Musculoskeletal Disabilities

Instructor Lesson Plan

Time Required: 1.5 Hours

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| Lesson Description |
| The information below provides the instructor with an overview of the lesson and the materials that are required to effectively present this instruction. |
| TMS # | 4194870 |
| Prerequisites | Prior to this lesson, the trainees should have demonstrated proficiency in basic development skills or should have completed the VSR Curriculum Training for the Pre-Determination Team, they should have 24 months of VSR experience. Trainees should also have all 100 level course materials and the following 200 level courses:* Identify musculoskeletal disabilities and the evidence needed to evaluate them
* Determine if criteria has been met after an examination report is received to send ready for decision
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| target audience | The target audience for Musculoskeletal Disabilitiesare non-entry level VSR’s.Although this lesson is targeted to teach the non-entry level VSR’s, it may be taught to other VA personnel as mandatory or refresher type training. |
| Time Required | 0.25 hours |
| Materials/TRAINING AIDS | Lesson materials:* Musculoskeletal Disability PowerPoint Presentation
* Musculoskeletal Disability Trainee Handouts
* Musculoskeletal Disability Lesson Plan
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| Training Area/Tools  | The following are required to ensure the trainees are able to meet the lesson objectives: * Classroom or private area suitable for participatory discussions
* Seating, writing materials, and writing surfaces for trainee note taking and participation
* Handouts, which include a practical exercise
* Large writing surface (easel pad, chalkboard, dry erase board, overhead projector, etc.) with appropriate writing materials
* Computer with PowerPoint software to present the lesson material

Trainees require access to the following tools: * VA TMS to complete the assessment
* VA TMS Evaluation
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| Pre-Planning  | * Become familiar with all training materials by reading the Instructor Lesson Plan while simultaneously reviewing the corresponding PowerPoint slides. This will provide you the opportunity to see the connection between the Lesson Plan and the slides, which will allow for a more structured presentation during the training session.
* Become familiar with the content of the trainee handouts and their association to the Lesson Plan.
* Practice is the best guarantee of providing a quality presentation. At a minimum, do a complete walkthrough of the presentation to practice coordination between this Lesson Plan, the trainee handouts, and the PowerPoint slides and ensure your timing is on track with the length of the lesson.
* Ensure that there are copies of all handouts before the training session.
* When required, reserve the training room.
* Arrange for equipment such as flip charts, an overhead projector, and any other equipment (as needed).
* Talk to people in your office who are most familiar with this topic to collect experiences that you can include as examples in the lesson.
* This lesson plan belongs to you. Feel free to highlight headings, key phrases, or other information to help the instruction flow smoothly. Feel free to add any notes or information that you need in the margins.
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| Training Day  | * Arrive as early as possible to ensure access to the facility and computers.
* Become familiar with the location of restrooms and other facilities that the trainees will require.
* Test the computer and projector to ensure they are working properly.
* Before class begins, open the PowerPoint presentation to the first slide. This will help to ensure the presentation is functioning properly.
* Make sure that a whiteboard or flip chart and the associated markers are available.
* The instructor completes a roll call attendance sheet or provides a sign-in sheet to the students. The attendance records are forwarded to the Regional Office Training Managers.
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| Introduction to Musculoskeletal Disabilities |
| INSTRUCTOR INTRODUCTION | Complete the following:* Introduce yourself
* Orient learners to the facilities
* Ensure that all learners have the required handouts
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| time required | 0.25 hours |
| Purpose of LessonExplain the following: | This lesson is intended to help you understand advanced concepts when reviewing claims based on a musculoskeletal disability. This lesson will contain discussions and exercises that will allow you to gain a better understanding of: * Identifying types of musculoskeletal claims
* Determining if examinations are accurate for rating purposes
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| Lesson ObjectivesDiscuss the following:Slide 2Handout 2 | In order to accomplish the purpose of this lesson, the VSR will be required to accomplish the following lesson objectives.TheVSRwill be able to: * Identify musculoskeletal disabilities and the evidence needed to evaluate them
* Determine if criteria has been met after an examination report is received to send for decision
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| Explain the following: | Each learning objective is covered in the associated topic. At the conclusion of the lesson, the learning objectives will be reviewed.  |
| Motivation | The most common claimed disability is one claimed of the musculoskeletal system. An understanding of the topics will assure trainees can identify the required information for a rater to decide a claim. |
| STAR Error code(s) | A1, B1, B2 |

