codes in MDGuidelines, your license must be enabled for CPT code access. Please contact your MDGuidelines Account Manager for more information.
Duration	Refers to the number of calendar days that an individual is out of work or unable to perform activities due to illness or injury. Duration may also be called the "length of disability" or "return to activity estimate."
Early Return	The minimum recovery time most individuals require to return to activity or work at the same performance level as prior to injury, illness, or surgery. Formerly known as <i>physiological minimum</i> .
Evaluate Return	The point in time when additional case information should be requested to determine if/when the individual may be able to return to activity. Formerly known as <i>physiological maximum</i> .
Expected Return	The point in time when most individuals are likely to be able to return to activity, assuming optimal management and no significant complications/comorbidities. Formerly known as <i>physiological optimum</i> .
Health Advisor	MDGuidelines' return-to-activity monographs, covering more than 1,200 medical condition and procedure topics. Many Health Advisor topics include duration tables indicating how long an individual may be off work or unable to participate in activities with a particular injury or illness.
"Indefinite" Duration	Found in physiological duration tables in select cases. The term "Indefinite" indicates that the patient may be unable to return to their previous activity level and additional information should be obtained from the treating physician regarding the patient's medical case.
Medical Disability Advisor (MDA)	A reference text that was the precursor to the MDGuidelines website and Health Advisor. Recognizing the significant role of work in a patient's recovery, Dr. Presley Reed created the MDA to provide health professionals with information on recovery expectations. ReedGroup published five iterations of the MDA as a hard cover textbook before it became what is known today as the MDGuidelines Health Advisor.
Physiological Duration	Found in the Durations tool, Duration Analyzer, and Health Advisor duration tables. Physiological durations reflect uncomplicated cases with a return to full activity, although a return to modified activity is possible in most cases. These durations provide approximate return-to-activity timelines for injured or ill individuals according to physiological healing times and are most useful when envisioned as a continuum in the case management process.



Population Duration	Found in Durations tool, and Duration Analyzer, the population duration displays summary statistics from MDGuidelines' database of more than 25+ million real-world claims. The statistics in the Population Duration represent the actual observed experience of individuals across the spectrum of physical conditions in uncomplicated and complicated cases, in a variety of industries across the country, and with varying levels of case management. Population durations can be used to provide additional context to help benchmark cases.
Psychosocial Factors	Variables that influence an employee's return to work which are unrelated to biomedical injuries or illnesses. Examples include socioeconomic status, marital status, education level, litigation, job satisfaction, etc. MDGuidelines physiological durations <i>exclude</i> psychosocial factors whereas the population durations <i>include</i> these variables.
Real World Average	The statistical average of real-world cases calculated using 25+ million claims of varying complexity and care management, and across all activity levels and industries.
Risk/Capacity/Tolerance	The model used to evaluate an individual's readiness to return to activity or work.
	<i>Risk</i> is the basis for physician-imposed activity restrictions. Risk considers the chance of harm to the individual, coworkers, or the public upon engagement in specific activities during recovery.
	Capacity is the basis for physician-imposed activity limitations that indicate the individual is not yet physically capable of an activity. This concept refers to the physical or mental ability of an individual to safely return to activity during recovery.
	<i>Tolerance</i> is the ability of individuals to experience symptoms, such as pain and fatigue, while performing activities during recovery.
	These concepts are presented in the physiological duration tables as follows: Risk is associated with <i>Early return</i> , Capacity is associated with <i>Expected return</i> , Tolerance is associated with <i>Evaluate return</i> .
RTW	Acronym for Return to Work.



# **Contact Us**

• For customer support, please contact:

800-442-4519 (USA) 833-550-0094 (Canada) 1-317-743-2126 (International)

• To provide input on MDGuidelines content or features, email <a href="MDG-feedback@mdguidelines.com">MDG-feedback@mdguidelines.com</a>