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the upper extremities, the interphalangeal, metatarsal and tarsal joints of the lower extremities, the cervical vertebrae, the dorsal vertebrae, and the lumbar vertebrae, are considered groups of minor joints, ratable on a parity with major joints. The lumbosacral articulation and both sacroiliac joints are considered to be a group of minor joints, ratable on disturbance of lumbar spine functions.

§ 4.46 Accurate measurement.

Accurate measurement of the length of stumps, excursion of joints, dimensions and location of scars with respect to landmarks, should be insisted on. The use of a goniometer in the measurement of limitation of motion is indispensable in examinations conducted within the Department of Veterans Affairs. Muscle atrophy must also be accurately measured and reported.

[41 FR 11294, Mar. 18, 1976]

§§ 4.47–4.54 [Reserved]

§ 4.55 Principles of combined ratings for muscle injuries.

(a) A muscle injury rating will not be combined with a peripheral nerve paralysis rating of the same body part, unless the injuries affect entirely different functions.

(b) For rating purposes, the skeletal muscles of the body are divided into 23 muscle groups in 5 anatomical regions: 6 muscle groups for the shoulder girdle and arm (diagnostic codes 5301 through 5306); 3 muscle groups for the forearm and hand (diagnostic codes 5307 through 5309); 3 muscle groups for the foot and leg (diagnostic codes 5310 through 5312); 6 muscle groups for the pelvic girdle and thigh (diagnostic codes 5313 through 5318); and 5 muscle groups for the torso and neck (diagnostic codes 5319 through 5323).

(c) There will be no rating assigned for muscle groups which act upon an ankylosed joint, with the following exceptions:

(1) In the case of an ankylosed knee, if muscle group XIII is disabled, it will be rated, but at the next lower level than that which would otherwise be assigned.

(2) In the case of an ankylosed shoulder, if muscle groups I and II are se-

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verely disabled, the evaluation of the shoulder joint under diagnostic code 5200 will be elevated to the level for unfavorable ankylosis, if not already assigned, but the muscle groups themselves will not be rated.

(d) The combined evaluation of muscle groups acting upon a single unankylosed joint must be lower than the evaluation for unfavorable ankylosis of that joint, except in the case of muscle groups I and II acting upon the shoulder.

(e) For compensable muscle group injuries which are in the same anatomical region but do not act on the same joint, the evaluation for the most severely injured muscle group will be increased by one level and used as the combined evaluation for the affected muscle groups.

(f) For muscle group injuries in different anatomical regions which do not act upon ankylosed joints, each muscle group injury shall be separately rated and the ratings combined under the provisions of § 4.25.

(Authority: 38 U.S.C. 1155)

[62 FR 30237, June 3, 1997]

§ 4.56 Evaluation of muscle disabilities.

(a) An open comminuted fracture with muscle or tendon damage will be rated as a severe injury of the muscle group involved unless, for locations such as in the wrist or over the tibia, evidence establishes that the muscle damage is minimal.

(b) A through-and-through injury with muscle damage shall be evaluated as no less than a moderate injury for each group of muscles damaged.

(c) For VA rating purposes, the cardinal signs and symptoms of muscle disability are loss of power, weakness, lowered threshold of fatigue, fatigue-pain, impairment of coordination and uncertainty of movement.

(d) Under diagnostic codes 5301 through 5323, disabilities resulting from muscle injuries shall be classified as slight, moderate, moderately severe or severe as follows:

(1) *Slight disability of muscles*—(i) *Type of injury.* Simple wound of muscle without debridement or infection.

(ii) *History and complaint.* Service department record of superficial wound with brief treatment and return to duty. Healing with good functional results. No cardinal signs or symptoms of muscle disability as defined in paragraph (c) of this section.

(iii) *Objective findings.* Minimal scar. No evidence of fascial defect, atrophy, or impaired tonus. No impairment of function or metallic fragments retained in muscle tissue.

(2) *Moderate disability of muscles—(i) Type of injury.* Through and through or deep penetrating wound of short track from a single bullet, small shell or shrapnel fragment, without explosive effect of high velocity missile, residuals of debridement, or prolonged infection.

(ii) *History and complaint.* Service department record or other evidence of in-service treatment for the wound. Record of consistent complaint of one or more of the cardinal signs and symptoms of muscle disability as defined in paragraph (c) of this section, particularly lowered threshold of fatigue after average use, affecting the particular functions controlled by the injured muscles.

(iii) *Objective findings.* Entrance and (if present) exit scars, small or linear, indicating short track of missile through muscle tissue. Some loss of deep fascia or muscle substance or impairment of muscle tonus and loss of power or lowered threshold of fatigue when compared to the sound side.

(3) *Moderately severe disability of muscles—(i) Type of injury.* Through and through or deep penetrating wound by small high velocity missile or large low-velocity missile, with debridement, prolonged infection, or sloughing of soft parts, and intermuscular scarring.

(ii) *History and complaint.* Service department record or other evidence showing hospitalization for a prolonged period for treatment of wound. Record of consistent complaint of cardinal signs and symptoms of muscle disability as defined in paragraph (c) of this section and, if present, evidence of inability to keep up with work requirements.