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| ReferencesSlide 3Handout 3 | Explain where these references are located in the workplace.All M21-1 references are found in the [Live Manual Website](https://vaww.compensation.pension.km.va.gov/).* [38 CFR 3.159 -Department of Veterans Affairs assistance in developing claims](http://www.ecfr.gov/cgi-bin/text-idx?SID=ad275643432556b9dda942343fb89296&mc=true&node=pt38.1.3&rgn=div58)
* [38 CFR 3.303(b) – Principles relating to service connection/ Chronicity and continuity](http://www.ecfr.gov/cgi-bin/text-idx?SID=ad275643432556b9dda942343fb89296&mc=true&node=pt38.1.3&rgn=div58)
* [38 CFR 4.40 – Functional Loss](http://www.ecfr.gov/cgi-bin/text-idx?SID=ad275643432556b9dda942343fb89296&mc=true&node=pt38.1.4&rgn=div5)
* [38 CFR 4.45 – The Joints](http://www.ecfr.gov/cgi-bin/text-idx?SID=ad275643432556b9dda942343fb89296&mc=true&node=pt38.1.4&rgn=div5)
* [38 CFR 4.63 – Loss of use of hand or foot](http://www.ecfr.gov/cgi-bin/text-idx?SID=ad275643432556b9dda942343fb89296&mc=true&node=pt38.1.4&rgn=div5)
* [38 CFR 4.71 – Measurement of ankylosis and joint motion](http://www.ecfr.gov/cgi-bin/text-idx?SID=ad275643432556b9dda942343fb89296&mc=true&node=pt38.1.4&rgn=div5)
* [M21-1 Part III. Subpart iv.4.a – Musculoskeletal Conditions](https://vaww.compensation.pension.km.va.gov/system/templates/selfservice/va_ka/portal.html?encodedHash=%23!agent%2Fportal%2F554400000001034%2Farticle%2F554400000014194%2FM21-1-Part-III-Subpart-iv-Chapter-4-Section-A-Musculoskeletal-Conditions)
* [M21-1 Part III. Subpart iv.3.D.4.g – Musculoskeletal Report Review for Functional Loss, ROM, and X-Rays](https://vaww.compensation.pension.km.va.gov/system/templates/selfservice/va_ka/portal.html?encodedHash=%23!agent%2Fportal%2F554400000001034%2Farticle%2F554400000015812%2FM21-1-Part-III-Subpart-iv-Chapter-3-Section-D-Examination-Reports)
* [M21-1 Part III. Subpart iv.3.D.3.a – Insufficient Examination Reports](https://vaww.compensation.pension.km.va.gov/system/templates/selfservice/va_ka/portal.html?encodedHash=%23!agent%2Fportal%2F554400000001034%2Farticle%2F554400000015812%2FM21-1-Part-III-Subpart-iv-Chapter-3-Section-D-Examination-Reports)
* [Medical Electronic Performance Support System](http://epss.vba.va.gov/mepss) (Medical EPSS)
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| Topic 1: Evaluating Joint Conditions |
| Introduction | Introduce yourself and inform trainees of the purpose of the lesson.The purpose of this lesson is to help trainees identify special issues and to determine when special handling and development is needed. |
| Time Required | 0.25 hours |
| OBJECTIVES**TEACHING POINTS**Slide 4Handout 4Slide 5Handout 4Slide 6Handout 4 | Topic objectives:* Understand what is identified when evaluating musculoskeletal conditions.

The following topic teaching points support the topic objectives: * Trainees will understand the types of musculoskeletal disabilities
* Trainees will be able to identify evidence needed to evaluate joints.

The musculoskeletal system is the largest system in the body and is closely related to the neurologic and vascular systems. The musculoskeletal system includes:* Bones
* Joints
* Muscles
* Tendons
* Ligaments
* Bursae

The functions of the musculoskeletal system include:* Protection
* Support
* Locomotion
* Mineral storage
* Production and development of blood cells
* Heat Production

There are three types of muscles:* Skeletal
* Cardiac
* Involuntary

The ones that will be discussed in this lesson are the skeletal muscles.  |
| Types of Musculoskeletal DisabilitiesSlide 7-8 Handout 4-5**Upper Extremities****Spine and Lower Extremities****Congenital disabilities****Arthritis**Slide 9Handout 5 -6Instruct the students that the VA most commonly sees Rheumatoid, Degenerative and TraumaticSlide 10-11**Arthritis**Slide 12**Arthritis**Slide 13Handout 5-6**Range of Motion**Slide 14Handout 6**Evaluating Joint conditions**Slide 11Handout 7 | Musculoskeletal disabilities involve:* Disabilities of the upper extremities
* Disabilities of the spine and lower extremities
* Congenital Conditions
* Arthritis

Separate evaluations may be given for disabilities of the shoulder and arm if the manifestations represent separate and distinct symptomatology. Impairments of the elbow, forearm, and wrist will be assigned separate disability evaluations because they are viewed as separate and distinct.Injuries of the spine are evaluated based on orthopedic manifestations and any associated neurologic manifestations.Careful consideration must be given for developmental defects or congenital such as:* absence of parts
* subluxation (partial dislocation of a joint)
* deformity or exostosis (bony overgrowth) of parts, and/or
* accessory or supernumerary (in excess of the normal number) parts.

Examples of congenital defects of the spine are:* spondylolysis
* spina bifida
* unstable or exaggerated lumbosacral joints or angle, or
* incomplete sacralization.

Types of arthritis include Inflammatory (rheumatoid), Osteoarthritis (degenerative, and traumatic), and Septic (Bacterial infection based). Rheumatoid arthritis is a chronic systemic disease of joints and related structures marked by inflammatory changes that causes stiffness, swelling, weakness, loss of mobility, and leads to damage and eventual destruction of the joints and crippling deformities.Characteristics of Rheumatoid Arthritis include:* onset before middle age
* may be acute

Symptoms of Rheumatoid arthritis include:* first affecting PIP and MCP joints
* next causing atrophy of muscles, deformities, contractures, subluxations, and
* finally causing fibrous or bony ankylosis (abnormal adhesion of the bones of the joint).

There are periods of remission and periods of flare with Rheumatoid Arthritis. When body tissues are inflamed, the disease is active. When tissue inflammation subsides, the disease is in remission.Degenerative arthritis is primarily a disorder of [cartilage](http://epss.vba.va.gov/MEPSS/content/glossary/c/cartilage_cartilaginous_10220.html) and the [bone](http://epss.vba.va.gov/MEPSS/content/glossary/b/bone_bones_18680.html) underlying the cartilage. All tissues in and around involved [joints](http://epss.vba.va.gov/MEPSS/content/glossary/j/joint_joints_18681.html) are enlarged. The condition is noted by marked deterioration in [synovial](http://epss.vba.va.gov/MEPSS/content/glossary/s/synovial_12389.html) joints and [vertebrae](http://epss.vba.va.gov/MEPSS/content/glossary/v/vertebra_vertebrae_12945.html). The condition is [non-inflammatory](http://epss.vba.va.gov/MEPSS/content/glossary/n/non_inflammatory_11797.html).Characteristics of degenerative arthritis includes: * The onset generally occurs after the age of 45.
* It has no relation to infection.
* It is asymmetrical (more pronounced on one side of the body than the other).
* There is limitation of movement in the late stages only.