(iii) *Objective findings.* Entrance and (if present) exit scars indicating track of missile through one or more muscle

groups. Indications on palpation of loss of deep fascia, muscle substance, or normal firm resistance of muscles compared with sound side. Tests of strength and endurance compared with sound side demonstrate positive evidence of impairment.

(4) *Severe disability of muscles—(i) Type of injury.* Through and through or deep penetrating wound due to high-velocity missile, or large or multiple low-velocity missiles, or with shattering bone fracture or open comminuted fracture with extensive debridement, prolonged infection, or sloughing of soft parts, intermuscular binding and scarring.

(ii) *History and complaint.* Service department record or other evidence showing hospitalization for a prolonged period for treatment of wound. Record of consistent complaint of cardinal signs and symptoms of muscle disability as defined in paragraph (c) of this section, worse than those shown for moderately severe muscle injuries, and, if present, evidence of inability to keep up with work requirements.

(iii) *Objective findings.* Ragged, depressed and adherent scars indicating wide damage to muscle groups in missile track. Palpation shows loss of deep fascia or muscle substance, or soft flabby muscles in wound area. Muscles swell and harden abnormally in contraction. Tests of strength, endurance, or coordinated movements compared with the corresponding muscles of the uninjured side indicate severe impairment of function. If present, the following are also signs of severe muscle disability:

(A) X-ray evidence of minute multiple scattered foreign bodies indicating intermuscular trauma and explosive effect of the missile.

(B) Adhesion of scar to one of the long bones, scapula, pelvic bones, sacrum or vertebrae, with epithelial sealing over the bone rather than true skin covering in an area where bone is normally protected by muscle.

(C) Diminished muscle excitability to pulsed electrical current in electrodiagnostic tests.

(D) Visible or measurable atrophy.

(E) Adaptive contraction of an opposing group of muscles.

(F) Atrophy of muscle groups not in the track of the missile, particularly of

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the trapezius and serratus in wounds of the shoulder girdle.

(G) Induration or atrophy of an entire muscle following simple piercing by a projectile.

(Authority: 38 U.S.C. 1155

[62 FR 30238, June 3, 1997]

§ 4.57 Static foot deformities.

It is essential to make an initial distinction between bilateral flatfoot as a congenital or as an acquired condition. The congenital condition, with depression of the arch, but no evidence of abnormal callosities, areas of pressure, strain or demonstrable tenderness, is a congenital abnormality which is not compensable or pensionable. In the acquired condition, it is to be remembered that depression of the longitudinal arch, or the degree of depression, is not the essential feature. The attention should be given to anatomical changes, as compared to normal, in the relationship of the foot and leg, particularly to the inward rotation of the superior portion of the os calcis, medial deviation of the insertion of the Achilles tendon, the medial tilting of the upper border of the astragalus. This is an unfavorable mechanical relationship of the parts. A plumb line dropped from the middle of the patella falls inside of the normal point. The forepart of the foot is abducted, and the foot everted. The plantar surface of the foot is painful and shows demonstrable tenderness, and manipulation of the foot produces spasm of the Achilles tendon, peroneal spasm due to adhesion about the peroneal sheaths, and other evidence of pain and limited motion. The symptoms should be apparent without regard to exercise. In severe cases there is gaping of bones on the inner border of the foot, and rigid valgus position with loss of the power of inversion and adduction. Exercise with undeveloped or unbalanced musculature, producing chronic irritation, can be an aggravating factor. In the absence of trauma or other definite evidence of aggravation, service connection is not in order for pes cavus which is a typically congenital or juvenile disease.

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§ 4.58 Arthritis due to strain.

With service incurred lower extremity amputation or shortening, a disabling arthritis, developing in the same extremity, or in both lower extremities, with indications of earlier, or more severe, arthritis in the injured extremity, including also arthritis of the lumbosacral joints and lumbar spine, if associated with the leg amputation or shortening, will be considered as service incurred, provided, however, that arthritis affecting joints not directly subject to strain as a result of the service incurred amputation will not be granted service connection. This will generally require separate evaluation of the arthritis in the joints directly subject to strain. Amputation, or injury to an upper extremity, is not considered as a causative factor with subsequently developing arthritis, except in joints subject to direct strain or actually injured.

§ 4.59 Painful motion.

With any form of arthritis, painful motion is an important factor of disability, the facial expression, wincing, etc., on pressure or manipulation, should be carefully noted and definitely related to affected joints. Muscle spasm will greatly assist the identification. Sciatic neuritis is not uncommonly caused by arthritis of the spine. The intent of the schedule is to recognize painful motion with joint or periarticular pathology as productive of disability. It is the intention to recognize actually painful, unstable, or malaligned joints, due to healed injury, as entitled to at least the minimum compensable rating for the joint. Crepitation either in the soft tissues such as the tendons or ligaments, or crepitation within the joint structures should be noted carefully as points of contact which are diseased. Flexion elicits such manifestations. The joints involved should be tested for pain on both active and passive motion, in weight-bearing and nonweight-bearing and, if possible, with the range of the opposite undamaged joint.