Some symptoms of degenerative arthritis include;* Ankylosis, in rare cases
* Destruction of cartilage
* Bone eburnation *(converts into a dense substance with a smooth surface like ivory)*.

Traumatic arthritis is a form of arthritis that is caused by blunt, penetrating, or repeated trauma or from forced inappropriate motion of a joint or ligament. This type of arthritis does not spread to other joints.Symptoms of traumatic arthritis include:* Pain
* Tenderness
* Limitation of motion

Note: Arthritis is also considered a presumptive condition, chronic disease, if it manifested to a degree of 10% or more within a year from the date of separation.When evaluating joint conditions we must always consider the Range of Motion. The range of movement of a joint is termed, range of motion or ROM. The common movements that are performed by muscles and joints are:* Flexion/Extension: Flexion decreases the angle between two adjacent body structures; extension increases the angle.
* Abduction/Adduction: Abduction is a movement of a part away from the midline, either of the body or the hand or foot; adduction is movement toward the midline.
* Lateral/Medial Rotation: Medial [rotation](http://epss.vba.va.gov/mepss/content/glossary/r/rotation_12231.html) means torsion of the distal bone so that a point on the [lateral](http://epss.vba.va.gov/mepss/content/glossary/l/lateral_lat_11394.html) aspect of the distal bone is moved anteriorly or [medially](http://epss.vba.va.gov/mepss/content/glossary/m/medial_medially_median_11593.html) toward the body midline. [Lateral rotation](http://epss.vba.va.gov/mepss/content/glossary/l/lateral_rotation_19327.html) is the opposite
* Circumduction: A combination of [flexion](http://epss.vba.va.gov/mepss/content/glossary/f/flexion_10728.html), [abduction](http://epss.vba.va.gov/mepss/content/glossary/a/abduction_adduction_18686.html), extension, and adduction.

When evaluating joints there are three factors to consider. The first factor is: Loss of Motion.Multiple Loss of Motion evaluations can be assigned for a joint. Though flexion and extension occur in the same plane of motion, limitation of flexion of a joint means the bending while limitation of extension means straightening.

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|  | For joint motions where the 0-percent evaluation criteria is not definedby regulation, any LOM for that specific movement will be assigned a separate noncompensable disability evaluation.The second factor to consider is painful motion. A rater considers this when more than one qualifying joint motion is actually limited to a compensable degree and there is painful but otherwise noncompensablelimitation, also when each qualifying joint motion is painful but motion is not actually limited. |

The third factor to consider is functional loss. Functional loss is a factor under any criteria that involves LOM. Functional loss is the inability, due to damage or infection in parts of the system, to perform the normal working movements of the body with normal excursion, strength, speed, coordination and endurance. There are several different causes of functional loss such as:* Absence of part, or all, of the necessary bones, joints and muscles, or associated structures
* Deformity, adhesions, nerve problems, or other pathology, or
* Pain, supported by adequate pathology and evidenced by the visible behavior of the claimant undertaking the motion.

According to the Rating Schedule, the observable loss of function may cause symptoms such as:* Less movement than normal
* More movement than normal
* Weakened movement
* Excess fatigability
* Incoordination or impaired ability to execute skilled movements smoothly
* Pain on movement
* Swelling
* Deformity
* Atrophy of disuse
* Instability of station
* Disturbance of locomotion
* Interference with sitting, standing and weight-bearing
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| Topic 2: Examinations  |
| Introduction | The purpose of this lesson is for trainees to ensure correct information is provided in the examination report. |
| Time Required | 0.25 hours |
| OBJECTIVES/Teaching Points | Topic objectives:* Identify requirements of a musculoskeletal exam and assure exam is accurate for rating purposes

The following topic teaching points support the topic objectives: * Trainees will be able to determine if examination reports are accurate for rating purposes
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| Evidence needed to evaluate musculoskeletal disabilitiesSlide 16Handout 8Examination requirementsSlide 17-18Handout 8**Examination Requirements cont.**Reviewing the Examination Report Slide 19Handout 9-10**Musculoskeletal Insufficient Exams**Slide 20Handout 10**Reviewing Examination Report cont.**Slide 15Handout 10 | Evaluation of musculoskeletal disabilities requires specific evidence regarding active and passive range of motion and a detailed description of the symptoms and flare-ups. In all but the exceptional case, these disabilities require a VA examination to obtain all the necessary evidence to evaluate. Post service medical evidence will rarely be sufficient for rating purposes for evaluating functional loss, because treating physicians rarely have a need to document actual range of motion and may not provide any details regarding additional limitation. These requirements are unique to VA disability evaluations. The type of DBQ selected depends on the muscle/joint the veteran is claiming. When in doubt refer to the Index of DBQ/Exams by Disability tool.Musculoskeletal joint examinations must address range of motion (ROM) criteria; the medical evidence used to evaluate functional impairment due to pain must account for painful motion, pain on use, and pain during flare-ups or with repeated use over a period of timeFollowing the initial assessment of ROM, the examiner must perform repetitive use testing. After the initial measurement, the examiner must reassess ROM after 3 repetitions and report the post-test measurements. The examination is insufficient if the examiner does not repeat ROM testing during the exam and fails to report additional functional loss.As a part of the assessment conducted in accordance with [DeLuca v. Brown](http://vbaw.vba.va.gov/bl/21/Advisory/CAVCDAD.htm#bmd), the medical evidence must* clearly indicate the exact degree of movement at which pain limits motion in the affected joint, and
* include the findings of at least three repetitions of ROM.

Per [Mitchell v. Shinseki](http://vbaw.vba.va.gov/bl/21/advisory/CAVCDAD.htm#bmm), when pain is associated with movement, an examiner must opine or the medical evidence must show whether pain could significantly limit functional ability* during flare-ups, or
* when the joint is used repeatedly over a period of time

The examiner must address additional functional limitation or limitation of motion (LOM) during flares-ups or repeated use over time, based on the Veteran’s history and the examiner’s clinical judgment.The examination report must address whether functional ability of a joint is significantly limited during flare-ups (DeLuca) or when the joint is used repeatedly over a period of time (Mitchell) because of:* pain
* weakness
* fatigability
* incoordination

If an examiner is unable to provide these findings they must indicate that:* they cannot determine without resort to mere speculation
* whether any of the factors require additional functional loss
* provide the rationale which include the basis for such opinion and identifying what facts cannot be determined

The following terms in an examination report may lead to an insufficient examination request* unaffected gait but walks with a cane
* surgery to joint but scar not addressed
* no arthritis but x-ray states degenerative joint disease (DJD)
* limited ROM but no diagnosis provided.
	+ If the ROM is decreased for the affected joint but the ROM is the same on the unaffected joint then this is now the Veteran’s new “Normal” and must be documented as such. Otherwise there is no explanation for decreased ROM.
* pain of joint with exam or movement but diagnosis is “normal joint”.
	+ inconsistent statement and the examiner must provide an explanation in remarks section.
* stress fractures: resolved, and
* stress fractures with residual limited ROM, pain.

When reviewing a musculoskeletal exam report, check to ensure that x-rays were obtained when necessary. A diagnosis of arthritis must be confirmed by x-ray or other radiographic testing before SC may be established. Where there is a claim of non-specific joint pain in a joint or multiple joints, x-rays will not be provided prior to the Veteran being seen by the examiner. The examiner will determine if x-rays are needed in order to provide a diagnosis consistent with the history and symptomatology. If there is a diagnosis other than arthritis or a diagnosis of no disability, do not return the examination as insufficient merely because x-rays were not provided. However, if arthritis is claimed or diagnosed, the examination did not include x-rays and there are no x-rays of the joint at issue, then return the examination as insufficient.The following refers to all scenarios when reviewing an examination report. Any missing required information on the report makes the examination insufficient for rating purposes. This can include, but is not limited to, the following instances:* The examination report is unsigned.
* The examination report did not address all disabilities for which an examination was requested.
* The required question(s) on the DBQ were left blank.
* The required review of the claims folder was not accomplished.
* Missing information on the report pertinent to the disability under review, such as failure to discuss the impact of musculoskeletal pain on the functional loss of an affected joint.
* A medical opinion is not properly supported by a valid rationale and/or by the evidence of record.
* A requested medical opinion was not furnished.
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| Practical Exercise

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| Time Required | 0.25 hours |
| EXERCISEExerciseHandout 11Example ScenarioHandout 10 | Have the trainees complete the exercise independently or in small groups.Ask if there are any questions about the information presented in the exercise, and then proceed to the Review.1. What are three factors that must be considered when evaluating joints?
2. Name three types of arthritis
3. Evaluation of musculoskeletal disabilities requires specific evidence regarding \_\_\_\_\_\_ and passive range of motion and a detailed description of the \_\_\_\_\_\_\_\_\_.
4. When reviewing an exam report for a diagnosis of arthritis, what is needed to confirm the diagnosis?

The Veteran enlisted on September 16, 1964, and was released on September 15, 1970. His entrance examination is silent for any pre-existing condition, and his separation exam noted no defects or chronic disease. During service, he visited the clinic on March 20, 1967, complaining of knee pain. The doctor’s physical exam notes tenderness over the patellar tendon and hamstrings, right worse than left. No x-rays were ordered. Rest, ice, compression and elevation were ordered, and an oral anti-inflammatory was given. He again visited the clinic on March 27, 1967, improvement was noted, and the doctor recommended four weeks of physical therapy and gradual increase in activity, as tolerated. There is no record of physical therapy, and the remainder of the medical record is silent for any further treatment for knee pain.Treatment notes from the Veteran’s primary care physician have been received and show treatment from June 22, 2002 to November 19, 2004. The first treatment record shows complaint of knee pain. The physical exam indicated swelling and redness over the knee bilaterally. X-rays were done, and the radiologist noted possible early arthritis affecting the lateral femoral epicondyles bilaterally. Subsequently, the Veteran reported use of chondroitin and glucosamine supplements and underwent Synvisc injections beginning on November 2004 |

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|  | The Veteran filed a claim for bilateral knee arthritis on June 22, 2005. He enclosed a written statement indicating that his knees have hurt ever since he ran a 10-K race on St. Patrick’s Day in 1967.  |
| Example Scenario QuestionsHandout 11 | 1. Is an exam needed? Why or Why Not?
2. **Alternative Scenario 1:** Same as above except there is no current medical evidence of a disease. Is an exam needed? Why or Why Not?
3. **Alternative Scenario 2:** Same as above except there is no mention of any knee condition in service. Veteran’s private medical evidence indicates a diagnosis of disease and his statement links the current disease to pain following the March 17, 1967, St. Patrick’s Day 10-K. What actions are needed?
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| Lesson Review, Assessment, and Wrap-up |
| IntroductionDiscuss the following: | This lesson was based on musculoskeletal disabilities; how to identify them and how to help a VSR identify whether all evidence is accurate for rating purposes.Review each lesson objective and ask the trainees for any questions or comments. |
| Time Required | 0.25 hours  |
| Lesson Objectives | You have completed the ADC Musculoskeletal Disabilities lesson. The trainee should be able to: * Identify musculoskeletal disabilities and the evidence needed to evaluate them
* Determine if criteria has been met after an examination report is received to send ready for decision
 |
| Assessment  | Remind the trainees to complete the on-line assessment in TMS to receive credit for completion of the course.The assessment will allow the participants to demonstrate their understanding of the information presented in this lesson. |